

# Out-Of-School Care and Youth Problem Behaviors in Low-Income, Urban Areas

Kathleen M. Roche · Nan Marie Astone · David Bishai

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**Abstract** Using data from *Welfare, Children and Families: A 3-City Study*, this study explores how change and stability in out-of-school care are associated with changes in problem behaviors among youth from Time 1 (i.e., at ages 10–11) to Time 2 (an average of 16 months later). Girls in at-home, family care or an organized activity at Time 1 and in informal, out-of-home care or self-care at Time 2 experienced greater increases in problem behaviors than girls remaining in at-home family care or an organized activity. Other changes in care were related to youth outcomes differently depending upon maternal psychological distress. Policies must provide a full range of support services related to childcare and mental health care for low-income families.

**Keywords** Low-income families · Out-of-school care · Problem behaviors · Transition into adolescence

## Introduction

Since the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996, a growing number of researchers have considered the consequences of welfare and employment for families and their children (Chase-Lansdale et al. 2003; Gennetian and Miller 2002; Morris et al. 2001; Wolfe and Scrivner, 2004).

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K. M. Roche (✉) · N. M. Astone · D. Bishai  
Department of Population and Family Health Sciences, Johns Hopkins Bloomberg School of Public Health, 615 N. Wolfe Street, Baltimore, MD 21205, USA  
e-mail: kroche@jhsph.edu

N. M. Astone  
e-mail: nastone@jhsph.edu

D. Bishai  
e-mail: dbishai@jhsph.edu

Preliminary results from this research are conflicting with regard to how pre-adolescent and adolescent youth are faring in the face of welfare reform. Work requirements and time limits for public cash assistance have been associated with worse outcomes among adolescents (Gennetian and Miller 2002), and numerous changes in maternal work have been associated with increased high school drop out (Randolph et al. 2004). Other research, however, indicates that low-income youth actually experience improved mental health outcomes when their mothers moved from welfare into employment (Chase-Lansdale et al. 2003).

The issue of out-of-school care among youth is relevant to our understanding of how families with pre-adolescents will fare in regard to welfare reform. Low-income youth will likely experience changes in out-of-school care as mothers move into the workplace (Randolph et al. 2004; Zaslow et al. 2002; Wolfe and Scrivner 2004), and there is ambiguity about the level of adult care needed for youth beginning the transition into adolescence. This ambiguity is reflected partly in child care policies focusing almost exclusively on the needs of young children.

Where and with whom youth spend their out-of-school time have implications for youth well being. After school, youth may go home to a parent or adult family member, attend an extracurricular activity, spend time at a neighbor or friend's home, be in an unsupervised setting, or take care of themselves without adult supervision (Laird et al. 1998). Youth may experience varying outcomes depending upon their care because of varying levels of supervision, exposure to peers, skill-building opportunities, and time with family members.

There are reasons to consider changes and stability in out-of-school care as children transition into adolescence. It is during this period that health-compromising behaviors such as delinquency and substance use, as well as conditions such as depression, often first emerge (Dryfoos 1991). Parents and other adult caregivers also may begin to shift from supervised, formal types of care toward less supervised forms of care as their child enters adolescence and desires greater autonomy. Alternatively, parents might perceive an increased need for their children to be close to family during early adolescence because of increased exposure to negative peer and neighborhood influences. Research on 5–8th graders has shown that less supervised forms of out-of-school care are associated with more adverse outcomes among girls than boys (Galambos and Maggs 1991; Steinberg 1986; Woods 1972).

Families' social and economic environments influence how out-of-school care is related to youth behavior. Self-care and informal out-of-home care are likely to be most deleterious to youth in poor, urban areas because of the high prevalence of violence and crime in these areas. Low-income, urban youth have identified the challenges of spending after school time being unsupervised or being responsible for a younger sibling as their mother transitions from welfare to work (Trzcinski 2002). At the same time, chronic threats to a family's financial and physical well-being may compromise family caregivers' capacities to nurture and emotionally support their youth (McLoyd 1990). When family caregivers are psychologically distressed, care by an adult family member after school may be more harmful to youth than other forms of adult-supervised care. Research consistent with these ideas has shown that pre-adolescent youth living in low-income, single-parent families, but not higher-income, two-parent families, are more negatively impacted by maternal care (Vandell and Posner 1999; Vandell and Ramanan 1991); that high-risk middle and high-school students benefit from participation in extracurricular activities and programs to a greater extent than low-risk students (Mahoney 2000); and that low-income 1st through 4th graders are more negatively affected by being in self-care than middle-income children of that age (Marshall et al. 1997).

This study draws from ecological systems theory to examine associations between out-of-school care and youth behavior. This theory perceives youth outcomes to emanate from interactions between individual and contextual attributes. Out-of-school care is thus expected to be associated with youth behavior differently depending upon characteristics of youth, their social and economic contexts, and interactions between each (Bronfenbrenner 1992). This study examines low-income, predominately racial and ethnic minority youth transitioning into early adolescence who live in low-income, central cities. We focus on ways in which stability and change in out-of-school care across two time points (i.e., at ages 10 and 11 and, again, 16 months later) are associated with changes in problem behavior during the transition into adolescence. As informed by ecological systems theory, we consider whether the mother's psychological distress and the youth's gender modify associations between out-of-school care and youth behavior.

### Variations in Youth Behavior by Out-of-school Care

Study findings point to the negative consequences of informal care (e.g., a neighbor's house) and self-care for the behavior and well-being of children and adolescents (Marshall et al. 1997; Vandell and Ramanan 1991; Richardson et al. 1989; Woods 1972). Negative youth outcomes increase as self-care arrangements are further removed from supervision (i.e., moving from a neighbor's house, to school, to a job and, especially, to "hanging out" with friends; Steinberg (1986), Rodman et al. (1985), Galambos and Maggs (1991), Mott et al. (1999)). Among a sample of 10-to-14 year olds drawn from the same sample of families as used in the present study, Coley and her colleagues found that youth in out-of-home settings reported increased substance use and youth in either formal programs or unsupervised settings reported increased school problems, when compared to youth at home with an adult (Coley et al. 2004). Problem behaviors among 8th and 9th graders have been shown to increase as youth spend more hours in self-care (Mott et al. 1999; Richardson et al. 1989). Parental acceptance and monitoring may mitigate risks of self-care for all pre-adolescent and adolescent youth (Galambos and Maggs 1991; Richardson et al. 1993; Steinberg 1986); whereas, low neighborhood collective efficacy and earlier behavior problems may magnify risks for 10- to 14-year olds in out-of-home care (Coley et al. 2004).

Some research on middle and high-school aged youth demonstrates positive associations between structured out-of-school care activities (e.g., sports, school clubs) and school grades (Cooper et al. 1999), educational status in young adulthood (Mahoney et al. 2003), and, among high-risk youth, lower school dropout and less arrest in young adulthood (Mahoney 2000). Although formal activities and programs may provide youth with increased competence in important domains of development, their effects on youth are not uniform. Participation in sports programs during high school, for example, has been associated with increased alcohol use, especially among young men, whereas, involvement in other extracurricular activities (church and community service; arts; academic clubs; student government) has not (Eccles and Barber 1999; Eccles et al. 2003).

Child and family attributes existing prior to a youth's entry into care may influence how youth spend out of school time. Pro-active, highly vigilant parents are probably less likely than parents with a laissez-faire approach to choose informal or self-care for their youth (Vandell and Posner 1999). Parents of youth with a history of behavior problems may also select formal and supervised care in response to their child's problem behavior.

Alternatively, these parents may find it difficult to take care of their youth or to find adults willing to do so; thus, these parents rely on informal arrangements. Youth with problem behavior may also prefer more informal kinds of care (Laird et al. 1998; Pettit et al. 1999).

## Summary

Although adult supervision during out-of-school hours is associated with fewer problem behaviors among pre-adolescent and adolescent youth, especially for females (Galambos and Maggs 1991; Steinberg 1986), supervision may only benefit youth when it is provided within a youth's own home (Coley et al. 2004). The benefits of at-home family care for youth well being may be less apparent when primary caregivers are psychologically distressed (Conger et al. 1994). In this study, we examine how out-of-school care is associated with externalizing and internalizing behaviors during the transition into adolescence among low-income, predominantly racial and ethnic minority youth. We focus on associations between patterns of change and stability in care and changes in youth behavior and consider modifying influences of the youth's gender and mother's psychological distress on associations between care and youth outcomes.

## Method

### Data Source and Sample

Data from *Welfare, Children and Families: A Three-City Study* (Cherlin 1999), a longitudinal study of low-income families in Boston, Chicago, and San Antonio, are used in this study. Families interviewed at Times 1 (1999) and 2 (an average of 16 months later) reported on demographics, family processes, and well-being outcomes among caregivers and their children. A multi-stage, stratified, area probability sampling of dwelling units was used to identify clusters of census block groups from which eligible households were identified. A household was eligible if it was female or couple-headed, had children under the age of four or ages 10 through 14, and had an income level below 200% of poverty (i.e., below \$27,760 for a family of three in 1999; U.S. Department of Health and Human Services, 2005). Families were sub-sampled at varying rates to control for income, race/ethnicity, family structure, and public assistance distributions. A total of 1,147 pairs of female caregiver and youth (ages 10–15) responded to in-home, computer-assisted personal interviews. (Audio-Computer Assisted Self-Interviews were conducted for sensitive questions). The Time 1 response rate was 74%; 88% of those families were re-interviewed at Time 2. Interviews of caregivers took just over two hours; youth interviews took just over an hour. A description of the study design and methods are available elsewhere (Welfare, Children, and Families 1999). Because 90% of female caregivers were biological or adoptive mothers (most others were grandmothers), we refer to them as *mothers*.

We selected 10- and 11-year-olds at Time 1 for this study ( $n = 479$ ) because of our interest in youth beginning the transition into early adolescence. Even slightly older youth are usually at more advanced stages of physical, social, and cognitive development than 10- and 11-year-olds and have already made many of the typical transitions into adolescence (e.g., onset of menarche for girls; transition into middle school; increased responsibility; Brooks-Gunn and Warren (1988), Feldman and Elliott (1990)). After excluding

youth missing valid data, sample sizes were 424 (89%) for Time 1; 387 (81%) for Time 2; and 353 (74%) for change analyses.

Youth lost to follow-up did not differ from those participating at both time points in terms of demographics, parenting, financial strain, psychological distress, and maternal work hours. They were more likely, however, to be in an organized activity ( $n = 11$ , 22%) as compared to another form of care at Time 1 ( $n = 48$ , 11%;  $\chi^2(1) = 4.5$ ,  $p < 0.05$ ).

## Measures

### *Youth Problem Behavior*

Externalizing and internalizing behaviors were measured using Achenbach's Child Behavior Checklist for 4- to 18-year-olds (CBCL/4-18), which obtains mother ratings on 113 problem items (Achenbach 1991). We measure behaviors as both dichotomous indicators of problem behavior reaching a clinical threshold and as mean scores. Externalizing behaviors included a range of delinquent and aggressive acts; internalizing behaviors indicate anxiety, depression, withdrawal, and somatization. The CBCL/4-18 has been shown to be valid and reliable across a variety of samples (Dutra et al. 2004). Scores for internalizing behavior ranged from 0 to 37; mean scores were 8.5 (SD = 7.4) at Time 1 and 7.9 (SD = 7.0) at Time 2. Scores for externalizing behaviors ranged from 0 to 47 at Time 1 and from 0 to 51 at Time 2. Mean externalizing behavior scores were 10.5 (SD = 9.2) at Time 1 and 10.3 (SD = 9.1) at Time 2.

For analyses predicting the likelihood that youth would experience a clinical level of problem behavior, we developed binary measures of scores above a clinical threshold. *T*-Scores in the 98–100th percentile are considered in a clinical range (Achenbach 1991). About 16% ( $n = 69$ ) of youth had clinical levels of externalizing behavior scores, and 22% ( $n = 91$ ) had clinical levels of internalizing behaviors; 17% of youth had clinical levels of each outcome at Time 2 ( $n = 67$  and  $n = 64$ , respectively).

### *Youth Out-of-school Care*

We created a measure of out-of-school care based on mother's responses to the question: "Aside from school, where would you say [CHILD] spent most of [his/her] time when [he/she] was not with you last week?" The question and responses were adapted from Hofferth et al. (1999). Because few youth were in certain arrangements, we grouped responses into six dummy-coded categories: maternal care (i.e., youth whose mothers reported them to be *always with respondent*); at home with a father or mother's male partner; at home with an adult relative; in an organized or supervised activity; informal out-of-home care (i.e., outside home with a relative or non-relative); and self-care (i.e., playing outside, home alone, with a sibling under the age of 18). Fathers were grouped with mothers' male partners because of the small number of youth living with a biological or adoptive father. Family care might influence youth behavior differently depending on whether or not the caregiver is a biological mother, mother's male partner, grandparent, or extended kin because of variations in the family caregiver's own health, life circumstances, and duration of his/her relationship to the youth. As a result, we retained these as separate categories. We also included a measure of regular care based on mother reports of whether or not the reported type of out-of-school care was the regular form of care most often used during the

previous 12 months. Most mothers (83% at Times 1 and 2) reported that the care was the regular arrangement.

### *Family Processes*

We used principal components (PC) analysis to examine the correlational structure of parenting constructs. Five items taken from the Family Routines Inventory (Jensen et al. 1983) loaded on a dimension of family routines. Mothers reported on the extent to which (a) the family regularly has a time during the day or evening when everyone talks or plays quietly; (b) eats dinner at the same time each night; (c) children do homework at the same time of day or night and go to bed at the same time at night; and, (d) at least some of the family eats breakfast together in the morning. Likert-scale response categories ranged from one (*almost never*) to four (*always*). At Times 1 and 2, respectively, mean scores on the family routines scale were 2.9 (SD = 0.64, range: 1.2–4.0) and 2.8 (SD = 0.65, range: 1–4). The scale demonstrated adequate reliability ( $\alpha = 0.66$  at Times 1 and 2).

We measured parental behavioral control based on items developed as part of a parenting style index (Lamborn et al. 1991; Steinberg et al. 1991). Results from unweighted and weighted PC analyses with promax rotation revealed two dimensions of control. Parental curfews were based on three items indicating the latest time the youth was allowed to stay out on school and weekend nights. Response categories ranged from one to seven referring to (a) *as late as s/he wants to*, (b) *before 8*, (c) *8–8:59*, (d) *9–9:59*, (e) *10–10:59*, and (f) *11 or later*. Curfew items were correlated at  $r = 0.38$  ( $p < 0.001$ ) at Time 1 and  $r = 0.43$  ( $p < 0.001$ ) at Time 2. Mean curfew scores were 0.70 at Time 1 (SD = 0.20, range: 0.41–1.0) and 0.69 at Time 2 (SD = 0.18, range: 0.14–1.0).

The second dimension—parental knowledge (Stattin and Kerr 2000)—included five items indicating youth perceptions of how much the mother knows the youth's friends, whereabouts, and free-time activities, including how money is spent. Response categories were 1 = *doesn't know*; 2 = *knows a little*; and 3 = *knows a lot*. Items were recoded by dividing the response by the total number of response categories for the item; we then used the mean across recoded items (Steinberg et al. 1991). The knowledge scale demonstrated adequate reliability ( $\alpha = 0.68$  at Time 1;  $\alpha = 0.74$  at Time 2). Mean scores on the scale were 0.90 at Times 1 and 2 (SD = 0.12). Scores on the scale ranged from 0.47 to 1.0 at Time 1 and from 0.40 to 1.0 at Time 2.

Using the 18-item version of Derogatis' Brief Symptom Inventory (BSI), maternal psychological distress was measured as a composite of depression, anxiety, and somatization subscales (Derogatis 1982). This scale had high reliability ( $\alpha = 0.91$  at Time 1;  $\alpha = 0.92$  at Time 2). Mean scores for psychological distress were 47.8 (SD = 0.11) at Time 1 and 47.4 (SD = 0.11) at Time 2. The range of scores was 33–81.

### *Background Variables*

Our study controls for family structure, socioeconomic status, maternal work hours, parent education, youth age, race/ethnicity, and maternal financial strain because out-of-school care varies by these demographic attributes (Brandon and Hofferth 2003; Cain and Hofferth 1989; Posner and Vandell 1994; Vandell and Posner 1999) and because parental financial strain negatively affects youth (Conger et al. 1994; Dennis et al. 2003). We account for whether the youth's out-of-school care represents the usual or regular form of care and for the family's city of residence because of between-city differences in social welfare policies and socioeconomic status.

A five-item dimension of financial strain was identified from weighted and unweighted PC analyses of six items from a Financial Strain Index combining items from a Financial Strain Scale by Conger et al. (1994) and one by McLoyd et al. (1994). Mothers reported their (a) ability to pay bills and afford basic needs; (b) need to borrow money; and (c) the amount of money left over each month. A composite score was calculated by taking the mean of the five standardized items. The scale was calculated if at least four of five items were valid. It demonstrated very good reliability ( $\alpha = 0.75$  at Time 1 and  $\alpha = 0.73$  at Time 2). The mean financial strain score was 0.10 (SD = 0.71) at Time 1 and 0.11 (SD = 0.76) at Time 2. Scores ranged from  $-1.5$  to  $1.9$  at Time 1 and from  $-1.5$  to  $2.0$  at Time 2.

Demographic attributes of the youth included race/ethnicity, gender, and age. (African Americans and boys were the reference groups.) Family demographic attributes included family structure (two biological or adoptive parents was the reference group), maternal work hours in the past week (0 = no work; 1 = part-time work or less than 35 h; 1 = full-time work or at least 35 h); and parent education (highest value of the mother or spouse/partner's education). City of residence was dummy coded with Boston as the reference group.

The sample consisted mostly of racial and ethnic minority youth living in single-parent households. About 90% of youth were Latino ( $n = 187$ , 44% at Time 1;  $n = 178$ , 46% at Time 2) or African American ( $n = 192$ , 45% at Time 1;  $n = 172$ , 44% at Time 2); and, more than two thirds of youth lived with a mother only ( $n = 294$ , 69% at Time 1;  $n = 271$ , 70% at Time 2). At Time 1, the highest education level of the mother or her spouse/male partner was a high school education. The average education level declined at Time 2, largely among families who had just experienced a change in family structure. A majority of mothers did not work ( $n = 242$ , 57%); one fifth ( $n = 84$ , 20%) worked part time; and about a quarter ( $n = 98$ , 23%) worked full time at the time of the initial interview. At follow up, fewer mothers reported no work (42%,  $n = 161$ ); 25% ( $n = 96$ ) worked part time; and, over a third ( $n = 130$ , 34%) worked full time.

There were similar proportions of girls ( $n = 205$ , 48% at Time 1;  $n = 180$ , 47% at Time 2) and boys ( $n = 219$ , 52% at Time 1;  $n = 207$ , 53% at Time 2), and the average youth age was 10.5 (SD = 0.5) at Time 1 and 11.8 (SD = 0.7) at Time 2. Just over 40% of youth lived in Boston ( $n = 180$ , 42%, Time 1;  $n = 160$ , 41%, Time 2), and under one third lived in Chicago ( $n = 129$ , 30%, Time 1;  $n = 121$ , 31%, Time 2) or San Antonio ( $n = 115$ , 27%, Time 1;  $n = 106$ , 27%, Time 2).

## Analyses

Primary attention in this paper is devoted to analyses of means scores for externalizing and internalizing behaviors because changes in mean levels of symptomology have important implications regarding the functioning of youth and their friends, families, and teachers. We also report and discuss results based on clinical indicators of outcomes because they indicate which population groups are most likely to require services and are, thus, relevant to policy makers.

We ran cross-sectional multivariate linear regression models regressing youth problem behavior scores on all study variables. Although maternal care was the reference group for models presented in tables, additional models were run where each type of out-of-school care served as the reference group so that we could examine the significance of differences between all out-of-school-care arrangements. We next ran fixed-effects models to explore how changes in out-of-school care were related to changes in youth behavior. In

fixed-effects models, difference scores were used for continuous variables and dummy variables were used to indicate changes in categorical variables. Gender and maternal psychological distress were not measured as change variables; they were included as part of interactions with changes in care.

Fixed-effects models are useful for purging the effects of confounding due to unobservable background factors that do not change over time (Halaby 2004). Examples of these factors include family stress, parenting attitudes, and location of residence. If the independent and dependent variable enter the model as differences over time, then fixed, unobservable factors that do not change over time are eliminated. The two equations shown here illustrate the distinction between fixed-effects models and models regressing Time 2 outcomes on Time 1 variables. In Eq. 1, Time 2 behavior is regressed on Time 1 variables and  $\mu_{t, t+1}$  represent unobservable, time-invariant confounders (e.g., laissez-faire parenting; early behavior) present at Time 1 and Time 2 and  $\varepsilon_{t+1}$  represents an omitted variable present only at Time 2 (e.g., mother was ill on interview day).

$$\begin{aligned} \text{Behavior}_{t+1} = & B_0 + B_1 \text{Out - of - school care}_t + B_2 \text{Parenting}_t + \dots \\ & + B_3 \text{Behavior}_t \dots + \mu_{t,t+1} + \varepsilon_{t+1} \end{aligned} \quad (1)$$

The fixed-effects models shown in Eq. 2 addresses the problem of confounding by unobservable, stable variables ( $\mu_{t, t+1}$ ). Here,  $\Delta$  indicates variable changes from Time 1 to Time 2 and  $\varepsilon$  represents time-varying omitted variables at Times 1 and 2:

$$\begin{aligned} \Delta \text{Behavior}_{t,t+1} = & B_0 + B_1 \Delta \text{Out - of - school arrangements}_{t,t+1} \\ & + B_2 \Delta \text{Parenting}_{t,t+1} + \varepsilon_{t,t+1} \end{aligned} \quad (2)$$

In order to examine whether or not out-of-school care was associated with youth outcomes differently for males and females and differently for youth whose mothers had varying levels of psychological distress, we tested for the significance of two-way interactions in both cross-sectional and fixed-effects models. In the initial model, we included a gender X out-of-school care interaction term. If the gender X out-of-school care interaction was statistically significant at a probability level of less than .05, we presented gender-stratified models for ease of interpretation. Problems of collinearity were reduced by entering interaction terms in separate equations and by centering the continuous measure of maternal distress (Aiken and West 1991).

We proceeded to examine how changes in out-of-school care were associated with Time 2 problem behaviors at a clinical level. These logistic regression models include change variables included in the fixed main-effects models in addition to an indicator of whether or not Time 1 problem behavior scores reached a clinical level. We do not test for interactions in these models because of the small numbers of youth with clinical levels of problem behavior.

## Results

Over half of the youth spent out-of-school care time either in maternal care ( $n = 154$ , 36% at Time 1;  $n = 161$ , 42% at Time 2) or at home with an *adult relative* ( $n = 90$ , 21% at Time 1;  $n = 71$ , 18% at Time 2). Smaller proportions of youth were in other kinds of care. At Times 1 and 2, respectively, 4% ( $n = 15$ ) and 5% ( $n = 20$ ) were at home with

a father/mother’s male partner; 12% ( $n = 52$ ) and 15% ( $n = 56$ ) were in an organized activity; 14% ( $n = 61$ ) and 10% ( $n = 40$ ) were in informal out-of-home care, and 12% ( $n = 52$ ) and 10% ( $n = 39$ ) were in self-care.

Associations Between Out-of-school Care and Youth Problem Behaviors

Results from hierarchical regression models for externalizing behaviors are shown in Table 1. At Time 1 (Model 1), informal out-of-home care and self-care were associated with greater externalizing behavior than was maternal care, although coefficients only approached statistical significance ( $p < 0.10$ ). At Time 2, self-care was also associated with greater externalizing behaviors than maternal care. At both time points, youth externalizing behaviors were greater when mothers were more psychologically distressed. Parental curfews (at Time 1), parental knowledge, and family routines were associated with less externalizing behavior.

Results from interaction-effects models (Model 2 of Table 1) indicated that, at Time 1, informal out-of-home care was related to less externalizing behavior only when mothers

**Table 1** Summary of multiple linear regression for variables predicting externalizing behavior scores at each assessment time<sup>a</sup> ( $n = 424$  for Time 1;  $n = 387$  for Time 2)

	Time 1 Model 1	Time 1 Model 2	Time 2 Model 1	Time 2 Model 2
Out-of-school care <sup>b</sup>				
Home with father/partner	-0.05	-0.05	0.03	0.02
Home with adult relative	0.07	0.06	0.05	0.06
Organized activity	0.00	-0.01	0.04	0.05
Informal out-of-home	0.09 <sup>†</sup>	-0.10 <sup>†</sup>	0.05	0.06
Self-care	0.08 <sup>†</sup>	0.15*	0.20***	0.21***
Maternal psychological distress	0.23***	0.15*	0.25***	0.16*
Parent curfews	-0.14**	-0.15**	-0.09	-0.09
Parental knowledge	-0.13**	-0.12**	-0.10*	-0.10
Family routines	-0.17***	-0.17***	-0.15**	-0.16**
Out-of-school care X maternal distress				
Home with father/partner X distress		-0.01		0.08
Home with adult relative X distress		0.07		0.05
Organized activity X distress		0.02		0.12*
Informal out-of-home X distress		0.14**		0.03
Self-care X distress		-0.04		0.01
F of model	6.07***	5.51***	4.04***	3.57***
F of added variables		2.35*		1.23
$\Delta R^2$	0.27	0.02	0.21	0.01

<sup>a</sup> Models control for city, race/ethnicity, age, gender, work hours, family structure, parent education, regular form of care, and financial strain. Standardized betas are shown

<sup>b</sup> Reference group is *Home with mother*

<sup>†</sup>  $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

reported less psychological distress. At Time 2, being in an organized activity was related to greater externalizing behavior only when mothers reported more psychological distress. Regardless of maternal distress, self-care was associated with significantly higher levels of externalizing behavior at both time points. At Times 1 and 2, respectively, 28% and 21% of the variance in externalizing behaviors was explained by the final models. The addition of interaction terms to models resulted in significant increases in explained variance at Time 1 only.

Results for internalizing behaviors (Table 2) indicate that informal out-of-home care at Time 1 and self-care at Time 2 were associated with greater internalizing behaviors at respective time points when compared to maternal care. At the ages of 10 and 11 and, again, at the ages of 11 through 13, youth also experienced more internalizing behaviors when mothers were more psychologically distressed. Parental knowledge was associated with less internalizing behavior (Time 1), and family routines were associated with less internalizing behavior (Time 2).

Results from interaction-effects models for internalizing behavior (Models 2) indicated that, at Time 1, informal out-of-home care was more strongly associated with greater internalizing behaviors when mothers were more psychologically distressed. At Time 2, being in an organized activity was related to greater internalizing behavior only when

**Table 2** Summary of multiple linear regression for variables predicting internalizing behavior scores at each assessment time<sup>a</sup> ( $n = 424$  for Time 1;  $n = 387$  for Time 2)

	Time 1 Model 1	Time 1 Model 2	Time 2 Model 1	Time 2 Model 2
Out-of-school care <sup>b</sup>				
Home with father/partner	0.01	0.00	0.07	0.08
Home with adult relative	0.04	0.03	0.00	0.00
Organized activity	-0.01	-0.02	0.04	0.05
Informal out-of-home	0.12*	0.12*	0.10*	0.11*
Self-care	0.05	0.06	0.14**	0.14**
Maternal psychological distress	0.30***	0.29***	0.38***	0.33***
Parent curfews	-0.08	-0.07	-0.03	-0.03
Parental knowledge	-0.12*	-0.11*	-0.03	-0.03
Family routines	-0.04	-0.05	-0.14**	-0.14**
Out-of-school care X maternal distress				
Home with father/partner X distress		0.06		-0.04
Home with adult relative X distress		-0.07		0.02
Organized activity X distress		-0.04		0.11 <sup>†</sup>
Informal out-of-home X distress		0.14**		-0.01
Self-care X distress		-0.05		0.02
F of model	4.18***	4.09***	5.11***	4.45***
F of added variables		3.11**		1.19
$\Delta R^2$	0.20	0.03	0.25	0.01

<sup>a</sup> Models control for city, race/ethnicity, gender, age, work hours, family structure, parent education, regular form of care, and financial strain. Standardized betas are shown

<sup>b</sup> Reference group is Home with mother

<sup>†</sup>  $p = 0.05$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

mothers reported more psychological distress ( $p = 0.05$ ). Final models explained 22% (Time 1) and 25% (Time 2) of the variance in internalizing behaviors. The addition of interaction terms to models resulted in significant increases in explained variance for problem behaviors at Time 1 only.

We next ran models using different reference categories for out-of-school care dummy variables. Results indicated that, at Time 1, paternal care was associated with less externalizing behavior when compared to informal ( $B = -0.10, p = 0.06$ ) and self-care ( $B = -0.09, p = 0.07$ ); and an organized activity was associated with less internalizing behavior than informal out-of-home care ( $B = -0.13, p < 0.05$ ). At Time 2, paternal care ( $B = -0.11, p = 0.06$ ), at-home relative care ( $B = -0.20, p < 0.01$ ), organized activities ( $B = -0.19, p < 0.01$ ), and informal out-of-home care ( $B = -0.13, p = 0.06$ ) were associated with less externalizing behaviors than self-care. Also at Time 2, at-home relative care was associated with less internalizing behavior than informal out-of-home care and self care ( $B = -0.13, p = 0.07$  and  $B = -0.18, p < 0.05$ , respectively); and, an organized activity was associated with less internalizing behavior than self-care ( $B = -0.12, p = 0.07$ ).

#### Changes in Out-of-school Care as Related to Changes in Youth Problem Behavior

Taken together, cross-sectional results provided evidence of an overall pattern in which youth experienced more problem behaviors when in self-care or informal out-of-home care, as compared to other forms of care (maternal, paternal, other relative care; organized activities). We thus examined the following patterns of out-of-school care in fixed-effects models: (a) remained in at-home, family care (i.e., maternal, paternal, non-parental adult relative care) or an organized activity ( $n = 214, 61\%$ ); (b) moved into at-home, family care or an organized activity at Time 2 ( $n = 63, 18\%$ ); (c) moved into self-care or informal out-of-home care at Time 2 ( $n = 40, 12\%$ ); and (d) remained in self-care or informal out-of-home care ( $n = 32, 9\%$ ).

Because the gender X patterns of out-of-school care interaction term revealed statistically significant differences between males and females with regard to coefficients for patterns of out-of-school care, we ran gender-stratified models (Tables 3 and 4). These models included main effects only and statistically significant maternal psychological distress X out-of-school care interactions. As shown in Table 3, change and stability in out-of-school care were not associated with changes in boys' externalizing behavior. Among girls, however, moving from at-home, family care or an organized activity at Time 1 to self-care or informal out-of-school care at Time 2 was associated with greater increases in externalizing behaviors than remaining at home with an adult family member or in an organized activity. Girls who remained in self-care or informal out-of-home care over time also experienced declines in externalizing behavior only when mothers reported higher levels of psychological distress at Time 1. Other findings from fixed-effects models indicated that increased financial strain was associated with increased externalizing behavior among all youth and that increases in parental curfews were related to declines in girls' externalizing behaviors. The final model predicting change in externalizing behavior was significant among girls. The model predicted 8% of the variance in boys' externalizing behavior change, compared to 24% of the variance in girls' externalizing behavior.

Table 4 presents fixed-effects results for internalizing behaviors. As with externalizing behaviors, there were no significant main effects of change and stability in out-of-school care for models predicting changes in boys' internalizing behaviors. There was, however, a

**Table 3** Summary of fixed effects model examining changes in externalizing behaviors for boys and girls ( $n = 187$  boys;  $n = 162$  girls<sup>a</sup>)

Variables	Boys	Girls	
	Model 1	Model 1	Model 2
Out-of-school care <sup>b</sup>			
(1) Move home with relative or into organized activity	-0.12	-0.01	-0.01
(2) Move into self-care or informal out-of-home care	-0.03	0.24**	0.24*
(3) Remain in self-care or informal out-of-home care	0.04	-0.09	-0.07
Parenting (change in scores)			
Parent curfews	-0.03	-0.28**	-0.27**
Parental knowledge	-0.05	-0.05	-0.03
Family routines	-0.03	-0.04	-0.07
Financial strain (change in score)	0.19*	0.17*	0.18*
Time 1 maternal psychological distress	-0.04	-0.05	0.03
<i>Two-way interaction: Change in care X Maternal distress</i>			
Move to at-home family care or organized activity X distress			0.04
Move to self-care or informal care X distress			-0.12
Remain in self-care or informal care X distress			-0.16*
F of model	0.90	2.28**	2.31**
F of added variables			2.18 <sup>†</sup>
$\Delta R^2$	0.08	0.20	0.04

<sup>a</sup> Models control for change in maternal employment hours and change in family structure

<sup>b</sup> Reference group for out-of-school care is remained at-home with relative or in organized activity

<sup>†</sup>  $p < 0.10$ , \* $p < 0.05$  \*\* $p < 0.01$ , \*\*\* $p < 0.001$

significant interaction between out-of-school care over time and maternal psychological distress. Boys moving from self-care or informal, out-of-home care at Time 1 into at-home family care or an organized activity at Time 2 experienced a decline in internalizing behavior scores only when mothers were more psychologically distressed. Main-effects findings for girls' internalizing behavior change were similar to those found for externalizing behaviors. Girls who went from being in at-home, family care or an organized activity at Time 1 to self-care or informal out-of-school care at Time 2 had greater increases in internalizing behaviors than girls remaining at home with an adult family member or in an organized activity. In addition, among girls, increased financial strain was associated with increased internalizing behavior, and increased family routines and parental curfews were related to declines in internalizing behaviors. Final models explained substantially more variance in behavior change among girls compared to boys and the model was only significant among girls. The model for boys explained 11% of the variance in internalizing behavior change, compared to 18% among girls.

#### Changes in Out-of-school Care and Clinical Levels of Youth Problem Behaviors

We turn now to findings from logistic regression models predicting a clinical level of problem behavior at Time 2 (empirical results available from author). Controlling for clinical levels of externalizing or internalizing problem behavior at Time 1, youth moving

**Table 4** Summary of fixed effects model examining changes in internalizing behaviors: interaction effects and gender-stratified models<sup>a</sup> ( $n = 349$ )

Variables	Boys	Girls	
	Model 1	Model 1	Model 2
Out-of-school care <sup>b</sup>			
(1) Move to home care or organized activity	−0.12	0.09	−0.13*
(2) Move to self- or informal care	−0.06	0.23**	−0.05
(3) Remain in self- or informal care	−0.00	0.02	0.01
Parenting (change in scores)			
Parent curfews	0.10	−0.18*	0.10
Parental knowledge	−0.00	−0.11	0.01
Family routines	0.01	−0.19*	0.03
Financial strain (change in score)	0.14 <sup>†</sup>	0.17*	0.13
Time 1 Maternal psychological distress	−0.01	0.02	−0.10
<i>Two-way interaction: Change in care X maternal distress</i>			
Move to at-home family care or organized activity X distress			0.19*
Move to self-care or informal care X distress			−0.00
Remain in self-care or informal care X distress			−0.03
F of model	0.97	2.04*	1.10
F of added variables			1.72
$\Delta R^2$	0.08	0.18	0.03

<sup>a</sup> Models control for change in maternal employment hours and change in family structure

<sup>b</sup> Reference group for out-of-school care is remained in at-home family care or in organized activity

<sup>†</sup>  $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

into self-care or informal out-of-home care at Time 2 were 4.1 times more likely to have internalizing behaviors scores reaching a clinical threshold and 3.9 times more likely to have externalizing behavior scores reaching a clinical level when compared to youth remaining in at-home, family care or an organized activity. Youth remaining in self-care or informal care were also 3.2 times more likely to have internalizing behavior scores at a clinical level when compared to youth remaining in at-home, family care or an organized activity. These findings provided further support for the expectation regarding stability and change in care as related to youth outcomes.

## Discussion

As *welfare reform* legislation continues to move poor mothers into the labor force, the issue of how youth are cared for during out-of-school hours is increasingly important. The most common way in which this sample of 10- through 13-year-olds spent out-of-school time was at home with a mother. Most youth, however, were cared for in other ways including paternal care; an organized activity; informal out-of-home care; self-care; and at-home, adult-relative care. In fact, almost one-fifth of youth in this study were at home with a non-parental, adult relative—a finding which is consistent with ethnographic work demonstrating the important roles played by extended kin in the lives of poor, urban youth (Stack and Burton 1993).

Given that early adolescence represents a pivotal developmental turning point, our primary aim was to understand how stability and change in out-of-school care was associated with changes in problem behavior during the transition from childhood into adolescence. In this regard, girls were more sensitive to changes in care than boys. Girls who spent time at home in family care or in an organized activity at ages 10 and 11 and moved to self- or informal, out-of-home care 16 months later had greater increases in internalizing and externalizing behaviors than girls remaining at home or in an organized activity. These findings are consistent with research indicating more deleterious consequences of informal care and self-care for girls, as compared to boys (Galambos and Maggs 1991; Steinberg 1986; Woods 1972), and they support research and theory suggesting more detrimental effects of changing social contexts among early adolescent girls compared to boys (Simmons et al. 1987).

Change and stability in out-of-school care during the transition into adolescence were also salient to youths' experience of clinical levels of problem behavior. Among the entire sample of youth, those who moved into self-care or informal out-of-home care were four times more likely to experience clinical levels of internalizing and externalizing behaviors when compared to youth remaining in at-home, family care or an organized activity. Youth remaining in self-care or informal care were three times more likely than those remaining at home or in an organized activity to experience a clinical level of internalizing behavior. Given that youth with extremely high levels of problem behaviors are most often referred to mental health service providers, the increased risks associated with self-care and informal out-of-home care have important consequences for health-service utilization and need.

Our findings underscore the importance of family decisions about child care for the well-being of youth beginning to transition into adolescence. This study points to the importance of policies supporting low-income families' efforts in caring for their youth when not in school. One possibility is for employers of low-wage workers to provide wage-supplements enabling family members to afford formal activities and organization-based programs for their child. Alternatively, employers could offer part- and flex-time schedules that allow families to be at home with their youth during out-of-school hours. Previous research has suggested that individuals report greater motivation and loyalty regarding work when employers offer workers flexibility and childcare benefits (Monroe et al. 1999). The importance of childcare benefits may be especially important to families with school-aged youth who have variable scheduling needs because of school holidays and closures (Roehling et al. 2001). For mothers who are unemployed, research is needed to identify factors associated with the use of self-care or informal out-of-home care so that programs and policies may be developed to support unemployed caregivers with youth entering early adolescence.

This study also highlights the need to consider out-of-school care within the context of a mother's mental well being. At single points in time during the transition into adolescence, informal, out-of-home care was more strongly associated with externalizing behaviors when mothers reported greater psychological distress. Maternal distress also modified associations between changes in out-of-school care and changes in youth outcomes but in different ways than shown in cross-sectional models. Among girls, for example, remaining in self-care or informal, out-of-home care (compared to remaining in at-home family care or an organized activity) was associated with increased externalizing behavior during the transition into adolescence *only* if mothers were less distressed. In addition, boys who moved into at-home, family care or an organized activity during early adolescence (vs. those who remained in this form of care over time) experienced declines in anxiety,

depression, and somatic symptoms over time *only* if mothers were less psychologically distressed. Thus, when mothers are grappling with their own emotional problems, girls may benefit from remaining in care external to the home while boys may experience declines in psychological well being by moving into at-home family care.

That fact that maternal distress was directly associated with worse outcomes for youth transitioning into adolescence *and* also modified associations between youth's out-of-school care and their behavior is noteworthy; the policy and programmatic significance are two-fold. First, this finding underscores the importance of providing a full range of support services for low-income women making the transition from welfare to work, including appropriate mental health care. Second, this finding is a caution against the development of *one-size fits all* policies regarding child care. It is clear that there is no single, optimal child care situation, and programmatic activities ought to be flexible and responsive to individual needs.

Parenting was also associated with youth outcomes. As with out-of-school care, changes in parenting were salient mostly to the behaviors of girls. Increases in curfews were associated with declines in externalizing and internalizing behavior, and increased family routines were associated with declines in internalizing behavior among girls. This finding confirms the social ecological approach that guided this research. Norms about appropriate behavior are different for boys and girls; moreover, the environment in virtually all social contexts contains differential risks for boys and girls. Thus, parenting that is protective for one gender may be neutral or even harmful to the other. In providing support to low-income parents, it is important for the program planner to not reinforce gender stereotypes when taking gender differentiated risks into account.

Our statistical models included a number of individual and family factors that correlate with problem behavior. The fact that self-care and informal out-of-home care were associated with increased problem behavior, net of curfews, parent knowledge, family routines, maternal psychological distress, and financial strain is strong evidence that aspects of this key social context for pre-adolescents are important protective factors. It is, however, also possible that our parenting measures did not capture the unique investments, family bonds, or proactive approach to parenting among families who ensure that youth are at home with family or in organized activities during out-of-school hours. Social processes unrelated to child care or the family context also might explain linkages between out-of-school care and youth behavior. Youth in informal out-of-home care and self-care tend to affiliate and spend time with peers more than youth in parental care. As a result, these arrangements may provide youth with opportunities and incentives for engaging in peer-oriented, often health-risking, behaviors (Coley et al. 2004).

This study is limited in some ways. First, we did not account for the multiple types of care that families may use; yet, most families rely on more than one care arrangement (Hofferth et al. 1991; Wolfe and Scrivner 2004). Second, we did not have process data limits to understand why youth in organized activities reported less problem behaviors (as in previous studies, Eccles and Barber (1999), Mahoney (2000)); this was contrary to what we expected among this sample based on findings of Coley et al. (2004). Perhaps youth just entering adolescence experienced greater supervision and mentoring in organized after-school activities when compared to the older sample of youth included in the Coley et al. (2004) sample. A third limitation was our use of maternal reports for youth problem behaviors. Mothers who report the youth being in maternal care may have a different perception of the youth's behavior than mothers who report another form of care. The validity of this study's findings are supported, however, by results from Coley et al. (2004) study showing negative consequences of unsupervised out-of-home settings on

youths' self-reported behavior. Finally, fixed-effects models do not completely solve potential problems of reverse causality, as increasingly problematic youth behavior from Time 0 to Time 1 may cause mothers to arrange certain types of out-of-school care between Times 1 and 2, yet we are only seeing behavior at Times 1 and 2.

When work and family issues are debated, with the referent being two-parent, middle class families, policies often consider a mother's availability to care for her children. In contrast, discourse regarding work and family among poor families emphasizes the importance of children learning fiscal independence by observing parental work routines (Wilson 1996). This study's results suggest that family caregiver availability to interact with children should not be a secondary issue among low-income families any more than it is for others. Moreover, policy regarding child care subsidies and provision should not be confined to young children.

In sum, our findings support the importance of policies which enable family members to care for their 10- through 13-year-olds or to access formal, organized programs so that youth are more likely to experience a successful transition from childhood into early adolescence. Policies must also ensure that affordable and accessible mental health-services, in addition to preventive mental-health services, focus on the unique needs and concerns of mothers living in low-income, urban areas. These kinds of family supports may become increasingly important as increasing numbers of poor mothers enter the labor force due to welfare reform legislation.

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