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Behavioral Problems Reported by Adolescents and Parents from HIV Affected Families in China

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Abstract

This study examined the influence of various factors on the behavioral problems of adolescents affected by HIV while considering the agreement between adolescent and parent reports on problem behaviors. A total of 136 families each with one parent living with HIV (PLH) and one child aged 13–18 were included. Structural equation modeling was used to explore relationships between selected family measures and adolescent's problem behaviors. The correlation between the PLH and adolescent-reported behavioral problem measures was low ($\beta = 0.11$). PLH-reported adolescent problem behaviors were negatively related to PLH-reported parental bonding ($\beta = -0.39$), family routines ($\beta = -0.26$), and positively associated with family conflict ($\beta = 0.21$). Adolescent-reported family participation was associated with self-reported problem behaviors ($\beta = -0.35$). Our study reported discrete perceptions of adolescent problem behaviors from parents' and adolescents' points of view. Future intervention efforts should emphasize family contextual factors to improve behavioral outcomes in adolescents affected by HIV.

Keywords

HIV/AIDS; adolescent; problem behaviors; family; China

Introduction

HIV/AIDS continues to take a toll on children globally. During the 30 years of HIV epidemic, approximately 17 million children have lost one or both parents to AIDS (USAID,

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Compliance with Ethical Standards

Author Contributions

LL: designed and executed the study, guided the data analyses and result interpretation. WSC: analyzed the data and wrote part of the results. CWL: collaborated in the writing of the manuscript. CL: collaborated in the writing of the study and editing of the final manuscript. YX and GJ: conducted the fieldwork and collaborated in the writing of the study.

Conflict of interest

The authors declare that they have no conflict of interest.

2016). Millions more children are living with HIV-infected parents/caregivers, and the number has grown over the past few decades (Short & Goldberg, 2015; The U.S. President's Emergency Plan for AIDS Relief (PEPFAR), 2017). The research community has increased its focus on children with HIV-infected parents (Thurman, Kidman, & Taylor, 2015). Parental HIV illness greatly impacts children's lives and places acute stressors on a child's well-being due to HIV-related stigma, anticipatory grief, and fear (Chi & Li, 2013; Pedersen & Revenson, 2005). Evidence has demonstrated that children affected by HIV are vulnerable to emotional and behavioral difficulties (Chi & Li, 2013), including psychological distress (Sherr & Mueller, 2009), disadvantages in school enrollment (Sherr et al., 2014), and a rise in problem behaviors (Lee, Detels, Rotheram-Borus, Duan, & Lord, 2007). In particular, adolescents with HIV-positive parents are subject to higher sexual risk, alcohol, and drug use, and mental health problems (Murphy, Herbeck, Marelich, & Shuster, 2010; Murphy, Roberts, & Herbeck, 2013).

HIV infection or other health problems in families can disrupt the supportive capacity of infected adults, potentially leading to a range of hardships for children (Fiese, 2007; Sherr et al., 2014; Spagnola & Fiese, 2007). For instance, a study conducted in the US reported that daughters who perceived their HIV-positive mothers as less caring were more likely to report emotional distress and lower self-esteem and to have more behavioral problems (Lee, Lester, & Rotheram-Borus, 2002). Multiple family factors have been identified to explain the associations between parental HIV infection and children's problem behaviors. Specifically, family conflict has been documented as a significant risk factor for a range of adolescent problem behaviors in US metropolitan areas (Aseltine, Gore, & Gordon, 2000; Formoso, Gonzales, & Aiken, 2000). On the contrary, supportive parent-child bonding has found to be associated with positive youth development in a previous study (Zolkoski & Bullock, 2012). However, it has been reported that children affected by HIV develop a weaker parental bond due to the parent's illness (Stein et al., 2000). Established family routines are reported to be associated with lower rates of aggression, anxiety, depression, binge drinking, and behavioral disorders in HIV-affected adolescents (Murphy, Marelich, Herbeck, & Payne, 2009) and be changed drastically with a family member's illness, thereby changing family roles and responsibilities (Crespo et al., 2013; Revenson, AbraAdo-Lanza, Majerovitz, & Jordan, 2005).

In China, family forms the primary social safety net and children are being raised to support parents in their old age (Lin, 2008). In rural areas of the country, children are expected to contribute to the family, such as helping with house chore or providing financial support through work outside the house (Zhang & Fuligni, 2006). Parents living with HIV/AIDS (PLH)'s illness and incapability to care for their children can place a significant strain on the relationship between parents, family members, and children (Li et al., 2007). The quality of life for PLH and their children depends on how the HIV-affected families deal with stress, stigma, and difficulties (Fang et al., 2009; Li et al., 2008). The impact of family factors on the shaping of adolescent's behaviors can be stronger in such a family-oriented Chinese culture (Cao, Chen, & Fan, 2011; Chi & Li, 2013; Chi et al., 2015).

Researchers, however, face a critical issue regarding how to identify an optimal informant to assess the wellbeing of children and, specifically, their behavioral problems. In this regard,

the availability of measures with parallel child and parent versions has raised questions about the level of agreement between children's views and those of their parents (Creameens, Eiser, & Blades, 2006). The findings in the literature have been inconsistent, varying from reports of a poor parent-child agreement to a moderate and high agreement (Baca, Vickrey, Hays, Vassar, & Berg, 2010; Van Roy, Groholt, Heyerdahl, & Clench-Aas, 2010). Given the way that discrepancies between children's and parents' assessments of child behaviors might affect the evaluation of research outcomes and the evaluation of the need for services, a better understanding of the factors involved in the relationship between parent and child reports of children's problem behaviors is necessary.

The purpose of the current study is to examine the influence of various factors on the behavioral problems of adolescents affected by HIV/AIDS in China while considering the agreement between adolescent and parent reports on problem behaviors. Social Action Theory offers a useful lens for examining the contextual, social, and individual factors that may explain problem behaviors among HIV-affected adolescents (Ewart, 1991). The theory emphasizes the context in which behaviors occurs and the social interaction processes that affect adaptive behaviors. The theory has been previously adapted and used in the study of youth affected by maternal HIV (Mellins et al., 2008). We hypothesize that the parent-reported adolescent's problem behaviors and the problem behaviors reported by adolescent are inter-correlated. The adolescent's problem behaviors are associated with the contextual factors, including internal context (adolescent's age, gender), external context (e.g., parent's occupation, income, education, etc.), and social interactional factors (i.e., parental bonding, family routines, and family conflict).

Method

Participants

This study used the baseline data from a randomized controlled intervention trial for HIV-affected families in Anhui Province, China. Based on the epidemiological data provided by the Anhui Provincial CDC, four counties with the highest HIV prevalence in the Province were selected. Within the selected counties, we identified villages with the largest number of families with HIV-seropositive members, resulting in a total of 32 villages in this study. Most of the participants in the study were infected with HIV through contaminated commercial plasma or blood donations (Ministry of Health, 2011).

PLH were recruited based on the following criteria: 1) aged 18 or older, 2) being a resident in one of the selected villages, 3) HIV seropositive, and 4) having a seronegative family member and at least one child in the family willing to participate in the study. Adolescent participants were recruited based on these criteria: 1) having one or both parents living with HIV, 2) between the ages of 13 to 18, and 3) living in the same household with the participating PLH in one of the selected villages.

Procedure

The data were collected between late 2011 and early 2013. The recruitment process began at the village clinics where the PLH received routine check-ups and treatment services. Village

health workers verbally communicated with the PLH about the study and distributed printed flyers to potential participants. The PLH who expressed interest in the study were referred to a project recruiter who met with them individually to assess their eligibility. Following a standardized script, project recruiters explained the study purpose, procedures, confidentiality issues, and potential risks and benefits to prospective participants.

After obtaining informed consent and permission from the PLH to contact their children, our trained research staff worked with the PLH to meet with the children and inquire about their interest in the study. All adolescents between 13 and 18 years of age, and who were living in the same household as the participating PLH were invited to participate. Informed consent for the study consisted of adult consent for participants aged 18 and older, a parent/guardian permission form, and a child assent form for children aged 13 to 17 years. The child assent forms were written in language that was appropriate for children in this age group. Voluntary participation was emphasized in the assent, consent, and permission forms. Children were informed of their rights, including the right to refuse and withdraw from the study. The parents or guardians of the children were present during the assenting process. The refusal rate was approximately 5%.

Following the informed consent procedure, study participants were surveyed in a private room at the village clinic or their preferred venue. The approximate duration of each assessment was 45 to 60 minutes. The PLH participants received 50 yuan (USD 8), and the adolescents received a gift equivalent to 50 yuan (USD 8) for their participation. The assessment surveys were conducted using the Computer Assisted Personal Interviewing (CAPI) method, in which an interviewer read questions shown on the laptop computer screen to the participants and input responses directly into the computer. This method allowed the opportunities for the well-trained interviewers to explain and clarify the meanings of the questions to the participants with limited education. The institutional review boards of the participating institutes approved the study.

Measures

All assessments were conducted in Chinese. The “forward–backward” translation procedure was utilized for all the measures (Brislin, 1970). The instruments in English were translated first to Chinese then translated back to English by different bilingual scholars. The translated English version was compared with the original English version, and the discrepancies were discussed among the translation team. The agreement was reached by revision of the forward translation. Finally, the provisional version of the translated questionnaire was pilot tested with PLH and their children to ensure accuracy and clarity of the items and response categories (Li et al., 2011; Li, Liang, Ji, Wu, & Xiao, 2014).

PLH assessment—We collected the participants’ demographic information, such as age, gender and other background characteristics, including marital status, years of education, current occupation, individual income earned in the previous year, annual family income, and the number of family members living in the same household. Additional assessment scales tailored to PLH were used to measure the outcomes of interest. All scales were

analyzed as the sum of the individual scale items. The Scale reliabilities were assessed using Cronbach's alpha (α).

Adolescent problem behaviors were reported by the PLH using three scales adapted from Achenbach and Rescorla's work (2001). These included Withdrawal (7 items, $\alpha = 0.83$), Aggression (5 items, $\alpha = 0.87$), and Delinquency (7 items, $\alpha = 0.88$). Likert-scale response categories ranged from (1) "strongly agree" to (5) "strongly disagree." Higher total scores indicated a higher level of adolescent problem behaviors.

Parental bonding was assessed using the 12-item parent care subscale ($\alpha = 0.77$) from the Parental Bonding Index (Parker, Tupling, & Brown, 1979). The PLH were asked about their adolescent children and their interactions with them, including "shows an understanding of his/her problems and worries" and "enjoys speaking to him/her about various topics." Responses were recorded on a 4-point scale ranging from (0) "very unlikely" to (3) "very likely." A higher total score indicated a stronger level of parental bonding.

Family routines were reported by PLH and assessed with a scale ($\alpha = 0.81$) adapted from the work of Jensen et al. (1983) that was previously used among PLH in Thailand (Rotheram-Borus et al., 2010). Family routines were measured based on 15 items that asked about the frequency of family activities such as sharing a meal together, helping children with schoolwork, and engaging in leisure activities. Response categories ranged from (0) "never" to (4) "always." A higher total score was indicative of a greater level of family routines.

Family conflict was measured using a 5-item instrument ($\alpha = 0.74$) adapted from the Family Functioning Scale (Bloom, 1985; Bloom & Naar, 1994). The PLH were asked to express the extent to which they believed each statement applied to them, such as "we fight a lot in our family," "family members sometimes get so angry they throw things," and "family members always criticize each other." Response categories ranged from (1) "very untrue for my family" to (4) "very true for my family." A higher total score denoted a higher level of family conflict.

Adolescent assessment—We also collected adolescent demographic information, such as age and gender. Other measured background characteristics included current school attendance and highest grade completed. The adolescent's assessment scales were in a language that was understandable for children in the age group.

Adolescent problem behaviors were measured using the Child Behavior Checklist developed by Achenbach and Ruffle (2000). This 15-item checklist was also grouped into three subscales: Withdrawal (5 items, $\alpha = 0.71$), Aggression (5 items, $\alpha = 0.70$), and Delinquency (5 items, $\alpha = 0.74$). The adolescents rated their problem behaviors using a 4-point Likert-scale from (1) "very untrue" to (4) "very true." Several items were reversed, and a summative score was generated, with higher total scores indicating a higher level of self-reported problem behaviors.

Parental bonding as reported by adolescents was obtained via a 12-item scale ($\alpha = 0.80$) in which individual items mirrored items in the PLH scale, except that children reported how the PLH interacted with them (Parker, Tupling, & Brown, 1979). Responses were recorded

on a 4- point scale ranging from (0) “very unlikely” to (3) “very likely,” with a higher total score indicative of a stronger level of parental bonding.

Family participation was measured by adolescents’ answers on an 8-item scale specifically developed for this study ($\alpha = 0.73$). The questions asked about ways that the adolescent was involved with his/her family, including “you helped to clean your house,” “you took care of your brothers or sisters,” “you helped your brothers or sisters with their school work,” “you helped to cook a meal for your family,” “you helped your parents with their work,” “you ate a meal with your family,” “you spent leisure time with your family,” and “you spent time with aunts, uncles, cousins, or grandparents.” Responses ranged from (0) “never” to (3) “always,” with a higher total score representing more family participation.

Self-esteem was reported by adolescents and measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965), which contained ten items ($\alpha = 0.70$). Likert-scale response categories ranged from (1) “strongly agree” to (4) “strongly disagree.” A higher total score indicated a greater degree of self-esteem.

Data Analyses

A total of 139 families with at least one parent living with HIV and one child aged 13–18 were included in this current study. To form PLH-adolescent pairs and link PLH-reported negative behaviors to the adolescent reports, we randomly selected one PLH per family from the 16 families that had two PLHs. Three families with more than one adolescent were excluded from the analyses. The final sample for analysis contained 136 PLH-adolescent pairs.

Structural equation modeling (SEM) was used to test the pathways from measures of family relations and routines to adolescent problem behaviors as assessed by measures of aggression, delinquency, and withdrawal. SEM contained a structural model to link family conflict, routines, and self-esteem measures to latent variables for problem behaviors and a measurement model to link latent variables to the three measures of problem behaviors. Adolescent problem behaviors were both self-reported and reported by PLH, as were parental bonding measures and other predictors of interest. Therefore, SEM included latent variables that linked the PLH and adolescent-reported measures.

Models were fit using Stata statistical software version 13 (Acock, 2013). No data were missing, except for one PLH who did not report on the three measures of adolescent problem behaviors. SEM was fit using full-information maximum likelihood (ML), which includes cases with missing values. Standardized model coefficients are presented in a figure, and non-standardized coefficients are shown in a table along with standard errors (SE) and p-values. As a rule of thumb, we considered standardized loadings of 0.40 or higher to indicate high loadings. The Chi-square statistic for the likelihood ratio test comparing the model to a saturated model (X^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Squared Error of Approximation (RMSEA) are reported as goodness-of-fit tests.

Results

Table 1 contains demographic and background characteristics of the PLH and adolescents. On average, the PLH were 47.4 years old ($SD = 9.3$; range = 30 to 73 years). There was an approximately equal number of male and female PLH (46% versus 54%). The majority (81%) of the PLH were married or living with a partner. The most common occupation was a full-time farmer (42%). The average household size was 4.8 ($SD = 1.3$). The average number of years of completed school was 2.7 ($SD = 2.7$). The median income in the previous year was 3,000 yuan (range = 0 to 30,000 yuan, equivalent to USD 4622). The median annual family income was 10,000 yuan (range = 0 to 80,000 yuan, equivalent to USD 12,327). On average, the adolescents were 15.3 years old ($SD = 1.5$; range = 13 to 18 years old as stated in the study inclusion criteria). Similar to the PLH, there were approximately equal numbers of adolescent boys and girls (52% versus 48%). Most adolescents were attending school (83%) and had finished sixth grade. The adolescents' educational level ranged from none to tenth grade. The demographic characteristics of the sample were similar to that reported in other studies with HIV-affected families and children in China (Chi et al., 2015; Zhao et al., 2015).

Table 2 presents the correlation matrix showing the relationships between each variable. Table 3 contains unstandardized loadings and variances from our final SEM. In addition to the predictors in the final SEM, the following predictors were tested in our initial SEM: PLH-reported age, gender, and adolescent-reported age and gender. None of the additional predictors were statistically significant, except that PLH's age was negatively associated with adolescent problem behaviors and male gender was positively associated. However, models with PLH's age and male gender for adolescents yielded worse model fit statistics compared to our final model and were not retained. The final SEM provided a reasonable fit to the data with $X^2 = 53.18$, $df = 38$, $p = .05$, $CFI = .95$, $RMSEA = .05$, and $TLI = .93$.

Standardized loadings and correlations between the latent variables for the PLH and adolescent-reported problem behaviors from SEM are presented in Figure 1. Standardized loadings from the latent variables to outcomes were all statistically significant and strong (range = 0.52 to 0.85), except for a weaker standardized loading for adolescent-reported withdrawal (0.27). This finding indicated that the latent variables provided a good representation of negative behaviors across the PLH- and adolescent-reported outcome measures for aggression, delinquency, and withdrawal. The correlation between latent variables was low (0.11), indicating different perceptions of negative behaviors by PLH and adolescents.

Higher levels of PLH-reported parental bonding showed a strong and statistically significant association with lower levels of adolescent problem behaviors (standardized loading = -0.39). Lower levels of PLH-reported family routines (-0.26) and higher levels of family conflict (0.21) were associated with higher levels of problem behaviors in adolescents to a lesser degree, as indicated by smaller standardized loadings. Adolescent-reported family participation was negatively associated with self-reported problem behaviors (-0.35).

Discussion

In this study, we reported a weak association between negative behaviors reported by PLH and by their adolescents. Even though parental reports of their children's behaviors are often considered as potential substitute for child's self-reported rating (Davis et al., 2007), adolescents' self-reports of problem behaviors may constitute an important complementary source of information and may not be substituted by parent reports (Erhart, Ellert, Kurth, & Ravens-Sieberer, 2009; Van Der Ende, Verhulst, & Tiemeier, 2012). Differences in perceptions of adolescent problem behaviors may influence other health outcomes, and it would be important to understand such differences to support families affected by HIV in China. In this study, adolescents tended to rate their level of problem behaviors lower than their parents' reports. Our findings suggest that whenever possible, optimal measurement of problem behaviors in adolescents should involve determining both parent and adolescent perceptions.

China is a family-oriented society rooted in Confucian collectivism and tradition (Rarick, 2009). The Chinese people place great emphasis on the family connection as a primary source of support and protection against the hardships of life (Billioud, 2007; Li et al., 2008). Parents play a hugely influential role in shaping Chinese adolescents' behaviors at all developmental stages (Rarick, 2009). Our results showed that family conflict was associated with adolescent problem behaviors, which was consistent with previous literature (Aseltine et al., 2000). Based on general strain theory, one explanation could be that adolescents living in circumstances of family conflict experience anger (Agnew, 1992; Hagna & Foster, 2001), which increases the likelihood of problem behaviors. In contrast, parental bonding was correlated with a lower level of adolescent problem behaviors. This finding echoes recent research that called for family-attachment-based interventions to increase security within the adolescent-parent relationship and reduce risky behaviors among adolescents (Moretti, Obsuth, Craig, & Bartolo, 2015).

We also observed an association between family routines and decreased adolescent problem behaviors in HIV-affected families in China. Family routines provide a predictable structure with which to guide individual and group behaviors, promote a sense of security and belonging, and provide opportunities to exchange emotional support among family members (Fiese, 2007). Previous studies found that increased family routines could promote psychological wellbeing among adolescents (Eisenberg, Olson, Neumark-Sztainer, Story, & Bearinger, 2004), thus leading to lower rates of problem behaviors (Murphy et al., 2009). However, as a chronic condition such as HIV/AIDS progresses, the parents are likely to exhibit maladaptive behaviors that would disrupt family routines (Rotheram-Borus et al., 2005). Chinese families living with HIV are facing additional challenges such as poverty, stigma, and trauma, which can also accelerate the disorganization of family daily routine activities (Li et al., 2006; Li et al., 2009). Thus, efforts to reduce HIV-affected adolescents' problem behaviors should first help parents to develop simple family routines that could be maintained during their illness-related physical challenges.

Children affected by HIV/AIDS often shoulder increased family responsibilities, including domestic chores such as cooking, cleaning, and doing laundry (Yu et al., 2013). The

children's caregiving experience in Chinese cultural contexts is characterized as their filial piety and obligations towards elder generations (Holroyd, 2001; Zhang & Fuligni, 2006). Although excessive household responsibilities could be a source of mental distress and depression, a certain level of family caregiving activities could contribute to adolescents' cooperative behaviors, social adjustment, and interpersonal self-efficacy (Kuperminc, Wilkins, Jurkovic, & Perilla, 2013). In this study, adolescents' family participation was negatively associated with self-reported problem behaviors. This result suggests that family participation may help to prevent problem behaviors among adolescents affected by HIV/AIDS in China.

Limitations

Our findings must be considered in light of the study's limitations. First, this study used a cross-sectional study design to examine the factors associated with adolescent problem behaviors. Therefore, it was not possible to draw causal inferences. Second, to be eligible for this study, a PLH had to have at least one family member who knew about their HIV status. Thus, the findings may not be generalizable to PLH who had not disclosed their illness to another family member. The survey did not ask the children if they were aware of their parents' HIV status. Further studies are needed to examine the effects of parental HIV status awareness on adolescents' behaviors. Additionally, the study was conducted in an area where most of the PLH were infected through plasma donation, so the findings may not be generalizable to other areas with a different epidemic profile. Third, several measures were adopted from Western countries. Even though they have been validated among the Chinese population, the concept may be understood differently in non-Western countries. Additionally, Social Action Theory was developed in a Western culture. Thus, further research is needed to examine the implications of adapting this theoretical framework to an Asian culture. Fourth, the self-reported outcomes measured in this study were vulnerable to social and cognitive biases. Without the subjective measure of adolescents' behaviors, we could not tell whether parent report or adolescent-report was more accurate to reflect the actual behaviors of youth, and did not have a method to combine these two measures into one index.

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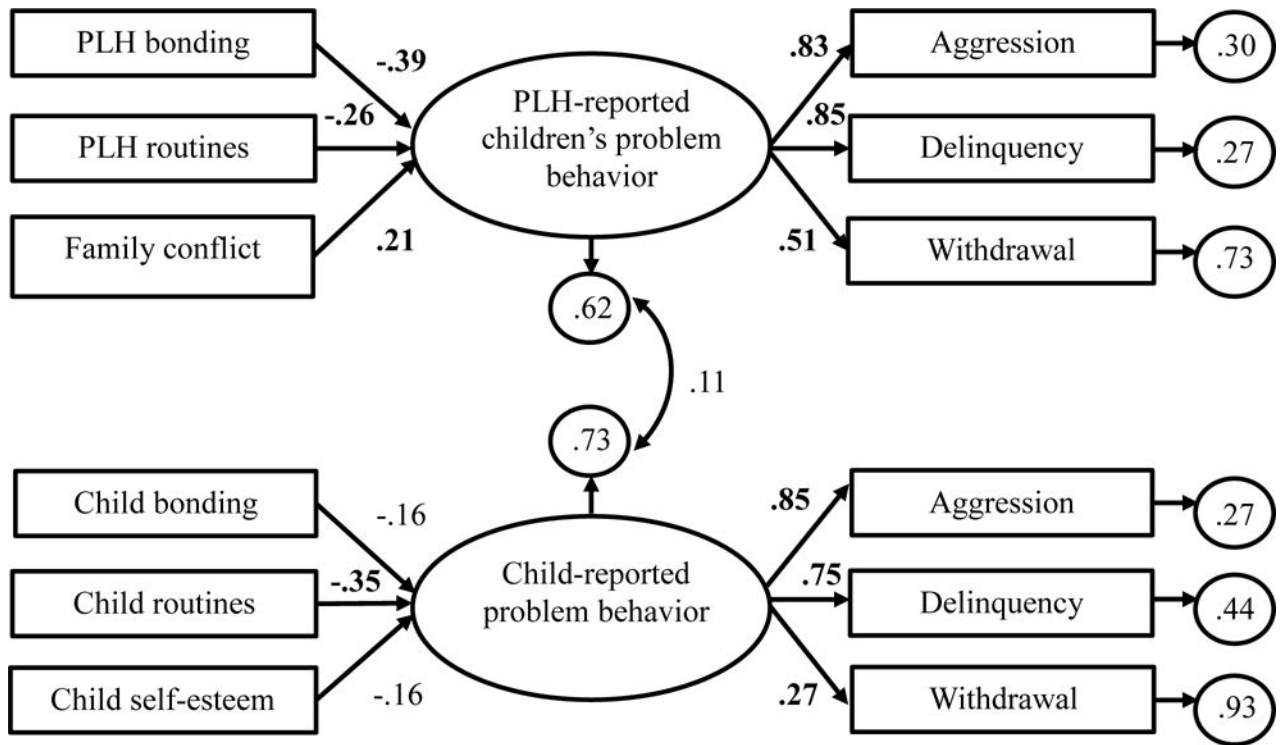


Figure 1. Standardized loadings and correlation between latent variables for PLH and adolescent-reported problem behavior from structural equation model

Note. PLH, Parent living with HIV. Bold estimates are statistically significant at $p < .05$.

Table 1

Demographic and background characteristics of parents living with HIV (PLH) and adolescents aged 13–18 (Total PLH-adolescent pairs N=136).

Characteristic		
<i>PLH</i>	n	%
Gender		
Male	63	46.3
Female	73	53.7
Marital status		
Married or living as married	110	80.9
Not married	26	19.0
Occupation		
Full-time farmer	57	41.9
Half-time farmer	29	21.3
Other occupation	50	36.8
	Mean	SD
Age	47.4	9.3
Years of school completed	2.7	2.7
Annual family income (yuan)	12467.6	11371.4
Income earned last year (yuan)	4420.1	5758.1
Number of people in family	4.8	1.3
<i>Adolescent</i>	n	%
Gender		
Female	65	48
Male	71	52
Attending school		
Yes	113	83.0
No	23	16.9
	Mean	SD
Age	15.3	1.5
Highest grade completed ^a	6.6	1.8

Note.

^a n = 133 (3 non-responses)

Table 2

Correlation matrix of parent and adolescent measures for inclusion in structural equation model

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
Parent-reported															
1. Age															
2. M (1) vs F(0)	-.13														
3. Bonding	-.07	.04													
4. Routines	-.24*	.17	.19*												
5. Conflict	.04	-.20*	-.37*	-.06											
6. Aggression	.02	-.02	-.45*	-.20*	.28*										
7. Delinquency	-.12	-.02	-.41*	-.34*	.29*	.71*									
8. Withdrawal	-.01	-.04	-.29*	-.24*	.32*	.42*	.41*								
9. Age	.02	.04	-.04	.01	.03	-.15	-.09	-.10							
10. M (1) vs F (0)	.02	.03	-.10	-.02	-.02	.10	.17*	.008	.12						
11. Bonding	.13	.04	.05	-.06	-.28*	-.14	-.16	-.13	.02	-.10					
12. Routines	.08	.02	.18*	.02	-.05	-.04	-.07	-.004	-.03	-.16	.36*				
13. Esteem	.10	.13	-.08	.01	-.17	-.06	-.04	-.09	-.02	-.06	.44*	.28*			
14. Aggression	-.005	-.05	-.07	.04	-.04	.12	.09	-.002	.009	.20	-.32*	-.36*	-.30*		
15. Delinquency	-.09	-.09	-.004	.02	-.06	-.03	.07	-.02	-.006	.35*	-.24*	-.39*	-.19*	.64*	
16. Withdrawal	-.13	.03	.12	-.05	-.03	-.13	-.07	.08	-.04	-.04	-.28*	-.08	-.24*	.23*	.16

Note. M, male; F, female;

* p < 0.05

Table 3

Unstandardized values and standard errors (SE) from structural equation model with correlated latent variables for problem behavior reported by PLH and by the adolescents

	Value	SE	p-value
Loadings			
Structural model (paths from predictors to latent variables)			
PLH			
Parental bonding	-0.23	0.05	< 0.01
Family routines	-0.10	0.03	< 0.01
Family conflict	0.18	0.07	0.01
Adolescent			
Parental bonding	-0.07	0.05	0.11
Family participation	-0.18	0.05	< 0.01
Self-esteem	-0.10	0.06	0.11
Measurement model (paths from latent variables to outcomes)			
PLH-reported			
Aggression	1		
Delinquency	1.20	0.13	< 0.01
Withdrawal	0.91	0.16	< 0.01
Adolescent-reported			
Aggression	1		
Delinquency	0.92	0.15	< 0.01
Withdrawal	0.42	0.15	< 0.01
Variiances			
Outcomes			
PLH-reported			
Aggression	2.46	0.56	–
Delinquency	3.05	0.77	–
Withdrawal	12.83	1.67	–
Adolescent-reported			
Aggression	1.43	0.59	–
Delinquency	2.61	0.57	–
Withdrawal	8.83	1.09	–
Latent variables			
PLH	3.50	0.71	–
Adolescents	2.81	0.69	–
Covariance	0.36	0.37	0.34

Note. PLH, Parent living with HIV.