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## Family Assistance Spills Over Into Prosocial Behaviors Toward Friends and Positive Academic Behaviors

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### Abstract

We investigate how daily family assistance predicts prosocial behaviors toward friends and positive academic behavior. Adolescents ( $N = 375$ , 57% girls,  $M_{\text{age}} = 14.57$ ) completed diary checklists for 14 days, reporting whether they provided instrumental assistance or emotional support to family and friends, and their positive academic behaviors (e.g., studied). When adolescents provided emotional support to family, they were more likely to provide instrumental support to friends the next day. When adolescents provided emotional support to family, they were more likely to also provide emotional support to friends the next day, and vice versa (a bi-directional association). When adolescents provided instrumental support to the family, they were more likely to have at least one positive academic experience the next day.

Adolescents provide significant assistance to the family, including instrumental tasks such as cleaning, cooking, and helping siblings with homework, and emotional support such as listening to or advising a parent or sibling (Fuligni, 2018; Padilla-Walker & Christensen, 2011; Weisner, 2001). A growing literature has linked family assistance with both positive and negative emotions, and measures of academic achievement (Armstrong-Carter et al., 2019; Hardway & Fuligni, 2006; Telzer & Fuligni, 2009b; Tsai et al., 2013). However, it is unclear whether family assistance promotes or undermines adolescents' relationships with friends and positive academic behaviors that contribute to school success over time. In this study, we investigated how daily family assistance is related to prosocial behaviors toward friends and positive academic behaviors within and across days. To allow for the possibility that there may be unique associations depending on the type of helping behavior, we distinguished between instrumental and emotional support to both family and friends. Moreover, to explore the possibility of bi-directional associations, we tested whether prosocial behavior toward friends and positive academic behaviors predicted adolescents' provision of assistance to the family the next day.

### Family Assistance from a Theoretical Perspective

Since the advent of socio-ecological theory, developmental psychologists have increasingly recognized that children's life at home intersects with their functioning at school and

with friends outside the home (Bronfenbrenner & Morris, 2006). Family systems theory also suggests that relational processes within the home environment function to maintain children's identity and emotional stability, and can support or undermine their capacity to engage positively with the broader world around them (Whitchurch & Constantine, 1993). Relational processes in the family may include mutual support (MacPhee et al., 2015), such as children's provision of instrumental and emotional assistance to individual family members and the family unit as a whole. In particular, adolescence represents a developmental period when youth may provide instrumental and emotional support to the family, because adolescents become increasingly able to contribute in meaningful and impactful ways (Fuligni, 2018). As such, assisting the family during adolescence is a nearly universal activity (Weisner, 2001) that is nested in intersecting circles of adolescents' broader social and academic lives.

### Family Assistance and Prosocial Behaviors Toward Friends

Adolescents have increasing opportunities to engage with friends independently outside the home (Dotterer & Lowe, 2011; Wang & Eccles, 2013). Since adolescents' spheres of home and social life intersect, family assistance may spill over into adolescents' behaviors toward their friends (Fuligni et al., 2019). In particular, because family assistance is a helping (i.e., prosocial) behavior, it may be linked with adolescents' capacity to help, listen and engage in prosocial behavior with their friends. One possibility is that family assistance *increases* adolescents' prosocial behaviors toward friends. Cross-sectional and longitudinal research demonstrates that adolescents who help the family more also help their friends more (Padilla-Walker et al., 2016; Padilla-Walker & Christensen, 2011). Moreover, on days when adolescents help their families, they feel happier and more fulfilled (Armstrong-Carter, Ivory, et al., 2020; Telzer & Fuligni, 2009b). These positive emotions could enable them to engage positively with friends outside the family unit. Family assistance may also increase prosocial behaviors toward friends by offering opportunities for learning and social collaboration (Tse, 1995). For example, Latinx adolescents who translate for their families reported that they themselves benefit by gaining confidence and maturity, communication skills, and opportunities to engage and collaborate with teachers and peers (Tse, 1995).

Alternatively, family assistance could *reduce* prosocial behavior toward friends. If helping the family feels taxing or stressful (Siskowski, 2006), this could decrease adolescents' emotional capacity to help and respond to their friends' needs. For example, family assistance has been linked with higher feelings of daily burden and perceived demands from the family (Telzer & Fuligni, 2009b), suggesting that family assistance could interfere with adolescents' abilities to engage positively in social settings outside the home. In particular, family assistance might detract from adolescents' time spent with friends overall, or reduce their ability to help friends if they are stressed or occupied with household tasks. Investigating how family assistance relates to prosocial behaviors toward friends may elucidate whether family assistance promotes or undermines adolescents' positive social development, a critical component of concurrent and long-term well-being (Dotterer & Lowe, 2011; Wang & Eccles, 2013).

## Family Assistance and Academic Behaviors

Adolescence also marks a period of growing independence in the school setting, in which youth are increasingly responsible for managing their own academic behavior and performance (Eccles & Roeser, 2011). Intersecting spheres of home life and school life suggest that activities in the home spill over into academic behavior (e.g., Flook & Fuligni, 2008; Fuligni, 2018; MacPhee et al., 2015; Timmons & Margolin, 2015). Extant research on family assistance—a daily experience in the home for many adolescents—has shown mixed results. On the one hand, providing greater instrumental and emotional support to the family is linked to lower grade point averages (GPA; Fuligni et al., 1999; Lam et al., 2016), and temporal increases in the proportion of days spent helping the family across the high school years is associated with declines in the GPAs of Mexican and Chinese adolescents (Telzer & Fuligni, 2009a). On the other hand, adolescents who assist their families more spend more time studying (Hardway & Fuligni, 2006), and youth who believe they should support, assist, and respect their family more strongly value academic achievement and college education (Fuligni, 2001). Moreover, although academic motivation rapidly decreases during the transition to high school, this decline is substantially smaller for adolescents with a stronger sense of family obligation (Fuligni, 2001). In sum, research linking adolescents' family assistance to academic achievement and motivation has shown mixed results, and it is currently unclear whether family assistance is related to academic risk or success.

## Between- vs Within-Person Associations with Family Assistance

One way to illuminate the extent to which family assistance promotes or hinders social and academic success is to investigate how family assistance relates to behaviors on different timeframes or levels. Prior research has focused largely on between person analyses, for example, testing whether adolescents who provide more family assistance on average also exhibit higher GPAs on average. This research yields important information about trait characteristics and long-term associations. However, it is also important to understand *within* person associations between family assistance and social and academic behaviors, which compare an individual's behavior on *one* day to *another* day (Adam, 2006). Comparing days *within* individual participants provides additional insight by holding constant extraneous characteristics of the adolescent, and by revealing how family assistance co-occurs and fluctuates with social and academic behaviors over the course of one or two days.

Building on prior between-person, cross-sectional studies, a daily-level approach may reveal temporal links between helping in the home and academic behaviors that, over time, contribute to differential educational outcomes. For example, assisting the family may increase adolescents' motivation to complete homework assignments, study, and perform well on quizzes (Hardway & Fuligni, 2006), as ways of further contributing to their family, which in turn facilitates long-term achievement (Dotterer & Lowe, 2011; Wang & Eccles, 2013). Alternatively, if family assistance interferes with academic demands and becomes burdensome (Fuligni et al., 1999; Lam et al., 2016; Siskowski, 2006), it could detract time from schoolwork and undermine adolescents' ability to engage positively with school tasks. Investigating how family assistance relates to positive academic behaviors on the daily level

will help to shed light on the extent to which family assistance promotes or undermines positive academic behaviors which influence achievement downstream.

## Unique Effects of Instrumental and Emotional Support

To investigate how family assistance relates to adolescents' adaptation, recent studies have emphasized the importance of distinguishing between adolescents' provision of instrumental support (i.e., tangible assistance such as cleaning or lending an item) and emotional support (i.e., listening or providing advice; Tsai et al., 2016). Emotional support involves adolescents' awareness and response to another person's challenges or worry (Tsai et al., 2016), and it may impact adolescents' own emotional state and behaviors in ways that are not apparent by their provision of instrumental support (Tsai et al., 2016). For example, providing emotional support to a close friend, but not instrumental support, was associated with greater emotional well-being during adolescence (Morelli et al., 2015). This work suggests that instrumental and emotional support should each be examined independently and may have unique effects.

## The Daily Diary Method

The daily diary method is uniquely useful for examining questions related to adolescents' daily family assistance and downstream behaviors (Telzer & Fuligni, 2009a). Youths' daily reports of their behaviors are more reliable and accurate compared to retrospective accounts from a single questionnaire (Bolger et al., 2003). Daily diary methods also allow researchers to examine whether behaviors that occur on one day are associated with other behaviors measured the following day. For example, when adolescents help the family at home, are they more likely to exhibit prosocial behaviors toward their friends the next day? While not causal, data of this nature provide more confidence in the likely directionality of effects, because it holds constant extraneous traits and characteristics of the individual youth. Moreover, controlling for same day friend and academic variables allows us to investigate whether family assistance predicts those behaviors the next day over and above current levels.

## The Present Study

In the present study, we capitalized on the daily diary method in a large, ethnically diverse sample of adolescents. We investigated how family assistance relates to prosocial behavior toward friends and academic behavior on the average level (i.e., between person) and on the daily level (i.e., within person). To unpack the possibility that different types of assistance have unique associations, we tested both instrumental support (i.e., tangible household chores, lending an item) and emotional support (i.e., listening or giving advice) to family and friends.

We tested the following key questions: (1) On the average level between participants, is the provision of instrumental and emotional support to the family related to instrumental and emotional support to friends, and positive academic behavior? (2) On the daily level within participants, is the provision of instrumental and emotional support to the family

related to instrumental and emotional support to friends, and positive academic behavior the next day, over and above prior levels? We hypothesized that there would be positive associations between family assistance and prosocial behavior toward friends, given prior evidence from cross-sectional and longitudinal research (Padilla-Walker et al., 2016). We did not have a strong hypothesis for the direction of the association between family assistance and academic behavior, given mixed links with academic achievement in cross-sectional and longitudinal research (Hardway & Fuligni, 2006; Siskowski, 2006; Telzer & Fuligni, 2009a). (3) Are there bi-directional associations, such that prosocial behavior toward friends and positive academic behavior influence family assistance? This analysis was exploratory, to provide further evidence to aid in the interpretation of our findings.

## Methods

### Participants

Participants were 375 adolescents (57.33% female) between the ages of 11 and 18 years ( $M$  age = 14.57 years,  $SD$  = 1.36 years). As described further below, the current study only included participants who had school day data available, because we only included school days in analysis. There were 21 additional adolescents in the full study sample who did not have any school day data available, because they participated in the summer. The analytic sample was racially and ethnically diverse: 40.26% identified as non-Latinx White (from here on referred to as White,  $N$  = 151), 28.00% Asian ( $N$  = 105, 17 of whom were mixed [e.g., Asian and White], 13.87% Latinx ( $N$  = 52, 12 of whom were mixed [e.g., Latinx and White]), 10.93% African American ( $N$  = 41, 17 of whom were mixed [e.g., African American and White]), and 6.93% other race ( $N$  = 26, 16 of whom self-identified as other and 8 were mixed race). The sample was also socioeconomically diverse: approximately 11% of mothers had less than an 8th grade education, 10% did not complete high school, 25% completed high school, 28% completed post-secondary education (college, trade, or vocational school), and 26% completed graduate school, and 3% declined to answer. Participants were recruited individually from the community using convenience sampling, including posting flyers at schools, posting on listservs serving ethnic minority families, recruiting participants from previous studies who agreed to be contacted for other research studies, and word of mouth. Participants were recruited from urban and rural regions in the US Midwest and West. Participants were compensated \$10 in total for completing the daily diaries as well as a \$20 bonus if inspection of the data indicated that they had completed all the diaries on time. Participants provided assent and their parents provided written consent. Procedures were approved by the sponsoring institution's Committee on Human Subjects.

### Procedure

Participants were provided with diary checklist. Most participants (79%) were provided 14 days of diaries, whereas 21% of participants ( $N$  = 78) were only provided with 7 days of diaries. Most participants (89.82%) completed all days of their dairies ( $M$  = 93.87% of days,  $SD$  = 15.51% days, Range = 14.29% – 100%). We only included school days in analyses, to account for adolescents providing more family assistance and engaging in fewer academic behaviors on the weekends compared to weekdays in our sample. Adolescents with complete data (i.e., 100% of diary days complete) on average had higher levels of

instrumental assistance to friends and were more likely to be Latinx compared to those with one or more missing days ( $p < .05$ ), but they did not differ on other study variables ( $p > .13$ ).

The order of days differed between participants depending on the day of the week that they started, but all participants had the same proportion of weekday to weekend data if they completed all of the diaries (completion rate 93.8%). Participants chose to complete the diaries either on paper (63.20%) or via a secure website (36.80%). Participants who responded with paper and pencil were given 14 manila envelopes and an electronic time stamper (Dymo Corporation, Stamford, CT), which verified the time that checklists were completed. The time stamper is a small device that imprints the current date and time and is programmed with a security code so that the correct date and time cannot be changed. Participants were instructed to place their completed checklists into a sealed envelope each night and to stamp the seal of the envelope with the time stamper. Participants who completed surveys online were sent an email with the link to each daily diary survey, and the time and date of completion were recorded via the website. The daily diary checklists were 3 pages long and each took approximately 5-10 minutes to complete.

## Measures

**Family Assistance.**—Participants responded to a set of questions on the daily checklist indicating whether they participated in any of 7 activities to help their family each day. These items yielded two dichotomous indices of family assistance, each of which was coded as 0 = no assistance, 1 = any assistance that day. *Instrumental support* was indexed with 6 items pertaining to instrumental support (e.g. did you run an errand for your parents or family, did you help to cook a meal for your family). For daily level analysis, this variable was dichotomous, coded as 1 = any instrumental assistance behavior to family that day, and 0 = no instrumental assistance behavior to family that day (ICC = .91). *Emotional support* was indexed with one item: did you help your family today by providing emotional support to your family (i.e., listened, gave advice, comforted). For daily level analysis, this variable was dichotomous, coded as 1 = provided any emotional support to family that day, and 0 = no did not provided any emotional support to family that day (ICC = .93). The list of activities was derived from focus group studies of adolescents and has been used successfully in previous studies (Bolger et al., 2000; Fuligni et al., 2009; Hardway & Fuligni, 2006; Telzer & Fuligni, 2009a). As in prior studies (e.g., Telzer et al., 2009; Tsai et al., 2016), we used dichotomous measures to represent whether or not adolescents supported their family instrumentally and emotionally each day. This approach allowed us to directly compare unique associations with instrumental and emotional support. Notably, studies examining the amount of support provided each day or helping vs. not helping demonstrate nearly identical links to adjustment outcomes (Telzer et al., 2009).

**Prosocial Behavior Toward Friends.**—Items on the daily checklist asked participants to indicate whether they had engaged in different behaviors toward friends each day. This list of items is based on developmental models of social functioning and moral development (Fabes et al., 1999), and is parallel to the items in the family assistance measure. *Instrumental Assistance to Friends* was indexed with 3 items each day: lent a friend an item or money (tool, clothes, car, etc.), helped a friend with schoolwork, and helped

a friend do chores/errands (e.g. laundry, grocery shopping). For daily level analysis, this variable was dichotomous, coded as 1 = any instrumental assistance behavior to friends that day, and 0 = no instrumental assistance behavior to friends that day (ICC = .86). *Emotional Support to Friends* was indexed with one item: provided emotional support to a friend (i.e. listened, gave advice, comforted). For daily level analysis, this variable was also dichotomous, coded as 1 = provided emotional support to friends that day, and 0 = no did not provided any emotional support to friends that day (ICC = .90).

**Positive Academic Behaviors.**—Items on the daily checklist asked participants to indicate whether they had engaged in different behaviors at school each day. These items were based on models of school participation and behavioral engagement, drawn from self-report measures of academic behavior from school psychology (Finn & Rock, 1997; Fredricks et al., 2004; Jennings, 2003; Jimerson et al., 2003). *Positive Academic Behaviors* was indexed by 2 items each day: did well on a test, quiz or homework, and did homework or studied; Cronbach's  $\alpha = .54$ . Relatively low reliability for this measure may be because the items index divergent markers of school behaviors that do not necessarily co-occur, but each reflect a different, unique dimension of academic behavior. For example, adolescents may perform well on a test in the morning at school, but not complete homework that afternoon. To parallel the structure of the instrumental and emotional support variables, for daily level analysis, this variable was dichotomous, coded as 1 = any positive academic experience that day, and 0 = no positive academic experience that day (ICC = .91). For average level analysis, all behavioral measures were continuous because they represented the average of each behavior across days.

**Covariates.**—Mothers reported their education level as an index of family *socio-economic status (SES)*, which ranged from 0 (representing less than 8th grade completed) to 6 (representing completed graduate school). In addition, adolescents self-reported their age, gender, GPA, and race. *Age* was entered as numeric age. *Gender* was dichotomous (Male = 0 and Female = 1). *GPA* was coded on a 4-point scale. *Race* was dummy coded within each race (i.e., African American = 1, not African American = 0) and categorized into five groups: African American, Asian, Latinx, White and Other Race. These were included as covariates in all regression models, to hold constant individual differences in adolescent and family characteristics. Several prior studies have shown group differences in the links between adolescents' family assistance and outcomes, for example ethnicity-specific associations (e.g., Doane et al., 2018; Telzer & Fuligni, 2009a) and differences by gender and socio-economic status (Tsai et al., 2013).

**Data Analysis**—Our aim was to understand how providing instrumental assistance and emotional support to the family relates to instrumental assistance and emotional support to friends, and positive academic behaviors. Specifically, we tested instrumental and emotional support as simultaneous predictors of prosocial behavior to friends and academic behaviors. For between-person (i.e., average-level) analyses, we conducted linear regressions that used person-mean values of each daily variable. Each of these variables represented the proportion of days each behavior occurred on average across the study period (e.g., proportion of days they provided instrumental assistance). Linear regression models

were appropriate for between-person analyses because these variables were continuous proportions (i.e., averages across days).

For within-person (i.e., daily-level) analyses, we again tested instrumental and emotional support to the family as simultaneous Level 1 predictors of prosocial behavior to friends and positive academic behaviors the next day. Specifically, we conducted logistic regression mixed effect models that nested days (Level 1) within participants (Level 2). We person-centered all Level 1 predictor variables, and standardized all Level 2 continuous variables (i.e., age, GPA, and SES). Logistic regressions were appropriate for within-person analyses because each daily variable was dichotomous and represented whether each occurred that day (e.g., provided instrumental support or not). Fixed effects were tested at the level of participants (i.e., Level 2). This statistical approach accounts for dependency within participants and introduces less bias due to missing data compared to traditional statistical analyses, such as repeated measures analysis of variance (Finch et al., 2014). Adapting the method of prior research, we included in each model the same day levels of the outcome, to control for spillover effects between consecutive days and account for any concurrent effects. This approach addressed whether helping the family on day one relates to prosocial behaviors and positive academic behaviors the next day, over and above current levels (Flook & Fuligni, 2008). Conversely, to investigate the possibility of bidirectional daily effects, we tested whether prosocial behavior to friends and academic behavior simultaneously predicted instrumental and emotional support to family the next day, controlling for same day levels of the outcome.

In all models, we included gender, age, SES, GPA and race as covariates. The percentage of missing data ranged from 5.07% to 10.41% of days, depending on the variable. There were 1,937 total person-day observations (Level 1 reports). To manage missing data, we used listwise deletion for person-day elimination. Analyses were conducted using Stata software (StataSE, Version 15.1.632).

## Results

### Sample Characteristics and Bivariate Correlations Across Days

Table 1 displays descriptive statistics and Table 2 displays bivariate correlations. On average, adolescents provided instrumental support to family on 67% of days (approximately 10 out of 14 days) and emotional support to family on 22% of days (approximately 3 out of 14 days). Adolescents provided instrumental support to friends on 34% of days (approximately 5 out of 14 days), and emotional support to friends on 35% of days (approximately 5 out of 14 days).

Girls provided significantly more instrumental and emotional support to family compared to boys. African American, Latinx, and Other Race adolescents provided the highest levels of instrumental support to family, followed by White, then Asian adolescents. White and Other Race adolescents provided the highest levels of emotional support to family, followed by African American, Latinx and Asian adolescents. Adolescents who provided more instrumental support to family on average were older, had lower GPA, and lower family SES. Emotional support to family was not correlated significantly with age, GPA or family



SES. In addition, girls provided significantly more instrumental and emotional support to friends compared to boys. Adolescents who provided more instrumental support to friends were younger, had higher GPA, and higher family SES. Emotional support to friends was not correlated significantly with age, GPA or family SES.

### Average-Level Associations

Our first set of analyses examined whether average levels of family support were associated with average levels of support to friends and positive academic behaviors. Table 3 displays between-person (i.e., average-level) associations from the linear regression analyses.

Adolescents who provided more instrumental assistance to the family also provided more instrumental assistance to friends and had more positive academic behaviors, but did not differ in levels of emotional support to friends. Adolescents who provided more emotional support to the family provided more instrumental assistance to friends, and more emotional support to friends, but did not differ in academic behavior.

### Daily-Level Associations

Next, we conducted daily level analyses to examine whether family support spills over into peer and school experiences the next day. Table 4 displays within-person (i.e., daily-level) associations. When adolescents provided emotional support to their family, they were more likely to provide instrumental and emotional support to their friends the next day. Specifically, odds-ratios revealed that adolescents were 1.61 times more likely to provide instrumental support to friends and 2.59 times more likely to provide emotional support to friends on days after they provided emotional support to family, compared to days after they did *not* provide any emotional support to family. Emotional support was not related to positive academic behaviors the next day.

In addition, when adolescents provided more instrumental support to their family, they were more likely to demonstrate at least one positive academic behavior the next day. Specifically, odds-ratios revealed that adolescents were 1.51 times more likely to demonstrate a positive academic behavior on days after they provided instrumental support to family, compared to days after they did *not* provide any instrumental support to family. Instrumental support was not related to instrumental or emotional support to friends the next day.

Follow-up analyses tested the consistency of these findings across demographic groups, via a model that included random effects. All results remained significant ( $p < 0.05$ ). The variance of the random slope was not significant ( $p > 0.05$ ), suggesting that the findings were consistent across groups of adolescents.<sup>1</sup>

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<sup>1</sup>As follow up sensitivity analysis, we simultaneously tested both between- and within-person associations in a single model. The daily-level link between emotional support to family and emotional support to friends became marginally significant ( $p = .092$ ). In addition, the average-level link between instrumental support to family and instrumental support to friends remained significant ( $p < 0.05$ ), and the average level link between instrumental support to family and positive academic behaviors became marginally significant ( $p = .062$ ). The other associations were no longer significant.

## Social and Academic Precedents to Family Assistance

To investigate the possibility of bidirectional associations, we also tested whether prosocial behavior to friends and positive academic behaviors predict more family assistance behaviors. Table 5 displays these results. When adolescents provided more emotional support to friends they were more likely to provide emotional assistance to the family the next day. Specifically, adolescents were 1.18 times more likely to provide emotional support to family on days after they provided emotional support to friends, compared to days after they did *not* provide any emotional support to friends). There were no other significant associations predicting family assistance in these models.

## Discussion

The goal of this study was to understand how family assistance relates to adolescents' social and academic lives. In a large and ethnically diverse sample of adolescents, we investigated how adolescents' provision of instrumental and emotional support to the family predicted instrumental and emotional support to their friends and positive academic behaviors, on average and on the daily level. We found that when adolescents helped a family member by listening or giving advice, they were more likely to help their friends the next day by listening and giving advice and vice versa (a bi-directional association), and also to help their friends the next day with instrumental tasks. When adolescents helped the family with instrumental household tasks, they were more likely to demonstrate at least one positive academic behavior the next day. Helping the family in moderate amounts may "spill over" and socialize youth to behave more prosocially toward friends and engage positively with school-related activities.

### Emotional Support to Family Predicts Instrumental and Emotional Support to Friends at Both the Daily and Average Levels

Two levels of analysis demonstrated a consistent pattern of results for emotional support to the family. On average, adolescents who more frequently provided emotional support to the family (but not instrumental support to the family) also provided more instrumental and emotional support toward friends. In parallel, there was daily spillover, such that on days after adolescents listened to or advised a family member, they helped their friends more in both instrumental and emotional ways. Youth were also more likely to listen to or advise a family member the day after listening to or advising a friend. These results suggest that there are bi-directional links between helping in the home and helping outside the home, such that helping behaviors in each sphere reciprocally influence each other. Friends may serve as important agents of change for promoting positive family behaviors and vice versa. Our finding that the provision of emotional support was consistently linked across home and social contexts builds on prior cross-sectional and longitudinal research using trait-level questionnaires, which demonstrated that adolescents who help in the home are more likely to also help others outside the home (Padilla-Walker et al., 2011). To our knowledge, this represents the first evidence linking prosocial behavior toward family and prosocial behavior toward friends on a daily level, revealing potential reciprocal influences between helping behaviors in the home and social contexts.

Consistent with socio-ecological theory, this finding highlights the interwoven nature of adolescents' behavioral functioning at home and in social settings (Bronfenbrenner & Morris, 2006). Providing emotional support in one context (i.e., toward family or friends) may promote youths' empathy and perspective taking—which in turn increase their capacity or motivation to support in the other context. Listening and advising another person represents an opportunity for adolescents to practice socio-emotional skills, and socializes them to be able to understand and support the needs of others. For instance, helping the family is associated with greater feelings of personal fulfillment (Armstrong-Carter, Ivory, et al., 2020), concern for others (Grusec et al., 1996), and empathy (Padilla-Walker & Christensen, 2011). Moreover, adolescents who experienced more positive relationships with their parents felt higher levels of empathy toward others, which partially explained (i.e., mediated) why they subsequently helped their friends more with instrumental and emotional tasks (Padilla-Walker & Christensen, 2011). Increases in empathy could similarly explain why the provision of emotional support in the home or toward friends reciprocally influences the provision of emotional support in the other sphere.

### **Instrumental Support to Family Is Linked Inconsistently to Instrumental Support to Friends at the Daily and Average Levels**

In contrast to the consistent pattern of findings for emotional support, the link between instrumental support to the family and prosocial behavior to friends diverged at the average and daily levels. On average, adolescents who helped their family more frequently with tangible household tasks (e.g., cooking, cleaning) also helped their friends more frequently both with instrumental tasks. However, on the daily level, providing instrumental support to the family was not associated with helping behaviors toward friends the next day. This finding contributes evidence that instrumental helping behaviors toward friends and family may be relatively stable patterns of behavior across contexts and across days (Padilla-Walker et al., 2011). Helping the family with tangible household tasks does not appear to socialize helping behaviors toward friends the next day. Providing instrumental support to family may not spill over into social contexts outside the home because it is more focused on tangible household tasks, and is less of a relational process that directly involves perspective taking and empathetic concern for others.

### **Instrumental Support to Family Predicts Positive Academic Behaviors at Both the Daily and Average Levels**

The positive association between instrumental support the family and positive academic behaviors was consistent on the average and daily levels. On average, adolescents who more frequently helped their families with tangible household tasks demonstrated more positive academic behaviors (e.g., completing homework, performing well on quizzes). In parallel daily-level analysis showed that when adolescents helped their families with tangible tasks, they demonstrated more positive academic behaviors the next day. Assisting the family in tangible, instrumental ways may remind adolescents of the needs of the household and family unit, and their own capacity to make meaningful contributions (Fuligni, 2018). Providing instrumental assistance may also ground adolescents' identity and sense of belonging in the family (Broderick, 1993; MacPhee et al., 2015; Patterson, 2002), and increase motivation to continue contributing. Specifically, adolescents may

consciously or unconsciously view school success as ways of continuing to fulfil their family obligations and support the family's needs (Anderman, 2003; Fuligni et al., 2018). In this way, providing instrumental assistance to the family could cultivate feelings of academic motivation or obligation (Hardway & Fuligni, 2006) which in turn promote positive academic behavior.

In contrast to instrumental support to the family, providing emotional support to the family was not linked with academic behavior on average or on the daily level. Providing emotional support—although beneficial for social adaptation—could be unrelated to academic behavior because it is more of a relational practice (Tsai et al., 2016) that influences their social behaviors toward others, rather than practical hands-on tasks pertaining to school. Our study suggests that the relational practice of providing emotional support to family may be more closely linked to the relational practice of helping friends, whereas completing practical, tangible household tasks may be more closely linked to the practical steps toward positive behaviors in an academic setting.

Follow up analysis (i.e., including random slopes) revealed that there was not significant variability left to explain in the daily link between family assistance and friend and school experiences. This suggests that family assistance is linked to more prosocial behaviors to friends and more positive school experiences *consistently* across individual differences in adolescents' race, age, gender, GPA, and SES. This result converges with evidence that daily family assistance is associated with emotional well-being for both girls and boys, and across the teenage years (Armstrong-Carter, Ivory, et al., 2020; Telzer & Fuligni, 2009b). This finding also contributes to literature which has investigated whether family assistance divergently relates to developmental outcomes across different races and ethnicities, which has shown mixed results (see Eisenberg et al., 2015 for a review). Together, these results contribute to a growing body of work suggesting that contributing to the family is a meaningful activity in adolescents' lives which may be associated with positive adaptation across individual and family characteristics.

### **Between-person vs within-person variability in prosocial behavior**

This study found that a large portion of the variance in prosocial behavior was accounted for by between-person variation, rather than daily, within-person variation. Specifically, follow-up sensitivity analyses which simultaneously tested average-level and daily-level associations showed that several of our significant daily-level results were reduced to marginal or non-significant. This finding highlights that within-person, the daily level associations between prosocial behavior with we found should be interpreted with caution and replicated in future, larger samples. The average-level association between instrumental support to family and instrumental support to friends emerged as the most robust. Several studies have shown that prosocial behavior contributes to positive affect and vice versa (Armstrong-Carter, Guassi Moreira, et al., 2020; Snippe et al., 2018), which could partially explain why helping behaviors are linked across home and social contexts.

## Limitations and Future Directions

Several limitations should be acknowledged. First, although the present study utilizes daily diary methods that can account for individual differences and thus offers robust predictive power, particularly by examining spillover effects that control for same-day effects, causality cannot be determined in this study. Incorporating measures of family and friend relationships, parental and friend support, and temperament may help to clarify the mechanisms linking family assistance to social and academic outcomes (e.g., Cohen & Arbel, 2020; Schacter & Margolin, 2019). Second, there was missing data due to the daily nature of diary data. Days that adolescents did not respond to the diaries might represent the most difficult days at home and/or at school, and these could therefore be missing from analysis. Third, our daily measures were dichotomous, indexing whether or not the adolescent provided any instrumental or emotional support that day, and do not reflect the amount of time spent on each activity. Future work should incorporate more detailed measures that capture the amount of time, time of day, and intensity of family assistance. Fourth, investigating adolescents' motivations for family assistance (i.e., intrinsic or extrinsic) may also help to shed light on the psychological mechanisms through which family assistance relates to social and academic functioning (for example, by increasing positive emotions or motivation). Future research should also investigate whether adolescents' provision of assistance to family and friends co-occurs with their receipt of assistance, as this could also partially underlie observed associations. We were also unable to explore differences by youths' nativity or immigration generation; future research should measure these important factors.

Finally, our measure of positive academic behaviors was based on items that were conceptually related, but did not represent a validated measurement tool used in prior research. This measure and others could reflect bias or systematic inequalities in our sample. For example, we found that on average, African American adolescents reported fewer positive academic behaviors compared to White adolescents. This finding is consistent with the systemic inequities and discrimination that African American youth face in the U.S. schooling system and wider society. Future research should investigate how societal and methodological biases potentially influence our research findings and other related daily diary studies.

## Conclusions

The current study extends emerging interest in understanding how family assistance impacts youths' well-being and development. Prior studies have shown that family assistance is a meaningful and rewarding experience for adolescents (Armstrong-Carter, Ivory, et al., 2020; Telzer & Fuligni, 2009b), but can also be taxing and associated with academic risk (Telzer & Fuligni, 2009a). To shed light on whether family assistance promotes or undermines social and academic success, we investigated how family assistance relates to behaviors that represent positive social and academic adaptation. Consistent with a socio-ecological framework of intersecting spheres, our findings reveal that assisting the family may be a valuable activity for adolescents that contributes to positive social competencies

and academic behaviors outside the home, potentially increasing emotional well-being and academic success downstream.

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**Table 1**

Descriptive Statistics for Study Constructs by Gender and Race/Ethnicity

	Full sample		Female		Male		African American		Asian		Latinx		Other Race		White			
	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	Min	Max
Inst. to Family	0.67	(0.46)	0.78	(0.41) <sup>1</sup>	0.63	(0.48) <sup>2</sup>	0.76	(0.43) <sup>A</sup>	0.52	(0.50) <sup>B</sup>	0.98	(0.15) <sup>C</sup>	0.77	(0.42) <sup>A</sup>	0.75	(0.44) <sup>A</sup>	0	1
Emo. to Family	0.22	(0.41)	0.26	(0.44) <sup>1</sup>	0.19	(0.39) <sup>2</sup>	0.24	(0.43) <sup>A</sup>	0.18	(0.38) <sup>A</sup>	0.17	(0.38) <sup>A</sup>	0.26	(0.44) <sup>B</sup>	0.26	(0.44) <sup>B</sup>	0	1
Inst. to Friends	0.34	(0.48)	0.55	(0.50) <sup>1</sup>	0.45	(0.49) <sup>2</sup>	0.53	(0.50) <sup>A</sup>	0.50	(0.50) <sup>A,C</sup>	0.06	(0.24) <sup>B</sup>	0.50	(0.50) <sup>A,C</sup>	0.59	(0.49) <sup>C</sup>	0	1
Emo. to Friends	0.35	(0.48)	0.51	(0.50) <sup>1</sup>	0.30	(0.50) <sup>2</sup>	0.37	(0.48) <sup>A</sup>	0.34	(0.47) <sup>B,C</sup>	0.64	(0.49) <sup>A,B,C</sup>	0.51	(0.50) <sup>B</sup>	0.46	(0.49) <sup>B</sup>	0	1
Pos. Academic Behaviors	0.63	(0.36)	0.38	(0.40) <sup>1</sup>	0.41	(0.38) <sup>2</sup>	0.33	(0.35) <sup>A</sup>	0.68	(0.34) <sup>B</sup>	0.66	(0.31) <sup>B</sup>	0.61	(0.37) <sup>B</sup>	0.64	(0.36) <sup>B</sup>	0	1
Age	14.57	(1.36)	14.61	(1.32) <sup>1</sup>	14.50	(1.22) <sup>2</sup>	14.57	(1.11) <sup>A</sup>	14.18	(1.33) <sup>B</sup>	16.00	(0.95) <sup>C</sup>	14.53	(1.02) <sup>A</sup>	14.64	(1.18) <sup>A</sup>	11.91	18.02
GPA	3.38	(0.54)	3.84	(0.10) <sup>1</sup>	3.26	(0.02) <sup>2</sup>	2.94	(0.92) <sup>A</sup>	3.76	(0.36) <sup>D</sup>	3.03	(0.60) <sup>A,B</sup>	3.22	(0.82) <sup>B,C</sup>	3.32	(0.73) <sup>C</sup>	0	4
SES	3.86	(1.89)	4.19	(1.61) <sup>1</sup>	4.32	(1.85) <sup>2</sup>	3.16	(1.59) <sup>A</sup>	5.26	(1.20) <sup>B</sup>	1.93	(1.74) <sup>C</sup>	3.52	(1.62) <sup>D</sup>	4.19	(1.50) <sup>E</sup>	0	6

Note. N = 375. M = Mean. SD = Standard Deviation. Inst = Instrumental support. Emo = Emotional support. Pos = Positive.

All study variables from the diaries are the average levels across days, which each represent the proportion of days they engaged in each one on average. For race, means with the same letter are not significantly different. For gender, means with the same number are not significantly different.

**Table 2**

Correlations Between Study Constructs

	1	2	3	4	5	6	7	8
1. Instrumental Support to Family	1							
2. Emotional Support to Family	0.21 <sup>***</sup>	1						
3. Instrumental Support to Friends	0.02	0.25 <sup>***</sup>	1					
4. Emotional Support to Friends	0.28 <sup>***</sup>	0.53 <sup>***</sup>	0.42 <sup>***</sup>	1				
5. Positive Academic Behaviors	0.09	0.13 <sup>*</sup>	0.22 <sup>***</sup>	0.15 <sup>*</sup>	1			
6. Female Gender	0.22 <sup>***</sup>	0.11 <sup>*</sup>	0.12 <sup>*</sup>	0.29 <sup>***</sup>	0.04	1		
7. Age	0.22 <sup>***</sup>	0.061	-0.19 <sup>***</sup>	0.09	0.08	0.01	1	
8. GPA	-0.15 <sup>*</sup>	0.12	0.14 <sup>*</sup>	0.05	0.27 <sup>***</sup>	0.12	0.18 <sup>**</sup>	1
9. SES	-0.26 <sup>***</sup>	0.080	0.24 <sup>***</sup>	0.06	0.23 <sup>***</sup>	0.03	-0.15 <sup>**</sup>	0.56 <sup>***</sup>

Note. N = 375.

\* p < .05,

\*\* p < .01,

\*\*\* p < .001.

All study variables from the diaries are the average levels across days, which each represent the proportion of days they engaged in each one on average.

**Table 3**

Average Level (i.e., Between-person) Linear Regressions: Associations between Instrumental and Emotional Support to the Family, Instrumental and Emotional Support to Friends, and Positive Academic Behaviors.

	Instrumental Assistance to Friends		Emotional Support to Friends		Positive Academic Behaviors	
	B	SE	B	SE	B	SE
Instrumental Assistance to Family	0.17**	(0.06)	0.12+	(0.06)	0.17**	(0.06)
Emotional Support to Family	0.26***	(0.06)	0.58***	(0.07)	0.07	(0.06)
Female Gender	0.05	(0.04)	0.11**	(0.04)	-0.02	(0.04)
Age	-0.03	(0.02)	0.00	(0.02)	-0.02	(0.02)
GPA	0.02	(0.02)	-0.02	(0.02)	0.02	(0.02)
SES	-0.01	(0.02)	0.03	(0.02)	0.02	(0.02)
African American	-0.05	(0.06)	0.04	(0.06)	-0.16**	(0.06)
Asian	-0.01	(0.04)	-0.03	(0.05)	0.19***	(0.05)
Latinx	-0.37***	(0.07)	0.10	(0.15)	0.16*	(0.07)
Other	-0.02	(0.07)	0.04	(0.07)	0.05	(0.07)
Constant	0.21***	(0.05)	0.13*	(0.05)	0.43***	(0.05)

Note.

\*  
p < .05,

\*\*  
p < .01,

\*\*\*  
p < .001.

Race was dummy coded within each race (i.e., African American = 1, not African American = 0) with White serving as the reference group.

**Table 4**

Daily-level (i.e., Within-person) Logistic Regressions: Instrumental and Emotional Support to the Family Predicting Instrumental and Emotional Support to Friends and Positive Academic Behaviors the Next Day

	Instrumental Support to Friend Next Day		Emotional Support to Friend Next Day		Positive Academic Behaviors Next Day	
	B	SE	B	SE	B	SE
<i>Level 1 Variables</i>						
Instrumental Support to Family	0.18	(0.14)	0.24	(0.20)	0.42 <sup>*</sup>	(0.18)
Emotional Support to Family	0.47 <sup>**</sup>	(0.15)	0.95 <sup>***</sup>	(0.22)	-0.08	(0.20)
Same Day Outcome	1.53 <sup>***</sup>	(0.13)	1.33 <sup>***</sup>	(0.23)	1.39 <sup>***</sup>	(0.23)
<i>Level 2 Variables</i>						
Female Gender	0.13	(0.13)	0.67 <sup>**</sup>	(0.24)	-0.15	(0.18)
Age	-0.05	(0.07)	0.12	(0.11)	0.06	(0.09)
GPA	0.09	(0.08)	-0.06	(0.13)	0.18	(0.10)
SES	0.05	(0.08)	0.26	(0.14)	0.19	(0.11)
African American	-0.04	(0.24)	-0.07	(0.38)	-0.84 <sup>**</sup>	(0.30)
Asian	-0.00	(0.16)	-0.55 <sup>*</sup>	(0.26)	0.34	(0.22)
Latinx	-1.65 <sup>**</sup>	(0.57)	-0.80	(0.96)	0.02	(0.51)
Other Race	-0.01	(0.25)	0.25	(0.41)	0.03	(0.33)
Constant	-1.44 <sup>***</sup>	(0.17)	-1.60 <sup>***</sup>	(0.24)	-0.00	(0.27)

Note.

\*  
p < .05,

\*\*  
p < .01,

\*\*\*  
p < .001.

Race was dummy coded within each race (i.e., African American=1, not African American=0).

**Table 5**

Daily Level (i.e., Within-person) Logistic Regressions: Prosocial Behavior to Friends and Positive Academic Behaviors Predicting Instrumental Assistance and Emotional Support to Family the Next Day.

	Instrumental Assistance to Family Next Day		Emotional Support to Family Next Day	
	B	SE	B	SE
<i>Level 1 Variables</i>				
Instrumental Support to Friends	0.09	(0.20)	0.44	(0.26)
Emotional Support to Friends	0.20	(0.21)	1.18***	(0.25)
Positive Academic Behaviors	0.39	(0.26)	0.45	(0.35)
Same Day Outcome	1.53***	(0.25)	0.87**	(0.33)
<i>Level 2 Variables</i>				
Female Gender	0.85**	(0.27)	0.15	(0.37)
Age	0.22	(0.13)	0.07	(0.19)
GPA	-0.44*	(0.18)	0.22	(0.21)
SES	0.12	(0.16)	0.18	(0.23)
African American	-0.20	(0.46)	-0.10	(0.64)
Asian	-0.73*	(0.31)	-0.75	(0.44)
Latinx	0.52	(1.40)	0.37	(1.62)
Other	-0.19	(0.48)	-0.41	(0.73)
Constant	-0.52	(0.36)	-3.11***	(0.47)

Note.

\* p < .05,

\*\* p < .01,

\*\*\* p < .001.

Race was dummy coded within each race (i.e., African American = 1, not African American = 0).