The Multidimensional Factor Structure of Parental Involvement With Adolescent Children

Jiangmin Xu
Winston-Salem State University, Winston-Salem, NC, USA

The goal of this study was to develop and validate a multidimensional factor structure for parental involvement with adolescent children. In this study, parental involvement was identified empirically and conceptually as a multidimensional construct, including parental discipline, parental monitoring, school participation, and home discussion. This study used a large nationally probability and representative sample of 11,659 tenth grade students from 937 different high schools. Confirmatory factor analyses (CFA) were utilized to examine and develop the multidimensional structure of parental involvement and structural equation modeling (SEM) was used to examine the relationships among different dimensions of parental involvement and individual and familial characteristics. The findings support the multidimensional construction of separate scales for specific domains of parental involvement and also highlight the importance of differentiated parental involvement. The results also suggest that parents become involved with their adolescents differently depending on adolescents’ individual and familial characteristics.

Keywords: parental involvement, parental discipline, parental monitoring, home discussion

Introduction

Parental involvement at home and at school has received much attention in recent decades, because parental involvement plays a critical role in the educational success of an adolescent (Epstein, 2005; Jackson & Andrews, 2004; Jackson & Davis, 2000; National Middle School Association (NMSA), 2003).

A great deal of research consistently demonstrates that active and greater parental involvement is related to a range of positive outcomes and performance, such as higher cooperative behavior (Epstein, 1985) and student motivation (Gonzalez-DeHass, Willems, & Holbein, 2005), lower school truancy and dropout rates (Ekstrom, Goertz, Pollack, & Rock, 1986; Teachman, Paasch, & Carver, 1996; McNeal, 1999), and higher academic achievement (Astone & McLanahan, 1991; Baker & Stevenson, 1986; Bogenschneider, 1997; Catsambis, 2001; Hara & Burke, 1998; Hill et al., 2004; Jeynes, 2005; Myers, Milne, Baker, & Ginsburg, 1987; McNeal, 1999; Scribner, Young, & Pedroza, 1999; Shaver & Walls, 1998; Sui-Chu & Willms, 1996) and higher academic expectations (Trask-Tate & Cunningham, 2010). On the other hand, parental involvement is very important for reducing children’s misbehavior and ensuring their success in school. Extensive literature found that the lack of active parental involvement is related to negative outcomes, such as drug use and delinquency (Larzelere & Patterson, 1990; Laub & Sampson 1988; Loebel & Stouthamer-Loebel, 1986; McCord, 1991; Myers et al., 1987; Patterson & Stouthamer-Loebel, 1984; Shillington et al., 2005).
Parental involvement can be defined as parental participation or involvement in their children’s education processes and activities at home and at school such as schoolwork, school activities, the interaction between parenting skills and student success in schooling, and a commitment to consistent communication with educators about student progress (Epstein, 2001; Henderson & Mapp, 2002; Pate & Andrews, 2006). Epstein (1995) defined parental involvement as activities in which families and communities take an active role in creating education environments for their children. However, parental involvement activities may take many forms and different forms of parental involvement have distinct relationships with academic outcomes (Domina, 2005; Pomerantz, Moorman, & Litwack, 2007).

Parental discipline and parental monitoring are two effective family management strategies that mothers and fathers use to manage, monitor, watch, and supervise their adolescent children’s school-related activities. Laub and Sampson (1988) identified three dimensions of family management discipline: low supervision, harsh discipline, and weak parent-child attachment. Also, Krohn, Stern, Thomberry, and Jang, (1992) discovered that family dynamics generally fall into the following three categories: parental monitoring, parental discipline practices, and the effective quality of the parent-child relationship. Parental discipline includes parental education-related rules imposed at home (Keith et al., 1993) and parental control of children’s time spent doing homework and time spent watching TV (Clark, 1993; Fehrmann, Keith, & Reimers, 1987; Peng & Wright, 1994). Parental monitoring of home-related behaviors, such as television viewing has shown a positive association with student academic achievement (Clark, 1993). On the other hand, studies have shown that weak parental monitoring increased the likelihood of misbehavior and delinquency (Forehand, Miller, Dutra, & Watts, 1997; Hirschi, 1995; Larzelere & Patterson, 1990; McCord, 1991; Patterson & Stouthamer-Loeber, 1984; Shillington et al., 2005). Lack of parental monitoring or supervision is the strongest predictor of, drinking, drug use, deviant acts, and school misconduct (Barnes & Farrell, 1992; Loeber & Stouthamer-Loeber, 1986).

The need for connections between families and schools has often been stressed (Bauch & Goldring, 1995; Epstein, 1987; Epstein, 1990; Epstein, 1995; Seginer, 2006). Parental school participation and family-school relations, such as parents keeping contact with school teachers and attending various school meetings and activities, play an important role in building a strong relationship between family and school (Eccles & Harold, 1996; Fan & Chen, 2001; Hill & Chao, 2009; Jenkins, 1995; Jeynes, 2005; Seginer, 2006). Epstein (1987) emphasized the importance of school-to-home communications and parent involvement at school. Stevenson and Baker (1987) discovered that children whose parents were highly involved in school activities did better in school than children whose parents were less involved. Likewise, Jenkins (1995) reported that students with active parental involvement in their schooling had a stronger commitment to school and engaged in less misbehavior.

Home discussion relates to how often parents discuss or communicate school courses, programs, grades, near- and long-term school plans, school activities, and other academic issues with their children (Jeynes, 2005; Sui-Chu & Willms, 1996). Through home discussion, parents pass the important message to their children that they expect them to make progress both in academic study and social behavior. Many studies have found that parents’ communication with children about school has significant positive effect on student academic achievement and students’ success (Catsambis, 1998; Christenson, Rounds, & Gorney, 1992; Desimone, 1999; Jeynes, 2010; Keith et al., 1993; McNeal, 1999; Sui-Chu & Willms, 1996). Although identifying some negative effects of parents monitoring with homework, parental after-school supervision, and parental school
participation, Muller (1993) found significant positive effects of parents discussing school with their children. In addition, parent-child discussion about school often serves as an extra source of social constraint on children’s behaviors (Coleman, 1988).

**Unidimensional or Multidimensional Constructs of Parental Involvement**

In previous studies, parental involvement has been defined in practice as different unidimensional constructs and these unidimensional constructs represent different ways for parents to be involved with their children. Studies on parent involvement has typically focused on a single activity, such as attendance at school-related activities (Stevenson & Baker, 1987), support of school activities (Bloom, 1984), parent-school-community partnerships (Epstein, 1995; Fantuzzo, Tighe, & Childs, 2000), parental expectations for academic achievement (Seginer, 1983), and regulation of TV watching (Muller, 1993). These parental involvement activities have many meanings and they can be operationalized in many different ways. Therefore, various definitions were used to assess parental involvement. However, previous studies did not clearly distinguish between different types of parental involvement and the definitions of parental involvement in the literature were often diverse and inconsistent (Altschul, 2011; Fan & Chen, 2001; Kohl, Lengua, & McMahon, 2000). These insistent definitions may lead to some inconsistent findings about how beneficial parental involvement is to students’ academic achievement and success. It is also difficult to compare different parental involvement activities and draw any general conclusion across individual studies (Shute, Hansen, & Underwood, 2009; Sui-Chu & Willms, 1996). For example, Rodriguez (2002) combined home and school involvement into one construct to examine parental involvement; however, his study failed to differentiate the distinct effects of each type of parental involvement.

In contrast, a multidimensional construct represents several distinct but related concepts. Milne, Myers, Rosenthal, and Ginsburg, (1986) identified some constructs of parental involvement, such as whether parents helped with homework, attended parent-teacher conferences, monitored the time children spent doing homework, and limited time children spent watching television. Fehrmann et al. (1987) developed a two-dimension structure of parental involvement, including parental monitoring and supervision measures like whether parents knew where their children were and what they were doing, whether parents influenced their children’s plans post-high school, and whether parents closely monitored how well their sons and daughters performed in school. Astone and McLanahan (1991) measured parental involvement in terms of whether the parents had high aspirations for their children, monitored school progress, communicated regularly with their children, and provided strong monitoring of their children. In a study of 24,599 eighth-grade students and their parents and teachers, Sui-Chu and Willms (1996) identified four dimensions of parental involvement: two types of home involvement associated with discussing school activities and with monitoring a child’s out-of-school activities and two types of school involvement pertained to contacts between parents and school teachers, as well as to volunteering and attendance at meetings of parent-teacher organization. Using meta-analyses to synthesize the quantitative literature, Fan and Chen (2001) defined parental involvement as several broad dimensions including parent-child communication, home supervision, educational aspiration for children, and school contact and participation. To examine the relationship between different practices of parent involvement and kindergarten children’s early literacy, Lin (2003) grouped different practices of parental involvement into three dimensions, such as involvement at home, involvement at school, and involvement outside of the home. Although these researchers realized the important of multidimensional constructs of parental involvement,
many important issues related to research on parental involvement remain. Therefore, empirically based research on parental involvement is needed to conceptualize and develop a multidimensional construct of parental involvement.

The Impacts of Individual and Familial Factors

Individual and familial factors often have the various impacts on parental involvement with adolescent children. Individual factors include ethnicity and gender. Familial factors include family socio-economic status (Epstein, 1987; Fehrmann et al., 1987; Sui-Chu & Willms, 1996; Muller, 1993), family size (Epstein, 1990; Joyce, Ronoh, Sitienei, Bii, & Kiptum, 2013), and family structure (Fisher, Leve, O’Leary, & Leve, 2003; Sui-Chu & Willms, 1996). Family factors were often found to be predictors of students’ school achievement and parental involvement were often found to be a mediator (Potvin, Deslandes, & Leclerc, 1999). Coleman (1988) used social capital theory to explain why differential effects of parental involvement differ by family background characteristics and individual factors. He conceptualized parental involvement in school activities as a key mechanism in adolescent development and asserted that parental school participation and parental monitoring, as a source of social control, can effectively reduce student deviant behaviors. Therefore, the attempt to examine the impact of parental involvement on adolescent achievement and development must proceed with the recognition that these processes will be influenced by individual and familial factors.

The Present Study

Due to a variety of definitions of parental involvement, reports on the effects of such involvement vary (Seginer, 1983) and its conceptualization differs substantially among studies. Therefore, more finely defined measures needs to be developed to differentiate the dimensions of parental involvement both theoretically and operationally. This study presents an integrative analytical framework for developing multidimensional factor structure in parental involvement research. To develop a more elaborate model for this study, the selection of indicators of each dimension was based on a review of the literature and existing data. The study has two primary purposes: (1) Providing empirical evidence for the question of whether different parental involvements reflect a single underlying factor structure or a multidimensional factor structure; and (2) Examining what/how individual and familial factors have the various impacts on different dimensions of parental involvement with adolescent children.

Method

Data

This study used a large, nationally probability and representative sample of tenth grade students from the 1990 National Education Longitudinal Study (NELS). These data, sponsored by the U.S. Department of Education, were collected by the National Opinion Research Center (NORC) for the National Center for Education Statistics (NCES). This dataset is a clustered and stratified national probability and representative sample of 1,052 public and private schools with almost 25,000 eighth-grade students across the United States. This nationally representative sample of eighth grade students was first surveyed in the spring of 1988 and then resurveyed through four follow-ups in 1990, 1992, 1994, and 2000 (NCES, 1994). NELS employed self-administered questionnaires in classroom settings to gather information from students (National Center for Education Statistics (NCES), 1994). This dataset was first designed to examine critical life transitions
experienced by students from middle school to junior high school. Ingels et al. (1994) provided a complete
description of the data set. In this study, a secondary data analysis of NELS dataset provides a mechanism for
researchers to address the important questions on parental involvement.

A cross-sectional study design was used to examine the structure of parental involvement from perceptions
of adolescents at a particular point in time. The samples in this study included the tenth grade students who had
been admitted in 1988 and stayed in school and participated in first wave follow-up interview in 1990. The
students who dropped out of school by the time of first-wave interviews were excluded from this analysis. Due
to missing data, the analysis was restricted to a working sample of 11,659 students from 937 different schools.
In addition, this study used the students’ reports of parental involvement and thus, data reflected adolescents’
perspectives.

**Measurements**

Four dimensions of parental involvement were included in this study. *Parental discipline* was measured
with three items. The students were asked to report, “How often did your parents or guardians do the following:
(1) limit privileges due to poor grades; (2) limit TV watching or video games; and (3) limit time with friends?”
The respondents reported this frequency using a scale ranging from one to four, and included “often”,
“sometimes”, “rarely”, and “never”. *Parental monitoring* included five items. Students were asked to indicate
“since the beginning of the school year, how often did your parents or guardians try to find: (1) Who your
friends are; (2) Where you go at night; (3) How you spend money; (4) What you do with free time; and (5)
Where you are after school?” Response categories ranged from one to four, and included “not at all”, “just a
little”, “some”, and “a lot”. *School participation* was determined by three items. The students were asked,
“Since the beginning of the school year, has either or both of your parents or guardians done the following: (1)
attended a school meeting; (2) attended a school event; and (3) acted as a volunteer at school?” The students
reported “never”, “once or twice”, or “more than twice” to each item. *Home discussion* measured by three items
pertaining to students was, “Since the beginning of the school year, how often have you discussed the following
with either or both of your parents or guardians: (1) school courses; (2) school activities; and (3) things studied
in class?” The respondents reported this frequency on a scale of 1-3, where “1” indicates not at all; “2”
indicates once or twice; and “3” indicates three or more times.

Individual factors include ethnicity and gender. The students reported their own ethnic identification from
different categories: Caucasian, African American, Hispanic, Native American, and Asian. In the analyses, four
dummy variables were created to represent Hispanic, Asian, African American, and other (Native American)
groups. The reference group was Caucasian. The students also reported their own sex, with gender coded “1”
for boys and “0” for girls. The reference group was girls.

Familial factors were assessed through the family socio-economic status including: (1) yearly family
income; (2) parents’ highest education level; (3) family size, and (4) family structure. Yearly *family income* was
measured in dollars. Parental education indicates the highest level of education completed by mother or by
father. It has a scale of 1 to 6, characterizing the highest level of education a parent completed. Family size was
based on students’ report of the total number of people living in the household. Family structure was measured
by a single item, which asked the youths with whom they lived. Responses structure was grouped for
comparison into stepfamily, single-parent family, other type family, and two-parent family. The two-parent
family was used as the reference group.
Modeling Strategy

Confirmatory factor analyses (CFA) were used to assess the structure of parental involvement. The initial empirically derived factorial structure was examined by CFA using SPSS 23.0 (International Business Machines (IBM), 2015). The CFA and multivariate models were assessed and evaluated through the structural equation modeling software AMOS 7.0 (Analysis of Moment Structures) (Arbuckle, 2006). To understand measurement invariance and population heterogeneity, Multiple Indicator, Multiple Cause (MIMIC) modeling was used to examine the relationship among individual characteristics, family characteristics, and parental involvement. All four dimensions of parental involvement with the independent variables under consideration were placed in the models simultaneously to show the effect of the individual and family characteristics on parental involvement. This procedure demonstrates the relative predictive power of individual and familial factors for each dimension of parental involvement when considered simultaneously.

Several fit indices were examined in evaluating the model. The primary criterion for evaluating the fit of the model was the Comparative Fit Index (CFI) (Bentler, 1990). This index is determined by comparing the fit of the model and the fit of the independent model. The measure should be zero to one, and values above 0.90 represent a good fit. The Tucker-Lewis Index (TLI) (Bentler & Bonett, 1980) and Root Mean Squared Error of Approximation (RMSEA) (Steiger, 1980) are two other indicators that measure the fit between the model and the observed data. TLI compares the lack of fit of a target model to the lack of fit of a baseline independent model and it is among the best of the available indices of practical fit (Marsh, Balla, & McDonald, 1988). Unlike the CFI, the TLI is moderately corrected for parsimony and its value “estimates the relative improvement [in fit] per degree of freedom over a baseline model” (Hoyle & Panter, 1995, p. 166). The RMSEA is one of the most sensitive indexes for models with mis-specified factor loadings (Hu & Bentler, 1999). The RMSEA denotes a perfect fit with 0, with values of less than 0.05 considered to be a close fit, less than 0.08 considered to be a reasonable fit, and less than 0.10 considered to be a mediocre fit (Browne & Cudeck, 1993; Byrne, 1998; Marsh, Balla, & Hau, 1996).

Results

Descriptive Statistics

Table 1 provides descriptive statistics for all background variables. Among the participants, the sample included 7.7% African Americans, 75.7% Caucasians, 6.2% Asians, 9.7% Latinos, and 0.7% American Indians. The sample included 47.8% boys. More than thirty-one percent of participants reported their family income was less than $25,000, 41.3% of youths ranged from $25,000 to $49,999, and 27.2% of youths was $50,000 or more. More than eighteen percent of parents (18.1%) had graduated from high school or completed GED, 41.4% had received less than 4-year college education, 16.6% had graduated from 4-year College, and 16.6% had completed M.A. or PH.D. or MD. program. The mean family size of subjects was 4.56 (S.D. 1.33, range 2-10). Seventy-two percent (72.4%) of the sample lived in intact families, 11.5% lived in stepfamilies, and 14.3% lived in single-parent families.

Structure of the Parental Involvement

Because the factor structure of the parental involvement was not confirmed, CFA was used to identify the constructs represented by the data. Three factor models were then verified by CFAs using AMOS, because they provided indices of fit with the factor structure. Three models were tested: (1) A one-factor model in which all items loaded on one factor. The results show that the one-factor model did not adequately fit the data and had a
poor model fit with CFI of 0.63 and RMSEA of 0.13; (2) A four-factor higher order model in which all items were grouped into four factors representing the four facets of parental involvement, which then loaded on a higher order factor representing parental involvement. The results of Chi-square difference tests indicated that the higher order model represented a significant improvement and had a very good model fit with CFI of 0.92 and RMSEA of 0.06. Within the second-order model, the standardized loadings were found for parental discipline (0.58), parental monitoring (0.63), school participation (0.59), and home discussion (0.75) respectively; and (3) A four-factor model, in which the four factors represent distinct but correlated factors. The third model, using the four factors provided in the exploratory analysis, demonstrated that the model is acceptable (CFI-0.93 and TLI-0.92) even though the RMSEA is 0.06. Although it cannot be concluded with certainty that there is a reasonable fit between the hypothesized model and the observed data, results of Chi-square difference tests indicated that the four-factor model represented a significant improvement over the other models. Chi-square tests and fit indexes for the model were reported in table 2.

Table 1

Background Variables for the Selected Sample Characteristics (N = 11659)

| Category                        | N   | %   |
|---------------------------------|-----|-----|
| **Ethnicity**                   |     |     |
| African American                | 901 | 7.7 |
| Caucasian                       | 8,821 | 75.7|
| Asian                           | 726 | 6.2 |
| Hispanic                        | 1,130 | 9.7 |
| American Indian                 | 81  | 0.7 |
| **Gender**                      |     |     |
| Male                            | 5,574 | 47.8|
| Female                          | 6,085 | 52.2|
| **Parents’ highest education level** |     |     |
| Did not finish high school      | 846 | 7.3 |
| High school graduate or GED     | 2,107 | 18.1|
| > High school & < 4 Yr DEG      | 4,831 | 41.4|
| College graduate                | 1,940 | 16.6|
| M.A./Equivalent                 | 1,233 | 10.6|
| Ph.D., MD., and other           | 702  | 6.0 |
| **Family size**                 |     |     |
| Mean = 4.56                     |     |     |
| SD = 1.33                       |     |     |
| **Family composition composite**|     |     |
| Two-parent biological family (mother & father) | 8,444 | 72.4|
| Stepfamily (mother & male guardian or father & female guardian) | 1,335 | 11.5|
| Single family (mother only or father only) | 1,676 | 14.3|
| Other type family (other relative or non-relative) | 203  | 1.7 |

Table 2

Chi-square Tests and Measures of Overall Fit for Parental Involvement Factor Structural Models

| Model                                           | $\chi^2$     | df  | CFI | TLI | RMSEA | Comparison $\chi^2$ diff | df diff |
|-------------------------------------------------|--------------|-----|-----|-----|-------|--------------------------|---------|
| A. 1-factor Model                               | 18,382.41*** | 90  | 0.63| 0.56| 0.13  |                          |         |
| B. 4-factor model with second-order factor      | 3,879.00***  | 86  | 0.92| 0.91| 0.06  | 1                        | 14,503.41*** 4 |
| C. 4-Factor Model correlated                    | 3,397.25***  | 84  | 0.93| 0.92| 0.06  | 2                        | 481.75*** 2 |

Notes. CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = the root mean square error of approximation; Significance tests based on robust maximum likelihood estimates; ***p < 0.001.
Factor loadings, Inter-item Reliability, and Inter-correlations

The goal of CFA was to test the empirically derived four-dimensional structure. Table 3 contains the fourteen specific items that make up the four dimensions of parental involvement and Cronbach’s standardized alpha for each subscale. Within this CFA model, factor loadings were significant with standardized loadings ranging from 0.58 to 0.81.

Table 3

| Parental involvement items | F1  | F2  | F3  | F4  | Cronbach’s alpha |
|----------------------------|-----|-----|-----|-----|------------------|
| Parental Discipline (PD)   |     |     |     |     | 0.68             |
| 1. Limit privileges due to poor grades | 0.59 |     |     |     |                  |
| 2. Limit time watching TV or video games | 0.58 |     |     |     |                  |
| 3. Limit going out with friends | 0.62 |     |     |     |                  |
| Parental Monitoring (PM)   |     |     |     |     | 0.83             |
| 1. Parents try to find out who their friends are | 0.66 |     |     |     |                  |
| 2. Parents try to find out where they go at night | 0.68 |     |     |     |                  |
| 3. Parents try to find out how they spend money | 0.69 |     |     |     |                  |
| 4. Parents try to find out what they do with free time | 0.81 |     |     |     |                  |
| 5. Parents try to find out where they are after school | 0.71 |     |     |     |                  |
| School Participation (SP)  |     |     |     |     | 0.69             |
| 1. How often parents attended a school meeting | 0.64 |     |     |     |                  |
| 2. How often parents attended a school event | 0.68 |     |     |     |                  |
| 3. How often parents acted as volunteer at school | 0.67 |     |     |     |                  |
| Home Discussion (HD)       |     |     |     |     | 0.77             |
| 1. Discussed school courses with parents | 0.71 |     |     |     |                  |
| 2. Discussed school activities with parents | 0.74 |     |     |     |                  |
| 3. Discussed things studied in class with parents | 0.71 |     |     |     |                  |

Notes. $\chi^2 = 3197.25, df = 84, p < 0.001$; Significance tests based on robust maximum likelihood estimates. All Coefficients are standardized coefficients. All factor loadings were significant at $p < 0.001$.

As indicated in Table 3, a preliminary assessment of the internal consistency of the data using reliability analysis was computed to measure the parental involvement concepts. Reliability analyses of factors produced a standardized Cronbach’s alpha for each factor as follows: parental discipline, 0.68; parental monitoring, 0.83; school participation, 0.69; and home discussion, 0.77.

Table 4

| Standardized Correlation Coefficients Among Parental Involvement Factors | F1  | F2  | F3  | F4  |
|--------------------------------------------------------------------------|-----|-----|-----|-----|
| F1. Parental Discipline (PD)                                            | 1.00| 0.51***| 0.22***| 0.38***|
| F2. Parental Monitoring (PM)                                            | 1.00| 0.30***| 0.45***|       |
| F3. School Participation (SP)                                           | 1.00| 0.52***| 0.67***|       |
| F4. Home Discussion (HD)                                                | 1.00| 0.41***| 0.52***| 0.69***|

Notes. ***$p < 0.001$.  

All inter-correlations among the four dimensions of parental involvement were significant at $p < 0.001$, ranging from 0.22 to 0.52. Parental discipline (PD) was significantly and positively related to Parental Monitoring (PM) ($r = 0.51, p < 0.001$) and Home Discussion (HD) ($r = 0.38, p < 0.001$) (see Table 4). PM was
significantly and positively related to School Participation (SP) \( (r = 0.30, p < 0.001) \) and HD \( (r = 0.45, p < 0.001) \). SP was also significantly and positively related to HD \( (r = 0.52, p < 0.001) \). Relatively lower correlations were found between PD and SP \( (r = 0.22, p < 0.001) \). From the inter-correlations, the relationships flow from the dimensions to the construct and the construct combines or specific dimensions into a general concept.

**MIMIC Modeling Analysis**

Table 5 shows the results of MIMIC modeling analysis. Family income showed a statistically significant positive relationship with parental discipline \( (0.04) \), parental monitoring \( (0.04) \), school participation \( (\beta = 0.14) \), and home discussion \( (\beta = 0.08) \), as hypothesized, but the effect size was clearly weak, yet significant. Parental education was positively associated with parental discipline, parental monitoring, school participation, and home discussion, with betas of 0.11, 0.08, 0.25, and 0.19 respectively, suggesting that better-educated parents were more actively involved in their adolescent children. Family income also shows a statistically significant positive relationship with parental involvement.

**Table 5**

| Parental involvement factors | Parental discipline | Parental monitoring | Parental School participation | Parental home discussion |
|-----------------------------|---------------------|---------------------|------------------------------|--------------------------|
| **Family background factors** |                     |                     |                              |                          |
| Yearly family income        | 0.04***             | 0.04**              | 0.14***                      | 0.08***                  |
| Parental highest education  | 0.11***             | 0.08***             | 0.25***                      | 0.19***                  |
| Family size                 | 0.10***             | -0.03**             | -0.01                        | -0.06***                 |
| Stepfamily                  | 0.00                | -0.04***            | -0.10***                     | -0.04***                 |
| Single-parent family        | -0.04**             | -0.05***            | -0.05***                     | -0.05***                 |
| Other relative or non-relative family | 0.01            | -0.02               | -0.03*                       | -0.02                    |
| **Individual factors**      |                     |                     |                              |                          |
| Asian                       | 0.05***             | -0.05***            | -0.12***                     | -0.05***                 |
| Hispanic                    | 0.06***             | 0.01                | -0.03*                       | 0.02                     |
| African American            | 0.04***             | 0.02                | 0.04***                      | 0.03**                   |
| American Indian             | -0.04**             | -0.02               | -0.02                        | -0.02                    |
| Male                        | 0.04**              | -0.13***            | -0.01                        | -0.12***                 |

Notes. All coefficients are standardized coefficients; Model fit: \( \chi^2 = 3,621.11, df = 237, CFI = 0.95, TLI = 0.93, \) and RMSEA = 0.04; \( *p < 0.05; **p < 0.01; ***p < 0.001. \)

The levels of parental involvement were significantly higher in two-parent biological families. Compared with two-parent biological families, stepfamilies were characterized by lower levels of parental monitoring, school participation, and home discussion with betas of -0.04, -0.10, and -0.04. Single-parent families were also characterized by lower levels of all four dimensions of parental involvement with betas of -0.04, -0.05, -0.05, and -0.05.

There have been concerns about the extent to which gender differences exist in parental involvement. Compared with girls, boys tended to have less parental monitoring \( (\beta = -0.13) \) and home discussion \( (\beta = -0.12) \), but slightly higher level of parental discipline \( (\beta = 0.04) \). The results indicated significant gender differences in parental involvement.

The effects of family size are weak but significantly and negatively associated with parental monitoring and home discussion with betas of -0.03 and -0.06. However, it was an unexpected finding that family size had
a positive effect on parental discipline with a beta of 0.10, which indicates that adolescents living in a large family might have a greater chance to receive parental disciplines. The possible explanation is that mothers in large families often or more commonly stay at home or have older siblings to help parents maintain the disciplines.

**Discussion**

This study examines and develops a multidimensional representation of parental involvement by identifying four dimensions of parental involvement, including parental discipline, parental monitoring, school participation, and home discussion. Confirmatory factor analyses suggest that a four-factor model best describes parental involvement that adolescent children identify following their interviews. Each of the dimensions developed to assess parental involvement has both practical and research implications. This multidimensional approach will provide insights into the relevant issues related to parental involvement.

This study goes beyond previous research in that a multidimensional construct of parental involvement can overcome two significant limitations in previous research: (1) Statistically, because the definition of parental involvement has not been clear and consistent and most previous studies treated parental involvement as a unidimensional construct, it cannot determine specific effects of parental involvement or indicates whether these measures overlap with others; and (2) Practically, because there are many different ways for parents to be involved with their children and there are different parental behaviors and parenting practices, it is difficult for previous research to compare results from these studies or draw any general conclusion across the studies.

In this study, the findings support the construction of these separate scales for specific domains of parental involvement. Multidimensional constructs include overall parental involvement conceptualized as parental participation in the children’s educational processes and experiences involvement with multiple facets. Examination of CFI, TLI, and RMSEA suggests that a four-factor solution represents the best configuration of parental involvement and has a good model fit with CFI of 0.93, TLI of 0.92, and RMSEA of 0.06 (see Table 2). These findings may be interpreted as additional empirical evidences of the four-related dimensions of parental involvement that appear to generalize across to different types of parental involvement.

This study has demonstrated statistically significant associations between family background factors and parental involvement. Following the work by Coleman (Coleman, 1988; Coleman & Hoeffer, 1987), the findings suggest that the resources parents possess may vary across familial background factors and individual factors and that the selected factors are generally predictive of the levels of parental involvement. The results highlight the importance of social capital by showing that familial factors and individual factors have significant effects on different dimensions of parental involvement with their adolescent children. The results of this study also reveal that higher educational levels and income attained by parents are the most important factors predicting more effective parental involvement. Parents of higher socioeconomic status may spend much more time involved in children’s school activities (Griffith, 1998) and monitoring their children more closely (Sampson & Laub, 1993) than the parents of lower socioeconomic status do. These results are consistent with those of earlier work (Amato & Booth, 1997; Amato & Rivera, 1999; Marsiglio, 1991; Stevenson & Baker, 1987). Parents with higher education may know the importance of education and know of ways in which they are involved in their children’s education.

Family income also shows a statistically significant positive relationship with parental involvement. Those adolescents whose families encounter more financial hardships tend to have lower levels of parental
involvement. This finding concurs with Sui-Chu and Willms (1996), who discovered that low-income parents are less involved in their children’s schooling than are high-income parents. The finding also concurs with Connell, Spencer, and Aber (1994) who argued that disaffected behavior in low-income African-American youth could lessen parental involvement with them and it, in turn, create or reinforce negative self-appraisal in the young people and lead to additional disaffected behavior. The parents with higher income may have more free time to volunteer at school.

The results suggest that specific effects of parental involvement may vary according to family structure types and that parents in two-parent biological families are more involved with their adolescent children. These results are consistent with those of earlier work (Coleman, Ganong, & Fine, 2000; Fisher et al., 2003; Furstenberg, 1987; Milne et al., 1986; Sui-Chu & Willms, 1996; Zill, 1994), suggesting that family structure has significant effects on parental involvement. Because stepfamilies and single-parent families often experience more conflict and stress than two-parent families, adolescents in both types of families have less parent-adolescent involvement.

The analyses reveal some interesting findings and differences among different ethnic groups. Compared with Caucasian students, Asian students tend to have slightly lower levels of parental involvement on all dimensions of parental involvement except parental discipline. Especially, Asian-American parents are found to be involved the least in their children’s school activities. This pattern is found elsewhere and is consistent with those of earlier studies (Griffith, 1998; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Sui-Chu & Willms, 1996; Sy, Rowley, & Schulenberg, 2007). Language barriers or cultural differences are often used to explain why Asian parents do not like school-activity participation (Delgado-Gaitan, 1991). The finding also reveal that Hispanic students have slightly lower levels of parental school participation, but slightly higher levels of parental discipline than did Caucasian students. This finding is consistent with the recent research finding of Altschul (2011). The differences between Caucasian students and African American students and American Indian students are relatively small.

Several limitations regarding this sample are worth noting because they provide direction for future research. First, the NELS data were not collected for the purpose of this study and the variables, measures, and population in the data were not originally and exactly what we might have chosen to collect and they were not designed for the purpose of the scale development. Therefore, the observational nature of most secondary data makes it difficult to assess causality. Second, this sample only includes the students in tenth grade and does not include those who dropped out of schools. As such, it is likely to result in underestimates of parental involvement among a more general population of adolescent children. Third, the measures of parental involvement in the NELS: 1990 data were constructed from adolescents’ perception of parental involvement. However, adolescents’ self-reported data may cause potential biases. Although some studies found some differences between parents’ reports and adolescents’ reports of parenting behavior (Krohn et al., 1992), researchers still know little about the reliability and validity of adolescents’ perceptions of parental behaviors as compared with actual parental behaviors. These findings may reflect adolescents’ bias, more than they reflect valid and substantive findings about family environments and parental involvement. This bias may account for a small portion of the association between youth reports of family environments and parental involvement; however, it does not account for it to any great extent. Therefore, the major conclusions remain relevant. Future research needs to include parents’ information on the levels of parental involvement and family environments, so the differences between youths’ reports and parents’ reports can be compared.
This study provides evidence to support the hypothesis that parental involvement is a multidimensional structure and that individual and familial factors have significant effects on parental involvement. Although the measures in this study are based solely on what was available in the NELS dataset, the research findings provide a valuable insight into multidimensional structure and construct of parental involvement. Importantly, this discussion leads to an important policy and practice implication: strategies to improve students’ performance and academic achievement in school and combat adolescent deviance can attempt to either strengthen parental involvement or encourage parents to be more involved in their children’s activities, both at home and at school. This multidimensional approach has important implications for policy-makers, school educators, and parents in shaping the dissolution process to more fully secure the best interests of adolescent children.

References

Altschul, I. (2011). Parental involvement and the academic achievement of Mexican American youths: What kinds of involvement in youths’ education matter most? Social Work Research, 35(3), 159-170.

Amato, P. R., & Booth, A. (1997). A generation at risk: Growing up in an era of family upheaval. Cambridge, MA: Harvard University Press.

Amato, P. R., & Rivera, F. (1999). Parental involvement and children’s behavior problems. Journal of Marriage and the Family, 61, 375-384.

Arbuckle, J. L. (2006). Amos (Version 7.0) [Computer Program]. Chicago: SPSS.

Astone, N. M., & McLanahan, S. S. (1991). Family structure, parenting practices, and high school completion. American Sociological Review, 56, 309-320.

Baker, D. P., & Stevenson, D. L. (1986). Mothers’ strategies for children’s school achievement: Managing the transition to high school. Sociology of Education, 59, 155-166.

Barnes, G. M., & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related problem behaviors. Journal of Marriage and the Family, 54, 763-776.

Bauch, P., & Goldring, E. (1995). Parent involvement and school responsiveness: Facilitating the home—school connection in schools of choice. Educational Evaluation and Policy Analysis, 17, 1-21.

Bentler, P. M. (1990). Comparative fit indexes in structural models. Psychological Bulletin, 107, 238–246.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. Psychological Bulletin, 88, 588-606.

Bloom, B. S. (1984). The search for methods of group instruction as effective as one-to-one tutoring. Educational Leadership, 41, 4-7.

Bogenschneider, K. (1997). Parental involvement in adolescent schooling: A proximal process with transcontextual validity. Journal of Marriage and the Family, 59, 718-733.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), Testing structural equation models (pp. 136-162). Newbury Park, CA: Sage.

Byrne, B. M. (1998). Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming. New Jersey: Lawrence Erlbaum Associates, Inc., Publishers.

Catsambis, S. (1998). Expanding knowledge of parental involvement in secondary education: Effects on high school academic success (CRESPAR Technical Rep. No. 27). Baltimore, MD: Johns Hopkins University, Center for Research on the Education of Students Placed at Risk.

Catsambis, S. (2001). Expanding knowledge of parental involvement in children’s secondary education: Connections with high school seniors’ academic success. Social Psychology of Education, 5, 149–177.

Christenson, S. L., Rounds, T., & Gorney, D. (1992). Family factors and student achievement: An avenue to increase students’ success. School Psychology Quarterly, 7, 178–206.

Clark, R. (1993). Homework-focused parenting practices that positively affect student achievement. In N. F. Chavkin (Ed.), Families and schools in a pluralistic society (pp. 85–105). Albany, NY: State University of New York.

Coleman, J. S. (1988). Social capital in the creation of human capital. American Journal of Sociology, 94, 95-120.
Coleman, J., & Hoeffer, T. (1987). Public and private high schools: The impact of communities. New York, NY: Basic Books.
Coleman, M., Ganong, L., & Fine, M. (2000). Reinvestigating remarriage: Another decade of progress. Journal of Marriage and the Family, 62, 1288–1307.
Connell, J. P., Spencer, M. B., & Aber J. L. (1994). Educational risk and resilience in African-American youth: Context, self, action, and outcomes in school. Child Development, 65, 493-506.
Delgado-Gaitan, C. (1991). Involving parents in the schools: A process of empowerment. American Journal of Education, 100, 20-46.
Desimone, L. (1999). Linking parent involvement with student achievement: Do race and income matter? The Journal of Educational Research, 93(1), 11–30.
Domina, T. (2005). Leveling the home advantage: Assessing the effectiveness of parental involvement in elementary school. Sociology of Education, 78, 233-249.
Eccles, J. S., & Harold R. D. (1996). Family involvement in children’s and adolescent’s schooling. In A. Booth & J. F. Dunn (Eds.), Family-school links: How to they affect educational outcomes? (pp. 3-34). Mahwah, NJ: Erlbaum.
Ekstrom, R., Goertz, M., Pollack, J., & Rock, D. (1986). Who drop out of school and why: Finding from a national study. Teachers College Record, 87, 356-373.
Epstein, J. L. (1985). Home and school connections in schools of future: Implications of research on parent involvement. Peabody Journal of Education, 62, 18-41.
Epstein, J. L. (1987). Parent involvement: What research says to administrators. Education and Urban Society, 19 (2), 119–136.
Epstein, J. L. (1990). School and family connections: Theory, research, and implications for integrating sociologies of education and family. Marriage and Family Review, 15, 99-126.
Epstein, J. L. (1995). School/family/community partnerships: Caring for the children we share. Phi Delta Kappan, 76(9), 701-712.
Epstein, J. L. (2001). School, family, and community partnerships. Boulder, CO: Westview.
Epstein, J. L. (2005). School-initiated family and community partnerships. In T. Erb (Ed.), This we believe in action: Implementing successful middle level schools (pp. 77–96). Westerville, OH: National Middle School Association.
Fan, X. T., & Chen, M. (2001). Parental involvement and students’ academic achievement: A meta-analysis. Educational Psychology Review, 13, 1–22.
Fantuzzo, J., Tighe, E., & Childs, S. (2000). Family involvement questionnaire: A multivariate assessment of family participation in early childhood education. Journal of Educational Psychology, 92(2), 367-376.
Fehrmanowski, P., Keith, T., & Reimers, T. (1987). Home influence on school learning: Direct and indirect effects of parental involvement on high school grades. Journal of Educational Research, 80, 330-337.
Fisher, P., Leve, L., O’Leary, C., & Leve, C. (2003). Parental monitoring of children’s behavior: Variation across stepmother, stepfather, and two-parent biological families. Family Relations, 52, 45-52.
Forehand, R., Miller, K. S., Dutra, R., & Watts, M. (1997). Role of parenting in adolescent deviant behavior: Replication across and within two ethnic groups. Journal of Consulting and Clinical Psychology, 65, 1036-1041.
Furstenberg, F. F. (1987). The new extended family: The experience of parents and children after remarriage. In B. Kay Pasley & Marilyn Ihinger-Tallman (Eds.), Remarriage and stepparenting: Current research and theory. New York, NY: Guilford Press.
Gonzalez-DeHass, A. R., Wilems, P. P., & Holbein, M. D. (2005). Examining the relationship between parental involvement and student motivation. Educational Psychology Review, 17, 99-123.
Griffith, J. (1998). The relation of school structure and social environment to parent involvement in elementary schools. The Elementary School Journal, 99, 53-80.
Hara, S. R., & Burke, D. J. (1998). Parent involvement: The key to improved student achievement. School Community Journal, 8, 9-19.
Henderson, A. T., & Mapp, K. L. (2002). A new wave of evidence: The impact of school, family, and community connections on student achievement. Austin, TX: Southwest Educational Development Laboratory.
Hill, N. E., Castellino, D. R., Lansford, J. E., Nowlin, P., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2004). Parent academic involvement as related to school behavior, achievement, and aspirations: Demographic variations across adolescence. Child Development, 75, 1491–1509.
Hill, N. E., & Chao, R. K. (2009). Families, schools, and the adolescent: Connecting research, policy, and practice. New York, NY: Teachers College Press.
Hirschi, T. (1995). The Family. In J. Q. Wilson, & J. Petersilia (Eds.), Crime (pp. 121-140). San Francisco: ICS press.
PARENTAL INVOLVEMENT WITH ADOLESCENT CHILDREN

Hoyle, R. H., & Panter, A. T. (1995). Writing about structural equation models. In R. H. Hoyle (Ed.), Structural equation modeling (pp. 158-176). Thousand Oaks, CA: Sage.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. Structural Equation Modeling, 6, 1-55.

Ingels, S. J., Dowd, K. L., Baldridge, J. I., Stipe, J. L., Bartot, V. H., & Frankel, M. R. (1994). National Education Longitudinal Study of 1988 Second Follow-Up: Data File User's Manual (NCES 94-374). Washington, DC: National Center for Educational Statistics, U.S. Department of Education.

International Business Machines (IBM). (2015). IBM SPSS Statistics for Windows [Version 23.0]. Armonk, NY: IBM Corp.

Jackson, A. W., & Andrews, P. G. (with Holland, H., & Pardini, P.). (2004). Making the most of middle school: A field guide for parents and others. New York, NY: Teachers College Press.

Jackson, A., & Davis, P. G. (2000). Turning points 2000: Educating adolescents in the 21st century. New York, NY: Teachers College Press.

Jenkins, P. (1995). School delinquency and school commitment. Sociology of Education, 68, 221-239.

Jeynes, W. (2005). Effects of parental involvement and family structure on the academic achievement of adolescents. Marriage and Family Review, 37, 99-116.

Jeynes, W. (2010). The salience of the subtle aspects of parental involvement and encouraging that involvement: Implications for school-based programs. Teachers College Record, 112(1), 747-774.

Joyce, T. C., Ronoh, T. K., Sititenei, E., Bii, B. K., & Kiptum, J. K. (2013). Influence of family size on parental involvement in public pre-school education in turbo division, Kenya. International Journal of Scientific and Technology Research, 2(6), 132-135.

Keith, T. Z., Keith, P. B., Troutman, C. G., Bickley, P. G., Trivette, P. S., & Singh, K. (1993). Does parental involvement affect eighth-grade student achievement? Structural analysis of national data. School Psychology Review, 22(3), 474-496.

Kohl, G. O., Lengua, L. J., & McMahon, R. J. (2000). Parent involvement in school: Conceptualizing multiple dimensions and their relations with family and demographic risk factors. Journal of School Psychology, 38(6), 501–523.

Krohn, M. D., Stern, S. B., Thomberry, T. P., & Jang, S. J. (1992). The measurement of family process variables: The effect of adolescent and parent perceptions of family life on delinquent behavior. Journal of Quantitative Criminology, 8, 165-178.

Larzelere, R. E., & Patterson, G. R. (1990). Parental management: Mediator of the effect of socioeconomic status on early delinquency. Criminology, 28, 301-323.

Laub, J., & Sampson, R. (1988). Unraveling families and delinquency: A reanalysis of the Gluecks’ data. Criminology, 26, 355-380.

Lin, Q. (2003). Parent involvement and early literacy. Harvard Family Research Project Research Digest. Accessed online August 7, 2013. Retrieved from http://www.gse.harvard.edu/hfrp/projects/fine/resources/digest/literacy.html

Loeber, R., & Stouthamer-Loeber, M. (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. Crime and Justice, 7, 29-149.

Marsh, H. W., Balla, J. R., & Hau, K. T. (1996). An evaluation of incremental fit indices: A clarification of mathematical and empirical process.” In G. A. Marcoulides, & R. E. Schumacker (Eds.), Advanced structural equation modeling techniques (pp. 315-353). Hillsdale, N. J.: Erlbaum.

Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness-of-fit indices in confirmatory factor analysis: The effect of sample size. Psychological Bulletin, 103, 391-410.

Marsiglio, W. (1991). Paternal engagement activities with minor children. Journal of Marriage and the Family, 53, 973-986.

McCord, J. (1991). Long-term perspectives on parental absence. In L. Robins, & M. Rutter (Eds.), Straight and Devious Pathways from Childhood to Adulthood. New York, NY: Cambridge University Press.

McNeal, R. B. (1999). Parental involvement as social capital: Differential effectiveness on science achievement, truancy, and dropping out. Social Forces, 78(1), 117-144.

Milne, A. M., Myers, D. E., Rosenthal, A. S., & Ginsburg, A. (1986). Single parents, working mothers, and the educational achievement of school children. Sociology of Education, 59, 125-139.

Muller, C. (1993). Parent involvement and academic achievement: An analysis of family resources available to the child. In B. Schneider, & J. S. Coleman (Eds.), Parents, their children, and schools. Boulder, CO: Westview.

Myers, D., Milne, A., Baker, K., & Ginsburg, A. (1987). Student discipline and high school performance. Sociology of Education, 60, 18-33.

National Center for Education Statistics (NCES). (1994). NELS 1988 User’s Manual. Washington, DC: U.S. Department of Education.
National Middle School Association (NMSA). (2003). *This we believe: Successful schools for young adolescents*. Westerville, OH: Author.

Pate, P. E., & Andrews, P. G. (2006). Research summary: Parent involvement. Retrieved from http://www.nmsa.org/Research/ResearchSummaries/ParentInvolvement/tabid/274/Default.aspx

Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development, 55*, 1299-1307.

Peng, S. S., & Wright, D. (1994). Explanation of academic achievement is Asian American Students. *Journal of Educational Research, 87*(6), 346-352.

Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents’ involvement in children’s academic lives: More is not always better. *Review of Educational Research, 77*, 373-410.

Potvin, P., Deslandes, R., & Leclerc, D. (1999). Family characteristics as predictors of school achievement: Parental involvement as a mediator. *McGill Journal of Education, 34*(2), 135-153.

Rodriguez, J. L. (2002). Family environment and achievement among three generations of Mexican American high school students. *Applied Developmental Science, 6*, 88-94.

Samspoon, R. J., & Laub, J. F. (1993). *Crime in the making: Pathways and turning point through life*. Harvard University Press.

Scribner, J. D., Young, M. D., & Pedroza, A. (1999). Building collaborative relationships with parents. In P. Reyes, J. D. Scribner, & A. P. Scribner (Eds.), *Lessons from high-performing Hispanic schools: Creating learning communities* (pp. 36–60). New York, NY: Teachers College Press.

Seginer, R. (1983). Parents’ educational expectations and children’s academic achievement: A literature review. *Merrill Plamen Quarterly, 29*, 1-23.

Seginer, R. (2006). Parents’ educational involvement: A developmental ecological perspective. *Parenting: Science and Practice, 6*, 1-48.

Shaver, A. V., & Walls, R. T. (1998). Effect of Title 1 parent involvement on student reading and mathematics achievement. *Journal of Research & Development in Education, 31*(2), 90-97.

Shillington, A., Lehman, S., Clapp, J., Hovell, M., Sipan, C., & Blumberg, E. (2005). Parental monitoring: Can it continue to be protective among high-risk adolescent? *Journal of Child and Adolescent Substance Abuse, 15*, 1-15.

Shute, V. J., Hansen, E. G., & Underwood, J. S. (2009). Untying the knot: Review of personal research on the influence of parental involvement on students’ academic achievement at the secondary school level (ETS Research Rep. No. RR-09-21). ETS, Princeton, New Jersey.

Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin, 87*, 245-251.

Stevenson, D. L., & Baker, D. P. (1987). The family-school relation and the child’s school performance. *Child Development, 58*, 1348-1357.

Sy, S. R., Rowley, S. J., &Schulenberg, J. E. (2007). Predictors of parent involvement across contexts in Asian American and European American families. *Journal of Comparative Family Studies, 38*, 1-29.

Teachman, J. D., Paasch, K., & Carver, K. (1996). Social capital and dropping out of school early. *Journal of Marriage and the Family, 58*, 773-873.

Trask-Tate, A., & Cunningham, M. (2010). Planning ahead: The relationship among school support, parental involvement, and future academic expectations in African American adolescents. *The Journal of Negro Education, 79*(2), 137-150.

Zill, N. (1994). Understanding why children in stepfamilies have more learning and behavior problems than children in nuclear families. In A. Booth, & J. Dunn (Eds.), *Stepfamilies: Who benefits? Who does not?* Hillsdale, NJ: Erlbaum.