Published in final edited form as:

AIDS Care. 2013 May ; 25(5): 632–639. doi:10.1080/09540121.2012.722603.

Domestic chores workload and depressive symptoms among children affected by HIV/AIDS in China

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Abstract

Limited data are available regarding the effects of domestic chores workload on psychological problems among children affected by HIV/AIDS in China. The current study aims to examine association between children's depressive symptoms and the domestic chores workload (i.e., the frequency and the amount of time doing domestic chores). Data were derived from the baseline survey of a longitudinal study which investigated the impact of parental HIV/AIDS on psychological problems of children. A total of 1,449 children in family-based care were included in the analysis: 579 orphaned children who lost one or both parents due to AIDS, 466 vulnerable children living with one or both parents being infected with HIV, and 404 comparison children who did not have HIV/AIDS infected family members in their families. Results showed differences on domestic chores workload between children affected by HIV/AIDS (orphans and vulnerable children) and the comparison children. Children affected by HIV/AIDS worked more frequently and worked longer time on domestic chores than the comparison children. Multivariate linear regression analysis showed that domestic chores workload was positively associated with depressive symptoms. The data suggest that children affected by HIV/AIDS may face increasing burden of domestic chores and it is necessary to reduce the excessive workload of domestic chores among children affected by HIV/AIDS through increasing community-based social support for children in the families affected by HIV/AIDS.

Keywords

Domestic chores workload; Depressive symptoms; Orphan; HIV/AIDS; China

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Introduction

Joint United Nations Programme on HIV/AIDS (UNAIDS) reported that an estimated 34 million people were living with HIV worldwide in 2010 (UNAIDS, 2011). The number of children under the age of 18 years who have lost one or two parents to HIV was estimated 17 million in 2009 (UNAIDS, 2010). Many children affected by HIV (either orphaned or made vulnerable to be orphaned by HIV) were cared by extended families (Govender, Penning, George, & Quinlan, 2011; Zhao et al., 2007). HIV/AIDS pandemic leads to increased caregiving in the affected families, particularly in the developing countries. The burden of caregiving for these children was significant in the families affected by HIV/AIDS as adult family members in these families are not able to protect their children from heavy caregiving responsibilities (Govender et al., 2011). Children living in families affected by HIV/AIDS were involved and experienced increased responsibility in housework and in caregiving for infected parents and younger siblings, even aging guardians (Skovdal & Ogutu, 2009; Zhang et al., 2009). A study in Guinea reported that most of children orphaned by AIDS (71.8%) worked as farmers and domestic workers (Delva et al., 2009).

Psychological problems are prominent among children affected by HIV/AIDS (Nyamukapa et al., 2008). Children affected by HIV/AIDS face imminent or recent bereavement that may result in psychological distresses (Cluver, Orkin, Gardner, & Boyes, 2011; Li, Barnett, et al., 2009). Previous studies demonstrated that children affected by HIV/AIDS were more likely to experience psychological problems mainly due to trauma, stigma, and poverty (Li, Fang, et al., 2009). To understand children's psychological needs in the families affected by HIV/AIDS, it is necessary to better understand how much children were involved in domestic care work within family and whether the involvement resulted in psychological problems. However, the association of domestic chores workload with psychological problems of children, the "young carers", especially those who live in the resource-limited areas, has been understudied (Skovdal & Ogutu, 2009). The data on the impact of the increased caregiving on children's psychological health are limited and mixed. For example, studies in three countries of Sub-Saharan Africa reported that children affected by HIV/AIDS involved in a range of caregiving tasks including carrying out the domestic chores and caring for other family members (Robson, Ansell, Huber, Gould, & van Blerk, 2006). However, a study in Tanzania did not find the difference on excessive domestic chores workload between children orphaned by AIDS and non-orphans. Most of these studies were qualitative research (Robson et al., 2006; Skovdal & Ogutu, 2009) or had small sample sizes (Makame, Ani, & Grantham-McGregor, 2002). These qualitative studies focused on addressing categories of caring tasks, impact of experienced caregiving on school attendance and emotional cost and emotional maturity (Robson et al., 2006). The lack of appropriate comparison group in the previous studies also made it impossible to assess the relative amount of domestic chores workload among children affected by HIV/AIDS. In addition, most of the studies were conducted in South African countries and virtually no study was conducted in other countries such as China.

An estimated number of children orphaned by HIV/AIDS in China was approximately 260,000 in 2010 (UNAIDS & UNICEF, 2002). Despite the overall prevalence of HIV in China is low, high infection rates have been found in some specific populations including former blood/plasma donors in rural areas of some provinces. During the late 1980s to the early 1990s, thousands of farmers in central China were infected with HIV through unhygienic blood collection procedures (Cohen, 2004). A study reported 15.1% HIV prevalence among former blood/plasma donors in some villages (Ji, Detels, Wu, & Yin, 2006). According to one survey in two villages in Henan province, the proportions of children had lost both parents, the father, or the mother were 11%, 38%, and 51%, respective (Zhao et al., 2007). All single orphans and some double orphans were in family-

based care and these children were cared by infected parent (38%), grandparents (22%), relatives (19%), and non-relatives (22%) (Zhao et al., 2010). A qualitative study found that children in the families affected by HIV/AIDS experienced increased responsibility of housework and caregiving (Zhang et al., 2009). However, data regarding the forms and the levels of domestic work among these children were limited. The current study examined the association between children's domestic chores workload and their depressive symptoms among children affected by HIV/AIDS.

Methods

Participants and recruitment procedure

The data in the current study were derived from the baseline survey of a longitudinal assessment of psychosocial needs of children affected by HIV/AIDS in two rural counties in Henan province of China where many peasants had been infected with HIV through unhygienic blood collection (Li, Barnett, et al., 2009). The sampling and recruitment processes of the larger study have been described in detail elsewhere (Li, Barnett, et al., 2009). Children aged 6 to 18 years in these selected households were eligible to participate in the study. The comparison group was recruited from the same villages where children affected by HIV/AIDS were recruited. Children's age eligibility was verified through the local community leaders, school records, or caregivers. Appropriate written or oral consent/assent was obtained before participation. Each participating child completed an assessment inventory with help from an interviewer when it is necessary. The entire assessment inventory took about 75–90 minutes. A 10–15 minutes break was given for the younger children after every 30 minutes of assessment. Each child received a gift at completion of the assessment as a token of appreciation. The research protocol was approved by the institutional review boards (IRBs) at both Wayne State University in the United States and Beijing Normal University in China.

Because of the focus of the current study was about the domestic chores in the family care settings, children lived in the orphanages (n=176) were excluded and a total of 1,449 children who were in family-based care were included in the analysis. The sample size is adequate.

Measures

In the current study, the domestic chores workload was assessed by two indicators: the weekly frequency of performing domestic chores work, and daily hours of performing domestic chores.

Frequency of domestic chores—Information was collected from each child regarding the weekly frequency of performing each of listed nine types of domestic chores work through a question: “In the past 6 months, how often did you do the following domestic chores work each week?” The domestic chores included washing clothes, cleaning, feeding cattle, selling products in the market, cooking at home, carrying water for home use, doing land work, cutting grass, and caring for sick parents/family members. Each of the nine items had a 6-point response option (0=none, 1=about once per week, 2= about twice per week, 3=about once every two days, 4=about once per day, 5=more than once per day). A composite score of the domestic chores work frequency was calculated by summing up the responses to all nine items of domestic chores. The domestic chores work composite score had a range of 0–45 with a higher score indicating a higher frequency of domestic chores work involvement (Cronbach's alpha was 0.77).

Domestic chores daily working hours—Domestic chores daily working hours are the estimated number of hours performing domestic chores work each day. Children were asked a question that “Averagely, how many hours in total did you do domestic chores work daily?”

Depressive symptoms—Children’s depressive symptoms were measured using the Center for Epidemiological Studies Depression Scale for Children (Fendrich, Weissman, & Warner, 1990). Children were asked to report the symptoms in the past week. The scale is a 20-item self-report measure with a 4-point response option (0=not at all, 1=a little, 2=some, 3=a lot). The sum score was used as a composite score ranging from 0 to 60 with a higher score indicating a high level of depressive symptoms. Cronbach’s alpha of the scale was 0.81 for the current study sample.

Demographic factors—Demographic factors including children’s age, gender, the number of siblings living together in the same households were collected and used in the analysis.

Statistical analyses

Descriptive analysis was used to describe the distribution of demographic characteristics and depressive symptoms of children by orphan status. Analysis of variance (ANOVA) was performed to examine the group differences of domestic chores work frequency composite score and domestic chores daily working hours according to the age, gender, orphan status, number of other siblings living together (0, 1, 2 or more). A multivariate linear regression analysis was performed to examine the association between domestic chores workload and depressive symptoms after controlling other factors. In the multivariate linear regression analysis, four models were performed for the whole sample and the subsamples in different age group (i.e., 6–11 years, 12–15 years, and 16–18 years), respectively. All analyses were conducted using SPSS version 18.0.

Results

Demographic characteristics

The participants in the current study included 579 children who lost one or both of their parents to HIV/AIDS and were living in family-care settings (family base-care orphans), 466 vulnerable children (i.e., children living with HIV-infected parents), and 404 comparison children who were from the same community and did not have HIV/AIDS-related illness or death in their families. As shown in Table 1, the sample consisted of 718 (49.6%) boys and 731 (50.4%) girls. The mean age for the total sample was 12.9 years (SD=2.16). Orphans were older (mean age=13.4 years old) than either vulnerable children (mean age=12.4 years) or comparison children (mean age=12.8 years). The average number of siblings who children lived together in the comparison group was low (mean=0.94) than orphans (mean=1.09) and vulnerable children (mean=1.21). About one third of participants (32.6%) reported that they did not live with any siblings in the same household. Forty-one percent of children reported living with one sibling while less than one third (26%) of them reported living with more than one sibling.

Group differences on domestic chores workload

Overall, children reported domestic chores work frequency composite score of 11.09 (SD=7.21) in the past 6 months prior to the survey. The average hours that children spent daily on performing domestic chores was 1.64 (SD=1.32). The average depressive symptoms reported by children was 18.06 (SD=8.34).

Table 2 depicts the gender and age group differences on domestic chores frequency composite score and domestic chores daily working hours. Girls performed domestic chores more frequently (11.74, SD=7.13) than boys (10.42, SD=7.13) ($p<0.001$). For each of nine forms of domestic chores, girls worked more frequently than boys on washing cloth (1.59 vs. 1.15, $p<0.001$), cleaning (2.15 vs. 1.99, $p<0.05$), cooking (2.51 vs. 1.89, $p<0.001$), and caring for sick parents (1.22 vs. 0.96, $p<0.01$). Girls worked longer hours daily (1.71 hours) on domestic chores compared with boys (1.58 hours) although this difference did not reach the statistical significance ($p=0.078$).

Older children worked more frequently than younger children, for the domestic chores frequency composite score being 11.88 (SD=6.04) for children 16–18 years of age, 11.72 (SD=7.28) for children 12–15 years of age, and 9.05 (SD=7.17) for children 6–11 years of age. Older children also spent more time on domestic chores than younger children. Children 16–18 years of age performed domestic chores work 1.84 (SD=1.37) hours daily and children 12–15 years of age worked 1.72 (SD=1.34) hours daily, while children 6–11 years of age worked 1.33 (SD=1.17) hours daily. Results in Table 2 also showed that younger children tended to work more frequently inside the home or light/easy tasks (e.g., washing, cleaning), while older children tended to work more frequently outside the home or heavy/difficult tasks (e.g., cooking, carrying water for home use, caring for sick parents).

Results in Table 3 showed that orphans and vulnerable children worked more frequently than children in comparison group (11.59, and 11.09 vs. 10.35, $p<0.05$). There were statistically significant differences between orphans and comparison children on washing ($p<0.01$), doing land work ($p<0.05$), mowing grass for cattle ($p<0.01$), and caring for sick parents ($p<0.01$). Compared with children in the comparison group, children affected by HIV/AIDS worked more hours daily on domestic chores work (1.83 vs. 1.37 hours, $p<0.001$).

Children who lived with two or more siblings reported that they performed domestic chores work more frequently compared with children who lived with one or no sibling (11.90 vs. 10.66, and 10.68, $p<0.05$). The differences between children who lived with two or more siblings and children who lived with one or no sibling were statistically significant on washing ($p<0.01$), feeding cattle ($p<0.01$), selling products in the market ($p<0.001$), and doing land work ($p<0.05$).

In addition, children who lived with two or more siblings reported that they worked longer hours daily on domestic chores work compared with children who lived with one or no sibling (1.80 hours vs. 1.57 hours), although this difference did not reach statistical significance.

Association between domestic chores workload and depressive symptoms

Results of multivariate linear regression analysis were showed in Table 4. After controlling for other factors, children who reported a higher level of domestic chores workload were more likely to report depressive symptoms (standardized regression coefficient = 0.093, $p<0.01$) (model 1). Results also showed that children who reported longer daily hours of performing domestic chores work were more likely to report depressive symptoms (standardized regression coefficient = 0.123, $p<0.01$). Compared with children in comparison group, orphans were more likely to report depressive symptoms (standardized regression coefficient = 0.230, $p<0.01$). The current study results showed that children who lived together with two or more siblings were less likely to report depressive symptoms (standardized regression coefficient = -0.073 , $p<0.05$).

In the subsample of age group 6–11 years (model 2) and subsample of age group 16–18 years (model 4), the association between depressive symptoms and domestic chores workload and daily hours of performing domestic chores work did not show the statistical significance. In the subsample of age group 6–11 years, compared with children in comparison group, children who were orphaned were more likely to report depressive symptoms (standardized regression coefficient = 0.197, $p < 0.01$). In the subsample of age group 16–18 years, children who reported longer daily hours of performing domestic chores work were more likely to report depressive symptoms (standardized regression coefficient = 0.199, $p < 0.05$).

In the subsample of age group 12–15 years (model 3), children who reported a higher level of domestic chores workload were more likely to report depressive symptoms (standardized regression coefficient = 0.126, $p < 0.01$). Results also showed that children who reported longer daily hours of performing domestic chores work were more likely to report depressive symptoms (standardized regression coefficient = 0.135, $p < 0.01$). Compared with children in comparison group, children who were orphaned were more likely to report depressive symptoms (standardized regression coefficient = 0.256, $p < 0.01$).

Discussion

The current study results show that compared with children who lived in families without HIV-related illness and death children affected by HIV/AIDS reported higher level of performing domestic chores workload and worked longer hours daily for domestic chores work. Results also showed that children's self-reported depressive symptom was positively associated with frequency of domestic chores work and daily working hours. The gender and age differences in both the workload and work hours supported the validity of these measures among children affected by HIV/AIDS in China.

While some involvement in performing housework in family by children would benefit children's psycho-social development, involvement in excessive housework often have negative effects on children's physical and mental health (Becker, 2007; Skovdal & Ogutu, 2009). Similar to the findings from other studies, in dealing with the HIV-related illness and death, families affected by HIV/AIDS faced not only heavy economic burdens but also excessive housework (Evans, 2011; Robson et al., 2006). Children in families affected by HIV/AIDS in the poor resource settings suffer from the burden beyond what usually expected of children's contributions to the domestic chores. Within Chinese socio-cultural contexts, the caregiving experience is characterized as responsibilities for children for their filial piety and obligations (Holroyd, 2001). Therefore, children's psychological problems caused by the burden of performing domestic chores work may be overlooked in the society.

The greater domestic chores workload and longer daily work hours had negative impact on children's mental health, especially among older children. For young children, longer hours on domestic chores daily work might reduce their time to do school assignments. They may worry about their school achievement. Moreover, longer hours on domestic chores daily work might reduce these children leisure time to go out to play as other children did. Less leisure time for these children may have impact on their quality of life. In addition, the tasks of taking care of sick parents may increase these children's stressfulness.

Similar to the South Africa where the prime sources of support in families affected by HIV/AIDS was the extended family and kinship system (Robson et al., 2006), family members in caregiving in Chinese society play an important role. In the low-resources settings, many adults were infected with HIV and there are few resources and support systems available to

help, therefore, the impacts of HIV/AIDS on families in these poor areas are severe, particularly for children.

There are several potential limitations in this study. First, this study focused on children affected by parental HIV that was caused by unhygienic blood collection. Caution is needed when generalizing the findings to children affected by parental HIV/AIDS that was caused by other means of transmission. Second, the causal relationship cannot be drawn because of the cross-sectional nature of the data. Also there might be recall bias for the retrospective data collected. Third, although a group of non-HIV-affected comparison children was included in the analysis, the other comparison group such as children orphaned by other diseases (e.g., cancer) was not available in the current study. Finally, there might be some inaccuracy in estimation of amount of time spent on domestic chores through children's self-report. In addition, each of the domestic chores was treated equally in the calculation that might not reflect the different nature of various chores (e.g., indoor chores vs. outdoor chores). Data regarding children's perceptions and satisfactions towards domestic chores were also not available in the current study.

Despite these potential limitations, to the best of our knowledge, this study is one of first efforts to explore the association between domestic chores workload and depressive symptoms among children affected by HIV/AIDS in China. Further research needs to explore the impact of performing domestic chores work on positive and negative psychosocial outcomes with consideration of children's perceptions, demands and satisfactions.

The results of the current study suggested that it is necessary to improve the mental health of children affected by HIV/AIDS through increasing the community-based social support, including financial support, information support and psychological counseling for children living in the families affected by HIV/AIDS, particularly families with female children and younger children.

Adapting the successful community-based intervention programs from other countries combining with the local socio-cultural context may benefit the families affected by HIV in China. Family-based intervention programs in other countries have been demonstrated efficacious in improving the mental health of children affected by HIV and establishing sustained social support from family, friends, and service providers (Fawzi et al., 2012; M. Rotheram-Borus, Lee, Gwadz, & Draimin, 2001; M Rotheram-Borus et al., 2011). Besides, family-based support, school-based support is also necessary for children affected by HIV to obtain the support for academic work and domestic chores work.

Acknowledgments

The study described in this report was supported by NIH Research Grants (R01MH76488 and R01NR013466) from the National Institute of Mental Health and the National Institute of Nursing Research. The content of solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health and the National Institute for Nursing Research. The authors thank Joanne Zwemer for assistance with manuscript preparation.

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Table 1

Demographic characteristics of the study sample

	Overall	Group of children, n (%)			p-value
		Orphans	Vulnerable children	Comparison children	
Total number	1449	579 (40.0)	466 (32.2)	404 (27.9)	
Age, mean (SD)	12.9 (2.16)	13.4 (2.03)	12.4 (2.24)	12.8 (2.11)	0.000**
6–11	377 (26.2)	108 (18.7)	161 (35.1)	108 (26.8)	
12–15	873 (60.6)	376 (65.1)	249 (54.2)	248 (61.5)	
16–18	190 (13.2)	94 (16.3)	49 (10.7)	47 (11.7)	
Gender					0.404
Male	718 (49.6)	295 (50.9)	219 (47.0)	204 (50.5)	
Female	731 (50.4)	284 (49.1)	247 (53.0)	200 (49.5)	
Number of siblings living together, mean (SD)	1.09 (1.08)	1.09 (1.09)	1.21 (1.07)	0.94 (1.06)	0.005*
0	379 (32.6)	162 (33.6)	88 (25.0)	129 (39.2)	
1	480 (41.3)	185 (38.4)	163 (46.3)	132 (40.1)	
2+	304 (26.1)	135 (28.0)	101 (28.7)	68 (20.7)	
Depressive symptoms, mean (SD)	18.06 (8.34)	20.34 (8.71)	17.16 (7.51)	15.84 (7.89)	0.000**

* p<0.01;

** p<0.001.

Table 2
ANOVA analysis for time load and domestic care work load by gender and age group of children

	Overall	Gender		Age group				
		Male	Female	p-value	6-11	12-15	16-18	p-value
Domestic chores work index, mean (SD)								
	11.09 (7.21)	10.42 (7.23)	11.74 (7.13)	0.001**	9.05 (7.17)	11.72 (7.28)	11.88 (6.04)	0.000***
Frequency of performing domestic chores work, mean (SD)								
Washing	1.38 (1.16)	1.15 (1.15)	1.59 (1.12)	0.000***	1.18 (1.29)	1.46 (1.16)	1.35 (0.80)	0.001**
Cleaning	2.07 (1.46)	1.99 (1.48)	2.15 (1.44)	0.036*	1.85 (1.53)	2.14 (1.44)	2.11 (1.34)	0.007**
Feeding cattle	0.91 (1.51)	0.95 (1.51)	0.87 (1.50)	0.350	0.88 (1.51)	0.96 (1.56)	0.66 (1.15)	0.073
Selling products in the market	0.67 (1.12)	0.70 (1.15)	0.65 (1.11)	0.391	0.75 (1.29)	0.68 (1.11)	0.48 (1.11)	0.047*
Cooking at home	2.21 (1.69)	1.89 (1.65)	2.51 (1.67)	0.000***	1.61 (1.62)	2.37 (1.70)	2.55 (1.49)	0.000***
Carrying water for home use	2.04 (1.69)	1.98 (1.71)	2.09 (1.67)	0.198	1.37 (1.56)	2.19 (1.70)	2.59 (1.46)	0.000***
Doing land work	1.06 (1.21)	1.11 (1.26)	1.02(1.16)	0.150	0.91 (1.14)	1.10 (1.25)	1.18 (1.12)	0.025*
Mowing grass for cattle	0.55 (1.06)	0.59 (1.08)	0.52 (1.04)	0.260	0.66 (1.18)	0.52 (1.03)	0.42 (0.81)	0.051
Caring for sick parents	1.09 (1.49)	0.96 (1.37)	1.22 (1.59)	0.002**	0.89 (1.38)	1.08 (1.53)	1.45 (1.44)	0.001**
Domestic chores daily working hours, mean (SD)								
	1.64 (1.32)	1.58 (1.29)	1.71 (1.34)	0.078	1.33 (1.17)	1.72 (1.34)	1.84 (1.37)	0.000***

* p<0.05;

**

p<0.01;

p<0.001.

Table 3

ANOVA analysis for time load and domestic care work load by group of children and number of siblings living together

	Group of children			p-value	Number of siblings living together			
	Orphans	Vulnerable children	Comparison children		0	1	2+	p-value
Domestic chores work index, mean (SD)								
	11.59 (7.23)	11.09 (7.64)	10.35 (6.61)	0.032 *	10.68 (7.07)	10.66 (6.81)	11.90 (7.81)	0.038 *
Frequency of performing domestic chores work, mean (SD)								
Washing	1.44 (1.15)	1.44 (1.22)	1.21 (1.07)	0.004 **	1.27 (1.03)	1.25 (1.04)	1.58 (1.29)	0.000 ***
Cleaning	2.05 (1.45)	2.14 (1.45)	2.02 (1.49)	0.473	2.02 (1.42)	2.03 (1.46)	2.06 (1.49)	0.914
Feeding cattle	0.90 (1.49)	0.99 (1.55)	0.84 (1.49)	0.383	0.69 (1.35)	0.87 (1.49)	1.12 (1.62)	0.002 ***
Selling products in the market	0.64 (1.07)	0.77 (1.28)	0.61 (1.02)	0.108	0.46 (0.89)	0.69 (1.12)	0.87 (1.30)	0.000 ***
Cooking at home	2.19 (1.69)	2.24 (1.65)	2.19 (1.73)	0.855	2.15 (1.70)	2.07 (1.61)	2.34 (1.76)	0.107
Carrying water for home use	2.12 (1.68)	1.94 (1.70)	2.03 (1.67)	0.236	2.11 (1.71)	2.02 (1.67)	1.99 (1.68)	0.581
Doing land work	1.15 (1.24)	1.05 (1.27)	0.95 (1.08)	0.036 *	1.00 (1.25)	1.01 (1.12)	1.25 (1.26)	0.018 *
Mowing grass for cattle	0.65 (1.11)	0.58 (1.15)	0.38 (0.83)	0.001 **	0.54 (1.04)	0.54 (1.03)	0.59 (1.09)	0.791
Caring for sick parents	1.16 (1.51)	1.18 (1.58)	0.88 (1.36)	0.008 **	1.09 (1.49)	1.09 (1.48)	1.22 (1.52)	0.440
Domestic chores daily working hours, mean (SD)	1.83 (1.38)	1.66 (1.36)	1.37 (1.12)	0.000 ***	1.57 (1.32)	1.63 (1.34)	1.80 (1.35)	0.107

* p<0.05;

** p<0.01;

*** p<0.001.

Table 4

Multivariate linear regression analysis for depressive symptoms

	Beta	SE	95% CI	p-value
Model 1: Whole sample				
Age	−0.003	0.114	−0.236~0.212	0.917
Male (vs. female)	−0.009	0.477	−1.093~0.778	0.741
Number of siblings living together	−0.073	0.492	−2.224~−0.295	0.011 *
Orphans (vs. comparison)	0.230	0.595	2.820~5.154	0.000 ***
Vulnerable children (vs. comparison)	0.054	0.619	−0.214~2.214	0.106
Domestic chores work index	0.093	0.035	0.042~0.179	0.002 **
Domestic chores daily working hours	0.123	0.191	0.421~1.169	0.000 ***
Model 2: Age group 6–11 years (n=287)				
Male (vs. female)	−0.007	1.014	−2.110~1.881	0.910
Number of siblings living together	−0.106	1.035	−3.883~0.191	0.076
Orphans (vs. comparison)	0.197	1.326	1.094~6.313	0.006 **
Vulnerable children (vs. comparison)	0.135	1.228	−0.037~4.798	0.054
Domestic chores work index	0.095	0.072	−0.026~0.256	0.109
Domestic chores daily working hours	0.059	0.434	−0.418~1.291	0.315
Model 3: Age group 12–15 years (n=730)				
Male (vs. female)	−0.042	0.584	−1.849~0.445	0.230
Number of siblings living together	−0.051	0.610	−2.075~0.321	0.151
Orphans (vs. comparison)	0.256	0.714	2.890~5.692	0.000 ***
Vulnerable children (vs. comparison)	0.016	0.764	−1.213~1.786	0.708
Domestic chores work index	0.126	0.042	0.059~0.226	0.001 **
Domestic chores daily working hours	0.135	0.231	0.381~1.289	0.000 ***
Model 4: Age group 16–18 years (n=171)				
Male (vs. female)	0.072	1.303	−1.350~3.794	0.349
Number of siblings living together	0.002	1.318	−2.573~2.632	0.982
Orphans (vs. comparison)	0.159	1.584	−0.452~5.803	0.093
Vulnerable children (vs. comparison)	−0.032	1.808	−4.190~2.951	0.732
Domestic chores work index	0.068	0.109	−0.121~0.310	0.387
Domestic chores daily working hours	0.199	0.478	0.281~2.169	0.011 *

Note:

*
p<0.05;**
p<0.01;***
p<0.001;

Beta=Standardized Coefficients; SE=Standard Error; CI=Confidence Interval.