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Parenting Style, Emotional Intelligence, and Psycho-behavioral Outcomes
of Thai Adolescents in HIV-affected Families

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Epidemiology

by

Panithee Thammawijaya

2012

ABSTRACT OF THE DISSERTATION

Parenting style, emotional intelligence, and psycho-behavioral outcomes
of Thai adolescents in HIV-affected families

by

Panithee Thammawijaya

Doctor of Philosophy in Epidemiology

University of California, Los Angeles, 2012

Professor Roger Detels, Chair

Background: The adolescents children of HIV-infected parents tend to have several psycho-behavioral challenges including functioning at schools and in their families. Objective of this study is to examine 1) the role of parenting style, parent's quality of life, and family functioning in self-esteem and emotional intelligence of HIV-affected adolescents in Thailand, 2) associations of perceived social support, emotional intelligence and self-esteem of HIV-affected adolescents with their stress, substance use, and sexual behavior, and 3) associations of parenting style, and emotional intelligence with functioning at school and in family.

Methods: This study used follow-up data from 173 Thai HIV-affected adolescents and their parents at baseline, 6, 12, 18, and 24 months. Exploratory factor analysis was used to develop

indicators of adolescents' perceived social support. Mixed model analyses were used to examine associations among adolescent's and parents' characteristics.

Results: Adolescents' self-esteem and emotional intelligence were highly positively correlated. Adolescents with higher self-esteem reported higher parenting care style and better family functioning. Adolescents' emotional intelligence was positively associated with parents' quality of life and parenting care style but negatively associated with overprotecting parenting style. Adolescents having higher emotional intelligence reported lower level of stress and less alcohol drinking. Higher frequency of having alcohol drinking was positively associated with larger friend network and more social activities. Adolescents with better school functioning had a significantly higher score for emotional intelligence and reported more parenting care style. Adolescents' participation in their family activities was positively associated with emotional intelligence and overprotecting parenting style. Adolescents with higher negative family experience reported less parenting care style and lower emotional intelligence.

Conclusions: The role of parenting, quality of life and family functioning of parents in developing self-esteem and emotional intelligence of Thai HIV-affected adolescents has been demonstrated. Emotional intelligence plays important role on predicting stress and alcohol drinking behavior of HIV-affected adolescents and their functioning at schools and in families. To reduce psycho-behavioral challenges and improve adolescent's mental health and quality of life, interventions which target the family as a whole, promote appropriate parenting, improve adolescents' emotional intelligence, and encourage constructive friend and social activities are recommended.

The dissertation of Panithee Thammawijaya is approved.

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Roger Detels, Committee Chair

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2012

Dedicated to
people living in HIV-affected families
and
everyone who try to make those families live easier.

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PUBLICATIONS

- Xu, W., Jiang, L., **Thammawijaya, P.**, Thamthitawat, S. (2011). Hand, Foot and Mouth Disease in Yunnan Province, China, 2008-2010. *Asia-Pacific Journal of Public Health*. Retrieved from <http://aph.sagepub.com/content/early/2011/12/08/1010539511430523>
- Li, L., Lee, S. J., Jiraphongsa, C., Khumtong, S., Iamsirithaworn, S., **Thammawijaya, P.**, Rotheram-Borus, M.J. (2010). Improving Health and Mental Health for People Living with HIV/AIDS: 12-month Assessment of a Behavioral Intervention in Thailand. *American Journal of Public Health, 100(12)*, 2418-25.
- Li, L., Lee, S. J., **Thammawijaya, P.**, Rotheram-Borus, M.J. (2009). Stigma, Social Support, and Depression among People Living with HIV in Thailand. *AIDS Care, 21(8)*, 1007-1013.

CHAPTER 1

Introduction

I. Background

a. HIV/AIDS and Thailand

Thailand has faced the HIV/AIDS epidemic since the mid-1980s after the first AIDS case in the country, a homosexual man who had just returned from the United States, was reported in 1984 (Wangroongsarb et al., 1985). After that several surveys were conducted in some high-risk populations including female sex workers, prison inmates and drug users but the HIV prevalence was less than a few percent at that time (Limsuwan, Kanapa, & Siristonapun, 1986; Phanuphak, Locharenkul, Panmuong, & Wilde, 1985). Several serosurveys conducted during the same period also demonstrated a low prevalence among female sex workers (Punpanich, Ungchusak, & Detels, 2004). In 1989, the first round of sentinel HIV surveillance was conducted and illustrated the second wave of the epidemic that occurred in female sex workers in a province in northern Thailand: the HIV prevalence was as high as 44% in sex workers in Chiangmai (Weniger et al., 1991). The findings from the surveillance also revealed epidemic spread to sex workers throughout the country during the same period. In parallel to the sentinel surveillance, the first national survey on risk behavior, conducted around the same time, indicated that visits to a sex worker were quite common, i.e. 28%, among Thai men aged 15-49 years (Sittitrai, Phanuphak, Barry, & Brown, 1992; Mills et al., 1997). As a consequence, the third wave of the epidemic in the male clients was found and was then followed by the spread to their wives and children (Thai Ministry of Public Health, 1996). Since then heterosexual transmission has become the most important mode of HIV transmission in the country. Since the start of the

epidemic to 2008, there have been approximately 1,115,000 cumulative people living with HIV/AIDS in the country, among whom, 532,500 people are currently alive. The estimated number of newly HIV infected people was 12,800 in 2008 (Thai Ministry of Public Health, 2008).

In response to the epidemic, there are three major interventions of Thai government should be mentioned here. Firstly, the 100% condom program was implemented nationally in 1992 by the government to prevent the transmission from brothel-based sex workers, the majority of the sex industry in the country, to their clients. The success of the program was demonstrated by the increase of condom use in brothels from 14% to 94% during 1989 to 1993 and a 75% decrease in the number of STD cases (Hananber, Rojanapithayakorn, Kunasol, & Sokal, 1994).

Secondly, in 1999, Thai Ministry of Public Health launched the Prevention of Mother-To-Child Transmission (PMTCT) program to all antenatal care (ANC) clinics throughout the country. The PMCTC program allows pregnant women to learn their HIV serostatus by offering HIV routine testing during ANC to all pregnant women and providing antiretroviral drug regimen and infant formula to seropositive women (Chariyalertsak, Aramrattana, & Celentano, 2008). The PMTCT program has reduced the vertical transmission rate from 24.2% to 3.3% and was praised as one of the best programs in the world for reducing mother-to-child HIV transmission (Thisyakorn et al., 2000; Rongkavilit, Thisyalorn, & Phanuphak, 2000, Shaffer et al., 1999).

Thirdly, in 2001, after establishment of universal health insurance, the Thai government decided to include HIV treatment (Highly Active Antiretroviral Therapy (HAART)) in the national health

plan and the therapy would be included in the universal health insurance benefit in the future.⁸ In the following year, the local –made triple antiretroviral drug called GPO-VIR, combination of d4T, 3TC, and nevirapine, was successfully introduced (Cohen, 2003). Because the cost for GPO-vir for each patient was about \$40 per month, it attenuated financial difficulty of the treatment program (Chariyalertsak et al., 2008). In 2004, the government provided the drug to 50,000 HIV/AIDS patients and the number was increased to 100,000 in mid of 2007 (Chariyalertsak et al., 2008; Cohen, 2003). The coverage of HAART program is continually increasing to reach its goal of providing free antiretroviral therapy for all in need.

Despite being regarded as one of the most successful countries in the developing world where declining trend of HIV epidemic has been demonstrated, recent findings suggest that Thailand is still facing increasing HIV infection or, at least, not decreasing, in some subpopulations particularly in the north, the northeast and the south (Punpanich et al., 2004; Poolchareon, 2006; Ainsworth, Beyrer, & Soucat, 2003; Bureau of Epidemiology, 2008). The financial difficulty resulting from the Asian economic crisis in 1997 caused severe cuts in HIV prevention funding from the Thai government. As an example of lower emphasizing and support to ever-successful strategy, after the most active period of the 100% condom program in 1992-1995, the consistent condom use with sex workers in the north has declined to 40% in 1999 (van Griensven et al., 2001). Several studies also demonstrated an increasing number of young Thai men are engaging in serial monogamous relationships with their girlfriends without using condoms (Jenkins et al., 2002; Thato, Charron-Prochownik, Dorn, Albrecht, & Stone, 2003).

b. HIV/AIDS and Thai families

As a consequence of increasing incidence and high prevalence of infected individuals, there are a large number of HIV-affected families (Punpanich et al., 2004). Additionally, given the success of the PMTCT program and increasing coverage of HAART, the number of HIV-affected but uninfected children living with their seropositive parents is also substantial. Unfortunately, until the present, there is no reliable information about the number of HIV-affected families and children in Thailand. Nevertheless, it has been estimated that, in 2005, there were 20,000 children living with HIV/AIDS and 380,000 children orphaned by HIV/AIDS (UNICEF Thailand, 2009). Some studies suggested that more than two-thirds of HIV infected adults are married (Thaikruea et al., 2004) and most couples have 3-4 children (Wachter, Knodel, & VanLandingham, 2002).

It has been estimated that around 8% to 13% of Thai people aged 50 years and above will likely experience the death of their adult children to HIV/AIDS, and about one fourth of grandparents will have custody of an AIDS orphan (Wachter et al., 2002). These negative consequences of HIV are radiating throughout families in cross-cultural contexts, particularly in a country where families integrate exhaustive involvement of all family members in nearly all activities throughout their lives (Rotheram-Borus, Flannery, Lester, & Rice, 2004; Knodel, Chayovan, Graiurapong, & Suraratdecha, 2000; VanLandingham, Knodel, Im-em, & Saengtienchai, 2000).

c. Adolescents in HIV-affected families

When parents get HIV infection, the disease also affects their family members including their children. In general and cross-culturally, parents' adjustment behavior has impact on their

children's behaviors regardless of getting illness or not (Romer, Barkman, & Schulte-Markwood, 2002; Smith, Hill, & Mullis, 1998). Adolescents whose parents are infected or have died from HIV/AIDS (HIV-affected adolescents) tend to have higher risks for mental and behavioral health problems compared with general adolescents (Rotheram-Borus, Murphy, Miller, & Drainin, 1997; Rotheram-Borus, Lee, Gwadz, & Drainin, 2004). It has been found that HIV infected parent's behavior is the primary determinant of children's adjustment in several aspects. Firstly, HIV infected people tend to have pre-existing and long-standing stressors (e.g. poverty, substance abuse and violence) (Centers for Disease control and Prevention, 1995; Zaya & Romano, 1994). These people are susceptible to displaying helplessness, leading to disruptions in their relationships with their children (Cate, Graham, Boeglin, & Tielker, 1990). Secondly, given the nature of HIV/AIDS that causes adolescents to experience premature deaths of their infected parents, these bereaved adolescents are more likely to be emotionally distressed and have behavioral problems, impaired social relationship, academic difficulty, decreased self-esteem and somatic complaints (West, Sandler, Pillow, Baca, & Gersten, 1991; McKeever, 1983). It has been found that better quality, i.e. closer bonding between parents and their children significantly predicts better children's adjustment following parental death from HIV/AIDS (Lester, Stein, & Bursch, 2003; McGarvey, Clavet, Mason, & Waite, 1999). That means good parenting skill can improve children's emotional function and behavior. These findings are consistent regardless of the HIV status of parents (Canetti, Bachar, Galili-Weisstub, De-Nour, & Shalev, 1997; Helgeland & Torgersen, 1997; Stein et al., 2000; Sato, Uehara, Narita, Sakado, & Fujii, 2000). Lastly, adolescents in HIV-affected families are still stigmatized in several communities. They often have to cope with ridicule from their friends, further increasing their sense of alienation (Frierson, Lippman, & Johnson, 1987).

d. Psychological characteristics, and emotional and behavioral challenges of adolescents and the role of their parents

i. Self-esteem

In general, self-esteem refers to an individual's overall positive evaluation of the self (Gecas, 1982; Rosenberg, 1990; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Self-esteem can be divided into two dimensions. The first is the competence dimension, or efficacy-based self-esteem, which refers to the degree to which people see themselves capable of taking action. The second is worth dimension, i.e. worth-based self-esteem refers to how valuable individuals feel they are (Gecas, 1982; Gecas & Schwalbe, 1983). Child and adolescent self-esteem have been linked to numerous behavioral, academic, and psychological outcomes (Marsh & Gouvemet, 1989). For example, higher levels of self-esteem are associated with better social and interpersonal relations, as well as higher levels of coping and academic achievement (Delugach, Bracken, Bracken, & Schicke, 1992; Gurney, 1986; Shirk, 1988). Self-esteem is also a protective factor that may delay first sexual intercourse (Longmore, Manning, Giordano, & Rudolph, 2004). On the other hand, there is evidence to show that lower levels of self-esteem are correlated with a wide range of negative outcomes, including higher rates of teenage pregnancy, alcohol and drug abuse, juvenile delinquency, suicide, loneliness, depression, social anxiety, and alienation (Shirk, 1998; Blascovic & Tomaka, 1991; Lipka & Brinthaupt, 1992). It has been demonstrated that good family relationships and improvement of parent-child communication can prevent poor self-esteem in adolescent child (Jessor & Jessor, 1977; Riesch, Anderson, & Krueger, 2006). One study indicated that, among Thai adolescents with asthma, effective family functioning had a significant positive effect on self-esteem (Preechawong et al., 2007).

ii. Emotional intelligence

The concept of emotional intelligence was first constructed and introduced to the scientific world in 1990. Emotional intelligence is defined as an individual's ability to monitor one's own and others' emotions, to discriminate between the positive and negative effects of emotions and to use emotional information to guide one's thoughts and actions (Mayer, DiPaolo, & Salovey, 1990). In other words, emotional intelligence is a combination of self-awareness of one's own feeling and ability to manage that feeling (Goleman, 1998). Self-awareness allows an individual to access their own resources and being able to motivate oneself to perform favorably. Furthermore, emotional intelligence reflects the capacity of an individual for understanding and managing his/her own emotion and is reflected in social skills and regarded as one supporting factor for a fulfilled life (Dulewicz & Higgs, 2000; Akerjordet & Severinsson, 2004). It has been demonstrated that emotional intelligence consistently predicts positive social and academic outcomes in children (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Schultz, Izard, & Bear, 2004; Izard et al., 2001). Furthermore, there is evidence to show that emotional regulation skill has an effect on children's social well-being (Eisenberg et al., 2000; Cole, Martin, & Dennis, 2004). Even with unclear causal explanation, some existing literatures demonstrated emotional intelligence is correlated to perceived parental warmth and perceived social support from parents (Ciarrochi, Chan, & Caputi, 2000; Mayer, Caruso, & Salovey, 1999; Lopes, Salovey, & Straus, 2003).

iii. Stress

Stress is a term which refers to the consequences of the failure of an individual to respond appropriately to emotional or physical threats, whether actual or imagined (Selye, 1956).

Adolescents of HIV-infected parents are likely to experience high levels of stress similar to other bereaved children or children of chronically-ill parents (Gray, 1987; Harris, 1991; Raphael, Cubis, & Dunne, 1990). High levels of stress among adolescents in HIV-affected families is caused by several factors such as HIV-related stigma, parentification (e.g. taking care of younger siblings and handling household chores), low economic status, or parental unemployment due to illness (Lee, Lester, & Rotheram-Borus, 2002; Stein, Riedel, & Rotheram-Borus, 1999). Some studies have demonstrated that adolescents of HIV-infected parents tend to have higher risk for substance abuse, partly because their parents engaged in drug use or were less likely to take care of them. Furthermore, HIV-diagnosis of a parent is a stressor that increases risk of emotional distress of adolescents (Rotheram-Borus, Leonard, & Lightfoot, 2002). In parallel to substance abuse, frequent and early sexual risk behaviors in adolescents are associated with high levels of emotional distress and low parental monitoring (Harvey & Spigner, 1995; DiClemente, Crosby, & Wingood, 2002). It has been demonstrated that female adolescents in HIV-affected families are more likely to be emotionally distressed compared with male adolescents (Rotheram-Borus et al., 2002; Rotheram-Borus, Stein, & Lester, 2006; Rotheram-Borus, Lee, Lin, & Lester, 2004).

iv. Substance use

Regardless of parental HIV status, there is evidence that children of substance users are at high risk for psychopathology and impaired social functioning (Hogan, 1998; Wilens, Biederman, Kiely, Bredin, & Spencer, 1995) and are themselves at risk for substance use (U.S. Department of Health and Human Services, 2003). HIV infection may also be associated with depression (Ciesla & Roberts, 2001), and children of depressed parents are known to be at risk for anxiety, conduct, and depressive disorders in childhood, and for alcohol and drug abuse in late

adolescence and early adulthood (Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997). For adolescents affected by HIV/AIDS, the use of alcohol and other mood altering substances can be particularly problematic. Their substance use pattern is different from adults and requires unique considerations including social factors, experimentation with substances, especially with alcohol, which is common among adolescents and is often considered normative behavior (Kendler, Schmitt, Aggen, & Prescott, 2008). It has been demonstrated that family functioning plays a major role in predicting substance use in children of HIV-infected parents (Rosenblum et al., 2005). One large study illustrated that family functioning was disrupted frequently by substance use. More than fifty percent of children of HIV-infected parents were not in the parents' custody. The most common reason for non-parental custody was parental substance use (Cowgill et al., 2007). Children of HIV-infected parents have high rates of mental health diagnoses, again, placing them at additional risk for substance use (Pilowsky, Zybert, Hsieh, Vlahov, & Susser, 2003). Substance use increases with age and is more common among male HIV-affected adolescents than females (Rotheram-Borus et al., 2006; Rotheram-Borus, Lee, Gwadz, & Draimin, 2001).

v. Sexual behavior

Generally, adolescents have identified parents as the most important information source that influenced their sexual decision-making (National Campaign to Prevent Teen Pregnancy, 2001). Some researchers have demonstrated that mothers who became sexually active or pregnant at an early age are more likely to have children who have similar experiences (Newcomer & Udry, 1984). Additionally, evidence from several studies have suggested that increasing adolescents' condom use rate and decreasing sexual risk may be caused by parent-adolescent communication

about sex and condom use (Dittus, Jaccard, & Gordon, 1999; Holtzman & Rubinson, 1995; Leland & Barth, 1993; Romer et al, 1999; Whitaker, Miller, & Clark, 2000; Whitaker, Miller, May, & Levin, 1999). Parents' personal experience with negative outcomes of risky sex, specifically HIV infection may influence perceptions of their adolescents' sexual behavior when they talk with their adolescents about sex. Parents living with HIV may be intimately familiar with the possible consequences of sexual risk behavior, and this may affect their parenting behavior around adolescent risk behaviors (Newcomer & Udry, 1984; Marhefka, Mellins, Brackis-Cott, Dolezal, & Ehrhardt, 2008). The importance of parent-adolescent relationship and communication about sex may be demonstrated by following example: there is evidence that mothers were more likely to talk with their adolescents about HIV prevention and birth control if they believed that their adolescents had sexually debuted and mothers reported greater communication about sex with daughters (Cowgill et al., 2007). Similar to general adolescents, sexual risk behaviors increase with age and are more common among male adolescents affected by HIV (Rotheram-Borus et al., 2006; Rotheram-Borus et al., 2003). Another challenge related to sexual risk behavior for adolescents affected by HIV/AIDS is parental death. Findings from follow-up studies have shown that parental death predicts more sexual risk behaviors (Rotheram-Borus et al., 2006) and, as a consequence, frequent sexual risk behavior places adolescents at risk for early pregnancy and sexually transmitted diseases (Rotheram-Borus et al., 2001).

e. Social support

Social support, in social psychology, is defined as "the existence or availability of people on whom we can rely, people who let us know that they care about, value, and love us" (Sarason, Levine, & Basham, 1983). The association between perceived social support and psychological

well-being has been well- established in adults (Barnett & Gotlib, 1988; Symister & Friend, 2003; Allgower, Wardle, & Steptoe, 2001). The findings in people living with HIV/AIDS are also consistent with those in non HIV adults: several studies demonstrated that perceived social support might attenuate severity of stress-related conditions, such as depression (Silver, Bauman, Camacho, & Hudis, 2003; Johnson et al., 2001) and be positively associated with psychological well-being in HIV-infected adults (Hays, Chauncey, & Tobey, 1990; Serovich, Kimberly, Mosack, & Lewis, 2001). A study in Thailand also suggested that perceived social support is negatively correlated to perceived stigma in HIV-infected women (Ross & Srisaeng, 2005). In adolescents, there is evidence that perceived availability of social support is negatively correlated with trauma-related symptoms in a group of general, nonclinical adolescents (Bal, Crombez, Van Oost, & Debourdeaudhuij, 2003). Some researchers have identified the role of perceived social support and mental and behavioral outcomes among adolescents affected by HIV/AIDS. They found that higher levels of social support providers is positively associated with lower levels of depression and fewer conduct problems (Lee, Detels, Rotheram-Borus, & Duan, 2007; Lee, Detels, Rotheram-Borus, Duan, & Lord, 2007). The findings also underscored the complex relationships between social support and psychological well-being of those adolescents. In adolescents, however, understanding about causal relation between social support and psychological well-being is relatively recent compared with that of adults, partly because a reliable and convenient measurement of social support for adolescents has not been established yet (Tolsdorf, 1976; Belle, Dill, & Burr, 1991; Colletta, 1987; Eckenrode, 1983).

f. Gaps in the literatures

Little is known about psychological and behavioral challenges of adolescents living with HIV/AIDS parents, i.e. HIV-affected adolescents. Most of the existing published-in-English studies were conducted in the western world, rarely in Asian countries, and never in Thailand. Even with those existing studies from western countries, they rarely, if ever, mention the role of parental bonding on self-esteem and emotional intelligence of HIV-affected adolescents, given that both self-esteem and emotional intelligence are important predictors of negative behaviors and successful living. Some studies in the US have suggested a positive effect of perceived social support of HIV-affected adolescents and their lower psychological difficulties such as depressions, but its effect on risky behaviors such as substance use and sexual behavior, as well as everyday stress, is yet to be identified particularly in culturally-different areas such as Thailand. Lastly, functioning at school and in family of the adolescents is important for their current and long-term quality of life. While there are many published papers about difficulties of the adolescents in their school and family living, to our knowledge, they have been rarely conducted in the developing countries, such as Thailand. These important questions are yet to be answered particularly in a country like Thailand which has faced the HIV/AIDS epidemic for several decades and has many HIV-affected families.

g. The “Family-to-Family (F2F) Thailand: Psychoeducation to Improve Children’s Outcomes in HIV+ Families” study

In 2005, UCLA’s Center for Community Health (CCH), in collaboration with the Thai Ministry of Public Health, conducted a study called “Family-to-Family (F2F) Thailand: Psychoeducation to Improve Children’s Outcomes in HIV+ Families” in Thailand with supporting from the

National Institute of Nursing Research (Grant NINR R01-NR009922). The study aimed to develop a psychoeducation intervention, called Family-to-Family (F2F) intervention, which includes the program components identified by the NIMH Intervention Workgroup in order to improve the social, behavioral and mental health outcomes for children affected by HIV in Thailand (Li et al., 2010; Li et al., 2012). The F2F intervention for HIV-infected parents and their adult family caregivers will assist them in coping with HIV-related stressors (e.g., disclosure, stigma, transmission, & custody), build skills for improving their own and their children's adjustment, and establish supportive community relationships with other families affected by HIV. To develop and assess the intervention effectiveness, the F2F study was conducted in four districts chosen from two provinces of Thailand, one in the north, Chiang Rai province, and the other one in the northeast, Nakhon Ratchasima province. The F2F study proceeded in two phases. In Phase 1, the intervention was developed and piloted with forty families and then the assessment measures were developed and piloted with the same forty families. During the assessment measure pilot study, adult caregivers and adolescent children aged 12-17 years from families with an HIV-infected parent were recruited to participate in piloting the assessment measures as well. In Phase 2, families with HIV-infected parents (400 HIV-infected parents and 400 family caregivers, i.e. other adults living in the same families) from the same four districts were recruited to an intervention to benefit their 400 school-aged children aged 6-17 years. At their clinical care sites, i.e. district hospitals, families were randomly assigned to either: 1) the standard care plus F2F intervention for HIV-infected parents and family caregivers delivered in drop-in groups by healthcare providers; or 2) only standard care. The impact of the F2F intervention was monitored over 24 months (baseline, 6, 12, 18, and 24 months) by assessing their school-age children's social, behavioral, and mental health status

as primary outcomes. HIV-infected parents' and family caregivers' health, mental health, parenting skills, and family bonds were also monitored as secondary outcomes. (See more details about the F2F study in methods section below).

II. Objectives

a. General objectives

The present study tries to address difficulties of Thai adolescents affected by HIV/AIDS including psychological characteristics (self-esteem and emotional intelligence), psycho-behavioral challenges (stress, substance use, and sexual behaviors) and functioning at schools and in families. In addition, this study also tries to examine complex associations among those difficulties and their potential predictors including role of parenting, family functioning and perceived social support of the adolescents.

b. Specific objectives

- i. To examine the role of parenting style, parent's quality of life, and family functioning in self-esteem and emotional intelligence of HIV-affected adolescents aged 12-17 years in Thailand.
- ii. To examine associations of perceived social support, emotional intelligence and self-esteem of HIV-affected adolescents aged 12-17 years in Thailand with their stress, substance use, and sexual behavior.
- iii. To examine associations of parenting style and emotional intelligence with functioning at school and their experiences in family of HIV-affected adolescents aged 12-17 years in Thailand.

III. Methods

a. Data set

The data set to be used in this present study are from the data collected in phase 2 of the original “Family-to-Family (F2F) Thailand: Psychoeducation to Improve Children’s Outcomes in HIV+ Families” study or the F2F study. This F2F study was developed by UCLA’s Center for Community Health (CCH) in collaboration with Thai Ministry of Public Health and was supported by the National Institute of Nursing Research (Grant NINR R01-NR009922). The information of the F2F study is summarized below.

b. Overall F2F study design

The F2F study is a two-phase study that aims to develop and evaluate an intervention for HIV-infected parents and family caregivers in order to benefit their school-age children. It was hypothesized that the social, behavioral, and mental health adjustment of school-age children will be improved when their parents and family caregivers participate in a psychoeducational intervention that addresses HIV-related stressors (e.g., disclosure, stigma, transmission acts), maintaining health and mental health, and family adjustment. This study was done in two phases, i.e. phase 1 and phase 2. Phase 1 was composed of phase 1A and phase 1B. In Phase 1A, the intervention that includes the critical, universal, program components and the social cognitive theoretical model identified by the US National Institute of Mental Health (NIMH) Intervention Workgroup were adapted using the inputs from qualitative data from HIV-affected families in the four districts, two from a province in the north, Chiang Rai, and the other two from a province in the northeast, Nakhon Ratchasima, selected for the proposed study. More specifically, in each district, intervention pilot groups with 10 families, a total of 40 HIV-

affected families, were conducted. In Phase 1B, the assessment measures were piloted with the same 40 families from Phase 1A. In Phase 2, 400 families with HIV-infected parents (400 HIV-infected parents, 400 family caregivers) from the same four districts from Chaing Rai and Nakhon Ratchisima provinces, i.e. approximately 100 families from each district, were recruited to an intervention to benefit their 400 school-aged children aged 6-17 years. At their clinical care sites, i.e. district hospitals, recruited families were randomly assigned to either: 1) the standard care plus F2F intervention for HIV-infected parents and family caregivers delivered in drop-in groups by healthcare providers (not including their children); or 2) only standard care. The impact of the intervention was monitored over 24 months (baseline, 6, 12, 18, and 24 months).

c. Purpose of the F2F study

The purpose of the proposed study is to evaluate the modified generic intervention approach that was culturally-tailored to families affected by HIV in Thailand. The intervention builds on previous efficacious HIV family interventions, adapted to be sustainable in a developing country context. The F2F intervention for HIV-infected parents and their family caregivers assisted families to cope with HIV-related stressors (disclosure, stigma, transmission, and custody), build skills for improving their own and their children's adjustment, and establish supportive community relationships with other families affected by HIV. Because this present study will use only the data set from phase 2 of the F2F study, the remaining section of this proposal will focus on details of that study phase.

d. Specific objectives of phase 2 of the F2F study

The objectives of phase 2 of the study are

- to conduct a randomized intervention among families with HIV-infected parent and the family caregivers, and
- to monitor the impact of the intervention over 24 months on the school aged children in the families and the intervention participants (parents and caregivers).

e. Study population

i. Study sites

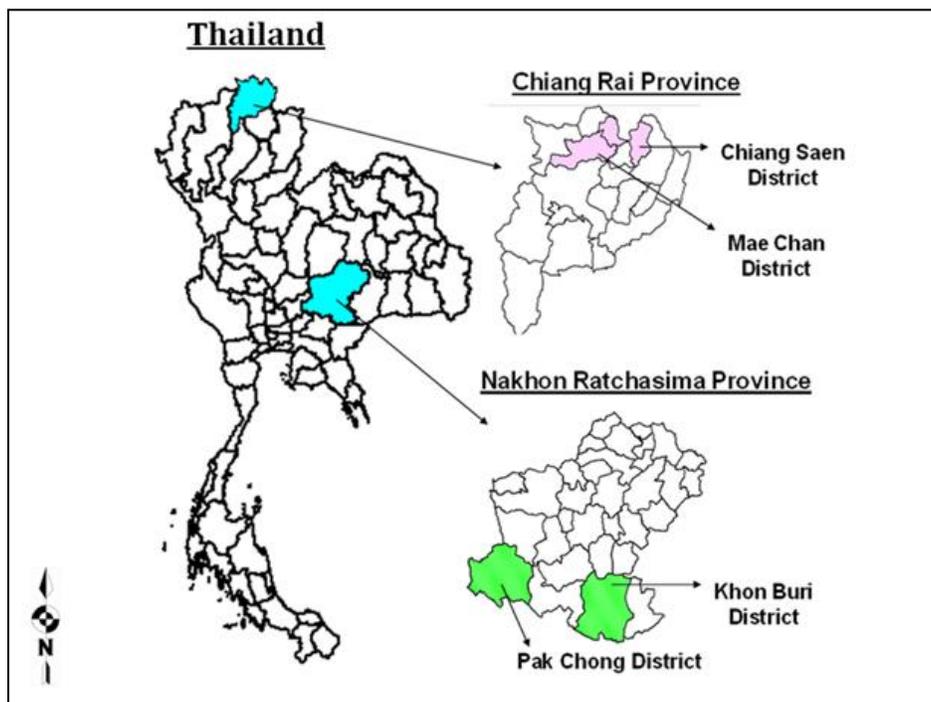


Figure 1. Geographic location of the F2F study sites: Mae Chan and Chiang Saen districts from Chaing Rai province, and Pak Chong and Khon Buri districts from Nakhon Ratchasima province, Thailand.

Figure 1 illustrates the geographic location of the study sites.

- Chiang Rai province in Northern Thailand covers some 11,678 square kilometers with a population of 1.23 million. Chiang Rai is divided into 16 districts and 2 sub-districts. Chiang Rai is situated in the northern region of Thailand, about 785 kilometers north of Bangkok, the capital city of Thailand. The prevalence of symptomatic HIV patients was 83.72/100,000 in 2004, up 12% in one year, the second highest HIV rate in Thailand. Health facilities in the province include a regional hospital, 16 district hospitals, 1 military hospital and 3 private hospitals. The study sites were Mae Chan and Chiang Saen Districts. Mae Chan District is located in the north of the province with a population of 115,219. It is the third largest district in Chiang Rai. The number of HIV patients receiving care at the hospital is nearly 600. Over 120 new HIV infections have been reported each year. Chiang Saen is a district in the northeastern part of Chiang Rai. The population was 54,664 in 2003. In 2006, there were 400 HIV-infected persons and the annual number of new HIV infections was about 70 cases. The majority of people in the district live in rural areas. The district is considered relatively rural compared with Mae Chan District.
- Nakhon Ratchasima, also known as Korat, is situated on a plateau, about 258 kilometers northeast of Bangkok. This province is divided into 26 districts. It is the biggest province in the northeast region both in terms of area and population. It is the Northeast's main transportation hub. Total population in 2003 was 2,589,768. In 2004, the prevalence rate of HIV infection in pregnant women was 1.06% and the reported AIDS case rate was 9.67 per 100,000 population. Similar to Chiang Rai, there is a good health infrastructure in Nakhon Ratchasima. There are 26 district hospitals and 12 private hospitals. The study sites were Pak Chong and Khon Buri Districts. Pak Chong District is located in the

southwest of the province with a population of 181,992. It is the second largest district in Nakhon Ratchasima. In 2006, the number of HIV patients receiving care at the hospital was nearly 300. Over 100 new HIV infections have been reported each year. Khon Buri is a district in the southern part of Nakhon Ratchasima. The population was 95,291 in 2003. The annual number of new HIV infections was about 60-70 cases. The majority of people in the district live in rural areas. The district is considered relatively rural compared with Pak Chong District.

ii. Number and criteria of participants

Four hundred HIV-affected families were recruited from the disclosed HIV-infected clients of the four district hospitals selected for phase 2 of the F2F study. The approximated number of participants for phase 2 is shown in table 1.

Table 1. Approximate number of participants in phase 2 of the F2F study.

Type of participants	Standard care and F2F intervention	Only standard care	Total
HIV-infected parent	200	200	400
Caregiver	200	200	400
Children aged 12-17 years	100	100	200
Children aged 6-11 years	100	100	200
Total	600	600	1,200

Table 2. Inclusion and exclusion criteria of participants for phase 2 of the F2F study.

Criteria	HIV-infected parents	Family caregivers	School-aged children
Inclusion criteria	<ul style="list-style-type: none"> • Aged 18 years or above • HIV infected • Living with one or more children aged 6-17 years • Disclosure of serostatus to at least one family member • Informed consent 	<ul style="list-style-type: none"> • Aged 18 years or above • Living in the same house with HIV-infected parent • Knowing serostatus of the parents • Consent from the HIV-infected parent • Informed consent 	<ul style="list-style-type: none"> • Permission from the HIV-infected parent • Assent to participate • Aged 6-17 years
Exclusion criteria	<ul style="list-style-type: none"> • No school-age children living at home • No disclosure of the serostatus to any family member • Inability to give informed consent or refusal 	<ul style="list-style-type: none"> • No consent from the HIV-infected parent • Inability to give informed consent or refusal 	<ul style="list-style-type: none"> • No permission from the HIV-infected parent • No assent • Inability to give assent or refusal

Inclusion and exclusion criteria for HIV-affected families for phase 2 are illustrated in table 2. Only the HIV-infected parents and family caregivers participated in the F2F intervention. The school-aged children did not participate in the intervention. The adolescent children aged 12-17 years were only assessed using a self-administered questionnaire at district hospitals or their homes depending on their preference over 24 months for a study described as a “general family health study.” For children aged 6-11 years, they were only observed by their parents or caregivers at their homes and those parents or caregiver are the ones who completed the “children aged 6-11 years observed form.”

f. Recruitment process and randomization

Recruitment occurred in the voluntary counseling test (VCT) clinics, HIV treatment services, tuberculosis (TB) clinics, and antenatal care (ANC) clinics. Initial screening of parents was done by healthcare workers in the clinics. Study staff coordinated the recruitment effort at their sites in conjunction with the healthcare workers specifically hired and employed for the proposed study. Therefore, they did not contaminate the current counseling activities and services being provided at the district hospitals. They informed all clinicians who work with HIV-infected persons at the site about procedures for referring clients to the study on a regular basis. Whenever anyone received an HIV positive diagnosis, study staff asked the clinic in the district hospital to refer them to the study. Study staff recruited HIV-affected families from the existing cases of HIV-infected parents, as well all new HIV-infected parents over a one year period.

The randomization process for assigning a recruited family to either: 1) the standard care plus F2F intervention for HIV-infected parents and family caregivers delivered in drop-in groups by

healthcare providers (not including their children); or 2) only standard care done at the sub-district level . At the first step, all sub-districts in each district were divided into two groups according to their number of potential HIV-affected families, geographical, and sociodemographic characteristics so that these two groups were comparable, i.e. balanced or similar, regarding to these characteristics. Then, at the second step, these two groups of sub-districts in each district were randomized, by research staff at the Ministry of Public Health, to either: 1) the standard care plus F2F intervention for HIV-infected parents and family caregivers delivered in drop-in groups by local healthcare providers (not including their children); or 2) only standard care delivered by local healthcare providers. To prevent potential bias, local recruitment staff did not know information about participants' sub-district address and information about group assignment status, i.e. intervention group or standard care group, of each sub-district. In other words, HIV-affected families were assigned to either study groups depending on their sub-districts address that had already been pre-assigned to either study groups by staff independent from local recruitment staff.

g. The F2F intervention

The F2F intervention is a psychoeducational intervention that includes the universal, program components and the social cognitive theoretical model identified by the National Institute of Mental Health (NIMH) Intervention Workgroup. The intervention was developed by utilizing the strategies in each area that have been demonstrated to be important in previous research by this research team from UCLA's Center for Community Health, Thai Ministry of Public Health, local health staff, and, most important, members of HIV-affected families.

The F2F intervention is composed of thirteen consecutive sessions. Each session was three-hours long and two weeks apart. The intervention groups were composed of 8-12 participants and were separated into an HIV-infected parents group and a caregivers group. Parents and caregivers were not asked to attend at the same time and the same groups. Even if the HIV-infected parents attended 13 sessions consecutively, family caregivers might not attend in this manner. However, all parents and caregivers were strongly encouraged to complete all 13 sessions.

h. Measurements

The measurements for the adolescents aged 12-17 years and their HIV-infected parents are illustrated in Appendix 1 and Appendix 2, respectively. Detailed information for each specific measurement used in this study is provided in the following chapters.

i. Data management

The data set of phase 2 of the F2F study was collected using a self-administered questionnaire which was then entered to the electronic database by local study staffs on a daily basis. The database was automatically coded by predefined coding variables. After completeness and logical checking of the data were done, the password-protected database was sent to central study staffs at the Ministry of Public Health through electronic mailing service every two weeks. Completeness and logical checking was repeated by central study staff who then combined the data from all four sites into a single data set. The password-protected, all-sites single data set was sent to UCLA's CCH study staff through electronic mailing service once a month. The data collection process of phase 2 of the F2F study ended in January 2010.

j. Data analysis

For the propose of this present study, the phase 2 data set of the F2F study of adolescents (children aged 12-17 years) and their HIV-infected parents will be used for data analysis.

Detailed information for data analyses used in this study is provided in the following chapters.

References

- Ainsworth, M., Beyrer, C., & Soucat A. (2003). AIDS and public policy: the lessons and challenges of 'success' in Thailand. *Health Policy*, 64(1), 13-37.
- Akerjordet, K., & Severinsson, E. (2004). Emotional intelligence in mental health nurses talking about practice. *International Journal of Mental Health Nursing*, 13(3), 164– 170.
- Allgower, A., Wardle, J., & Steptoe, A. (2001). Depressive symptoms, social support, and personal health behaviors in young men and women. *Health Psychology*, 20(3), 223– 227.
- Bal, S., Crombez, G., Van Oost, P., & Debourdeaudhuij, I. (2003). The role of social support in well-being and coping with self-reported stressful events in adolescents. *Child Abuse and Neglect*, 27(12), 1377–1395.
- Barnett, P. A., & Gotlib, I. H. (1988). Psychosocial functioning and depression: distinguishing among antecedents, concomitants, and consequences. *Psychological Bulletin*, 104(1), 97–126.
- Belle, D. E., Dill, D., & Burr, R. (1991). Children's network orientations. *Journal of Community Psychology*, 19(4), 362–372.
- Blascovic, J., & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes*. San Diego: Academic.
- Bureau of Epidemiology. (2008). *The Situation of HIV Infection of Thailand 2007*. Nonthaburi, Thailand: Bureau of Epidemiology, Thai Ministry of Public Health.

- Canetti, L., Bachar, E., Galili-Weisstub, E., De-Nour, A. K., & Shalev, A. Y. (1997). Parental bonding and mental health in adolescence. *Adolescence*, 32(126), 381-394.
- Cate, J. A., Graham, G., Boeglin, D., & Tielker, S. (1990). Childhood loss of parent, lack of adequate family system. *Families in Society*, 71(4), 195-201.
- Centers for Disease Control and Prevention. (1995). *HIV/AIDS Surveillance Report: US HIV and AIDS case reported through June 1995*. Atlanta, GA: Centers for Disease control and Prevention.
- Chariyalertsak, S., Aramrattana, A., & Celentano, D. D. (2008). The HIV/AIDS Epidemic in Thailand. In D. D. Celentano & C. Beyrer (Eds.), *Public Health Aspects of HIV/AIDS in Low and Middle Income Countries: Epidemiology, Prevention and Care* (pp. 401-432). New York, NY: Springer.
- Ciarrochi, J. V., Chan, A. Y., & Caputi, P. (2000). A critical evaluation of the emotional intelligence concept. *Personality and Individual Difference*, 28(3), 539–561.
- Ciesla, J. A., & Roberts, J. E. (2001). Meta-analysis of the relationship between HIV infection and the risk for depressive disorders. *American Journal of Psychiatry*, 158(5), 725–730.
- Cohen, J. (2003). Thailand's do-it-yourself therapy. *Science*, 301(5640), 1662.
- Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: methodological challenges and directions for child development research. *Child Development*, 75(2), 317–333.
- Colletta, N. D. (1987). Correlates of young mothers' network orientations. *Journal Community Psychology*, 15(2), 149–160.

- Cowgill, B. O., Beckett, M. K., Corona, R., Elliott, M. N., Zhou, A. J., & Schuster, M. A. (2007). Children of HIV-infected parents: Custody status in a nationally representative sample. *Pediatrics, 120*(3), 494-503.
- Delugach, R. R., Bracken, B. A., Bracken, M. J., & Schicke, M. C. (1992). Self concept: Multidimensional construct exploration. *Psychology in the Schools, 29*(3), 213-223.
- DiClemente, R. J., Crosby, R. A., & Wingood, G. M. (2002). Enhancing STD/HIV prevention among adolescents: the importance of parenteral monitoring. *Minerva Pediatrica, 54*(3), 171-177.
- Dittus, P. J., Jaccard, J., & Gordon, V. V. (1999). Direct and nondirect communication of maternal beliefs to adolescents: Adolescent motivations for premarital sexual activity. *Journal of Applied Social Psychology, 29*(9), 1927-1963.
- Dulewicz, V., & Higgs, M. (2000). Emotional intelligence. A review and evaluation study. *Journal of Managerial Psychology, 15*(4), 341-372.
- Eckenrode, S. (1983). The mobilization of social supports: Some individual constraints. *American Journal of Community Psychology, 11*(5), 509-520.
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: their role in predicting quality of social functioning. *Journal of personality and social psychology, 78*(1), 136-157.
- Frierson, R. L., Lippman, S. B., & Johnson, J. (1987). AIDS: Psychological stresses on the family. *Psychosomatics, 28*(2), 65-68.
- Gecas, V. (1982). The Self-Concept. *Annual Review of Sociology, 8*, 1-33.
- Gecas, V., & Schwalbe, M. L., (1983). Beyond the Looking-glass Self: Social Structure and Efficacy-Based Self-Esteem. *Social Psychology Quarterly, 46*(2), 77-88.

- Goleman, G. (1998). *Working with Emotional Intelligence*. USA: Bantam Books.
- Gray, R. E. (1987). Adolescent response to death of a parent. *Journal of Youth and Adolescence*, 16(6), 511–524.
- Gurney, P. (1986). Self-esteem in the classroom: Theoretical perspectives and assessment issues. *School Psychology International*, 7(4), 199-209.
- Hanenberg, R. S., Rojanapithayakorn, W., Kunasol, P., & Sokal, D. C. (1994). Impact of Thailand HIV-control program as indicated by the decline of sexually transmitted diseases. *The Lancet*, 344(8917), 243-245.
- Harris, E. S. (1991). Adolescent bereavement following the death of a parent: an exploratory study. *Child Psychiatry and Human Development*, 21(4), 267– 281.
- Harvey, S. M., & Spigner, C. (1995). Factors associated with sexual behavior among adolescents: a multivariate analysis. *Adolescence*, 30(118), 253–264.
- Hays, R. B., Chauncey, S., & Tobey, L. A. (1990). The social support networks of gay men with AIDS. *Journal of Community Psychology*, 18(4), 374-385.
- Helgeland, M. I., & Torgersen, S. (1997). Maternal representations of patients with schizophrenia as measured by the Parental Bonding Instrument. *Scandinavian Journal of Psychology*, 38(1), 39-43.
- Hogan, D. M. (1998). Annotation: The psychological development and welfare of children of opiate and cocaine users: review and research needs. *Journal of Child Psychology and Psychiatry*, 39(5), 609–620.
- Holtzman, D., & Rubinson, R. (1995). Parent and peer communication effects on AIDS- related behavior among U.S. high school students. *Family Planning Perspectives*, 27(6), 235–240, 268.

- Izard, C. E., Fine, S., Schultz, D., Mostow, A. J., Ackerman, B., & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science, 12*(1), 18–23.
- Jenkins, R. A., Manopaiboon, C., Samuel, A. P., Jeeyapant, S., Carey, J. W., Kilmarx, P. H., Uthairavit, W., van Griensven, F. (2002). Condom use among vocational school students in Chiang Rai, Thailand. *AIDS Education and Prevention, 14*(3), 228-245.
- Jessor, R., & Jessor, S. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Johnson, J. G., Alloy, L. B., Panzarella, C., Metalsky, G. I., Rabkin, J. G., William, J. B. W., & Abramson, L. Y. (2001). Hopelessness as a mediator of the association between social support and depressive symptoms: Findings of a study of men with HIV. *Journal of Counseling and Clinical Psychology, 69*(6), 1056-1060.
- Kendler, K. S., Schmitt, E., Aggen, S. H., & Prescott, C. A. (2008). Genetic and environmental influences on alcohol, caffeine, cannabis, and nicotine use from early adolescence to middle adulthood. *Archives of General Psychiatry, 65*(6), 674-682.
- Knodel, J., Chayovan, N., Graiurapong, S., & Suraratdecha, C. (2000). Ageing in Thailand: An overview of formal and informal support. In D. Phillips (Ed.), *Aging in the Asia Pacific regions: Issues and policies* (pp. 243-266). London: Routledge.
- Lee, M. B., Lester, P., & Rotheram-Borus, M. J. (2002). The relationship between adjustment of mothers with HIV and their adolescent daughters. *Clinical Child Psychology and Psychiatry, 7*(1), 71– 84.

- Lee, S., Detels, R., Rotheram-Borus, N. J., & Duan, N. (2007). The effect of social support on mental and behavioral outcomes among adolescents with parents with HIV/ AIDS. *American Journal of Public Health, 97*(10), 1820–1826.
- Lee, S., Detels, R., Rotheram-Borus, N. J., Duan, N., & Lord, L. (2007). Depression and social support among HIV-affected adolescents. *AIDS Patient Care and STDs, 21*(6), 409-417.
- Leland, N. L., & Barth, R. P. (1993). Characteristics of adolescents who have attempted to avoid HIV and who have communicated with parents about sex. *Journal of Adolescent Health, 8*(1), 58–76.
- Lester, P., Stein, J. A., & Bursch B. (2003). Developmental predictors of somatic symptoms in adolescents of parents with HIV: a 12-month follow-up. *Journal of Developmental Behavior and Pediatrics, 24*(4), 242-250.
- Li, L., Lee, S. J., Jiraphongsa, C., Khumtong, S., Iamsirithaworn, S., Thammawijaya, P., Rotheram-Borus, M. J. (2010). Improving Health and Mental Health for People Living with HIV/AIDS: 12-month Assessment of a Behavioral Intervention in Thailand. *American Journal of Public Health, 100*(12), 2418-2425.
- Li, L., Liang, L. J., Lee, S. J., Iamsirithaworn, S., Wan, D., & Rotheram-Borus, M. J. (2012). Efficacy of an Intervention for Families Living with HIV in Thailand: A Randomized Controlled Trial. *AIDS and Behavior, AIDS and Behavior, 16*(5), 1276–1285.
- Limsuwan, Y., Kanapa, S., & Siristonapun, Y. (1986). Acquired immune deficiency syndrome in Thailand, a report of two cases. *Journal of the Medical Association of Thailand, 69*(3), 164-169.

- Lipka, R. P., & Brinthaupt, T. M. (1992). *Self-perspectives across the life span*. Albany: State University of New York.
- Longmore, M. A., Manning, W. D., Giordano, P. C., & Rudolph, J. L. (2004). Self-esteem, depressive symptoms, and adolescents' sexual onset. *Social Psychology Quarterly*, *67*(3), 279-295.
- Lopes, P. N., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality, and the perceived quality of social relationships. *Personality and Individual Difference*, *35*(3), 641–658.
- Marhefka, S. L., Mellins, C. A., Brackis-Cott, E., Dolezal, C., & Ehrhardt, A. A. (2008). Perceptions of Adolescents' Sexual Behavior Among Mothers Living With and Without HIV: Does Dyadic Sex Communication Matter? *Archives of Sexual Behavior*, *38*(5), 788-801.
- Marsh, H. W. & Gouvenet, P. J. (1989). Multidimensional self concepts and perceptions of control: Construct validation of responses by children. *Journal of Educational Psychology*, *81*(1), 57-69.
- Mayer, J. D., Caruso, D. R., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, *27*(4), 267–298.
- Mayer, J. D., DiPaolo, D. R. & Salovey, O. (1990). Perceiving affective content in ambiguous visual stimuli: a component of emotional intelligence. *Journal of Personality Assessment*, *54*(3-4), 772–781.
- McGarvey, E. L., Clavet, G. J., Mason, W., & Waite, D. (1999). Adolescent inhalant abuse: environments of use. *American Journal of Drug Alcohol Abuse*, *25*(4), 731-741.

- McKeever, P. (1983). Siblings of chronically ill children: A literature review with implications for research and practice. *American Journal of Orthopsychiatry*, 53(2), 209-218.
- Mills, S., Benjarattanaporn, P., Bennett, A., Pattalung, R. N., Sundhagul, D., Trongswad, P., Gregorich, S. E., Hearst, N., Mandel, J. S. (1997). HIV risk behavioral surveillance in Bangkok, Thailand: Sexual behavior trends among eight population groups. *AIDS*, 11(Suppl. 1), S43-S51.
- National Campaign to Prevent Teen Pregnancy. (2001). *With one voice: American's adults and teens sound off about teen pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Newcomer, S. E., & Udry, J. R. (1984). Mother's influence on the sexual behavior of their teenage children. *Journal of Marriage and the Family*, 46(2), 477-485.
- Phanuphak, P., Lochareernkul, C., Panmuong, W., & Wilde, H. (1985). A report of three cases of AIDS in Thailand. *Asian Pacific Journal of Allergy and Immunology*, 3(2), 195-199.
- Pilowsky, D. J., Zybert, P. A., Hsieh, P. W., Vlahov, D., & Susser, E. (2003). Children of HIV-positive drug-using parents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42(8), 950-956.
- Poolchareon, W. (2006). Thailand. In T. Yamamoto, & S. Itoh (Eds.), *Fighting a Rising Tide: The Response to AIDS in East Asia* (pp.247-265). Tokyo, Japan; Japan Center for International Exchange.
- Preechawong, S., Zauszniewski, J. A., Heinzer, M. M., Musil, C. M., Kercksmar, C., & Aswinanonh, R. (2007). Relationships of family functioning, self-esteem, and

- resourceful coping of Thai adolescents with asthma. *Issues in Mental Health Nursing*, 28(1), 21-36.
- Punpanich, W., Ungchusak, K., & Detels, R. (2004). Thailand's Response to the HIV Epidemic: Yesterday, Today and Tomorrow. *AIDS Education and Prevention*, 16(A), 119-136.
- Raphael, B., Cubis, J., & Dunne, M. (1990). The impact of parental loss on adolescents' psychosocial characteristics. *Adolescence*, 25(99), 689-700.
- Riesch, S. K., Anderson, L. S., & Krueger, H. A. (2006). Parent-child communication Process: Preventing children's health-risk behavior. *Journal for Specialists in Pediatric Nursing*, 11(1), 41-56.
- Romer, D., Stanton, B., Galbraith, J., Fiegelman, S., Black, M., & Li, X. (1999). Parental influence on adolescent sexual behavior in high-poverty settings. *Archives of Pediatrics and Adolescent Medicine*, 153(10), 1055-1062.
- Romer, G., Barkman, M., & Schulte-Markwood, G. (2002). Children with somatically ill parents: a methodologic review. *Clinical Child Psychology & Psychiatry*, 7(1), 17-38.
- Rongkavilit, C., Thisyalorn, U., & Phanuphak, P. (2000). *UNAIDS best practice collection: Prevention of mother-to-child transmission of HIV: Thai Red Cross Zidovudine Donation Programme*. Geneva, Switzerland: UNAIDS.
- Rosenberg, M. (1990). The Self-Concept: Social Product and Social Force. In M. Rosenberg, R. H. Turner (Eds.), *Social Psychology: Sociological Perspectives* (pp. 593-624). Brunswick, NJ: Transaction.
- Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global Self-Esteem and Specific Self-Esteem. *American Sociological Review*, 60(1), 141-156.

- Rosenblum, A., Magura, S., Fong, C., Cleland, C., Norwood, C., Casella, D., Truell, J., & Curry, P. (2005). Substance use among young adolescents in HIV-affected families: Resiliency, peer deviance, and family functioning. *Substance Use & Misuse, 40*(5), 581-603.
- Ross, R., & Srisaeng, P. (2005). *Depression and its correlates among HIV-positive pregnant women in Thailand*. A paper presented on November 12, 2006 at the Sigma Theta Tau International: 38th Biennial Convention, Indianapolis, Indiana.
- Rotheram-Borus, M. J., Flannery, D., Lester, P., & Rice, E. (2004). Prevention for HIV positive families. *Journal of Acquired Immune Deficiency Syndromes, 37*(Suppl2), S133-S134.
- Rotheram-Borus, M. J., Lee, M. B., Gwadz, M., & Draimin, B. (2001). An intervention for parents with AIDS and their adolescent children. *American Journal of Public Health, 91*, 1294 –1302.
- Rotheram-Borus, M. J., Lee, M. B., Gwadz, M., & Draimin, B. (2004). An intervention for parents with AIDS and their adolescent children. *American Journal of Public Health, 91*(8), 1294-1302.
- Rotheram-Borus, M. J., Lee, M. B., Leonard, N., Lin, Y. Y., Franzke, L., Turner, E., Lightfoot, M., & Gwadz, M. (2003). Four-year behavioral outcomes of an intervention for parents living with HIV and their adolescent children. *AIDS, 17*(8), 1217–1225.
- Rotheram-Borus, M. J., Lee, M. B., Lin, Y. Y., & Lester, P. (2004). Six year intervention outcomes for adolescent children of parents with HIV. *Archives of Pediatrics, 158*(8), 742–748.

- Rotheram-Borus, M. J., Leonard, N. R., & Lightfoot, M. (2002). Picking up the pieces: caregivers of adolescents bereaved by parental AIDS. *Journal of Clinical Child Psychology, 7*(1), 115–124.
- Rotheram-Borus, M. J., Murphy, D. A., Miller, S., & Draimin, B. H. (1997). An Intervention for adolescents whose parents are living with AIDS. *Clinical Child Psychology and Psychiatry, 2*(2), 201-219.
- Rotheram-Borus, M. J., Stein, J. A., & Lester, P. (2006). Adolescent adjustment over six years in HIV-affected families. *Journal of Adolescent Health, 39*(2), 174–182.
- Sarason, I. G., Levine, H. M., & Basham, R. B., (1983) Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology, 44*(1), 127–139.
- Sato, T., Uehara, T., Narita, T., Sakado, K., & Fujii, Y. (2000). Parental bonding and personality in relation to a lifetime history of depression. *Psychiatry Clinical Neuroscience, 54*(2), 121-130.
- Schultz, D., Izard, C. E., & Bear, G. (2004). Children’s emotion processing: relations to emotionality and aggression. *Development and Psychopathology, 16*(2), 371–387.
- Selye, H. (1956). *The Stress of Life*, New York: McGraw-Hill.
- Serovich, J. M., Kimberly, J. A., Mosack, K. E., & Lewis, T. L. (2001). The role of family and friend support in reducing emotional distress among HIV-positive women. *AIDS Care, 13*(3), 335-341.
- Shaffer, N., Roongpisuthipong, A., Siriwasin, W., Chotpitayasunondh, T., Chearskul, S., Young, N. L., Parekh, B., Mock, P. A., Bhadrakom, C., Chinayon, P., Kalish, M. L., Phillips, S. K., Granade, T. C., Subbarao, S., Weniger, B. G., Mastro, T. D.

- (1999). Maternal viral load and perinatal human immunodeficiency virus type 1 subtype E transmission, Thailand. *The Journal of Infectious Diseases*, 179(3), 590-599.
- Shirk, S. R. (1988). What is child psychotherapy? In S. R. Shirk (Ed.), *Cognitive development and child psychotherapy* (pp. 1-16). New York: Plenum.
- Silver, E. J., Bauman, L. J., Camacho, S., & Hudis, J. (2003). Factors associated with psychological distress in urban mothers with late-stage HIV/AIDS. *AIDS and Behavior*, 7(4), 421-431.
- Sittitrai, W., Phanuphak, P., Barry, J., & Brown, T. (1992). *Thai sexual behavior and risk of HIV infection: A report of the 1990 Survey of Partner Relations and Risk of HIV Infection in Thailand*. Bangkok, Thailand: Program on AIDS, Thai Red Cross Society and Institute of Population Studies, Chulalongkorn University.
- Smith, L., Hill, E. W. & Mullis, R. L. (1998). Relational perceptions in mother-daughter attachments. *Marriage and Family Review*, 27(1-2), 37-49.
- Stein, D., Brent, D. A., Bridge, J., Kolko, D., Birmaher, B., & Baugher, M. (2000). Predictors of parent-rated credibility in a clinical psychotherapy trial for adolescent depression. *Journal Psychotherapy Practice & Research*, 10(1), 1-7.
- Stein, J. A., Riedel, M., & Rotheram-Borus, M. J. (1999). Parentification and its impact among adolescent children of parents with AIDS. *Family Process*, 38(2), 193-208.
- Symister, P., & Friend, R. (2003). The influence of social support and problematic support on optimism and depression in chronic illness: a prospective study evaluating self-esteem as a mediator. *Health Psychology*, 22(2), 123-129.

- Thai Ministry of Public Health. (1996). *National HIV serosurveillance, Thailand, 1989-1996*. Bangkok, Thailand: Thai Ministry of Public Health.
- Thai Ministry of Public Health. (2008). *The Asian Epidemic Model (AEM) Projections for HIV/AIDS in Thailand: 2005-2025*. Nonthaburi, Thailand: Thai Ministry of Public Health.
- Thaikruea, L., Thongsawat, S., Maneekarn, N., Netski, D., Thomas, D. L., Nelson, K. E. (2004). Risk factors for hepatitis C virus infection among blood donors in northern Thailand. *Transfusion, 44*(10), 1433-1440.
- Thato, S., Charron-Prochownik, D., Dorn, L. D., Albrecht, S. A., & Stone, C. A. (2003). Predictors of condom use among adolescent Thai vocational students. *Journal of Nursing Scholarship, 35*(2), 157-163.
- Thisyakorn, U., Khongphatthanayothin, M., Sirivichayakul, S., Rongkavilit, C., Poolcharoen, W., Kunanusont, C., Bien, D. D., Phanuphak, P. (2000). The Thai Red Cross Zidovudine Donation Program to prevent vertical transmission of HIV: The effect of the modified ACTG 076 regimen. *AIDS, 14*(18), 2921-2917.
- Tolsdorf, C. C. (1976). Social networks, support and coping: An exploratory study. *Family Process, 15*(4), 407-417.
- U.S. Department of Health and Human Services. (2003). *Analyses of Substance Abuse and Treatment Need Issues, Part I: Children at Risk Because of Parental Substance Abuse*. Retrieved from <http://www.oas.samhsa.gov/Treatan/toc.htm>
- UNICEF Thailand. (2009). HIV/AIDS: Overview and Challenges. Retrieved from: http://www.unicef.org/thailand/hiv_aids.html

- van Griensven, F., Supawitkul, S., Kilmarx, P. H., Limpakarnjanarat, K., Young, N. L., Manopaiboon, C., Mock, P. A., Korattana, S., Mastro, T.D. (2001). Rapid assessment of sexual behavior, drug use, HIV, and sexually transmitted diseases in northern Thai youth using audio-computer–assisted self-interviewing and noninvasive specimen collection. *Pediatrics*, *108*(1), E13.
- VanLandingham, M., Knodel, J., Im-em, W., & Saengtienchai, C. (2000). The impacts of HIV/AIDS on older populations in developing countries: Some observations based upon the Thai case. *Journal of Family Issues*, *21*(6), 777-806.
- Wachter, K. W., Knodel, J. E., & VanLandingham, M. (2002). AIDS and the Elderly of Thailand: Projecting Familial Impacts. *Demography*, *39*(1), 25-41.
- Wangroongsarb, Y., Weniger, B.G., Wasi, C., Traisupa, A., Kunasol, P., Rojanapithayakorn, W., Fucharoen, S. (1985). Prevalence of HTLV-III/LAV antibody in selected populations in Thailand. *Southeast Asian Journal of Tropical Medicine and Public Health*, *16*(4), 517–520.
- Weissman, M. M., Warner, V., Wickramaratne, P., Moreau, D., & Olfson, M. (1997). Offspring of depressed parents. 10 years later. *Archives of General Psychiatry*, *54*(10), 932–940.
- Weniger, B.G., Limpakarnjanarat, K., Ungchusak, K., Thanprasertsuk, S., Choopanya, K., Vanichseni, S., Uneklabh, T., Thongcharoen, P., Wasi, C. (1991). The epidemiology of HIV infection and AIDS in Thailand. *AIDS*, *5*(Suppl. 2), S71-S85.
- West, S. G., Sandler, I., Pillow, D. R., Baca, L. & Gersten, J. C. (1991). The use of structural equation modeling in generative research: Towards the design of a preventive

- intervention of bereaved children. *American Journal of Community Psychology*, 19(4), 459-480.
- Whitaker, D. J., Miller, K. S., & Clark, L. F. (2000). Reconceptualizing adolescent sexual behavior: Beyond did they or didn't they? *Family Planning Perspectives*, 32(3), 111-117.
- Whitaker, D. J., Miller, K. S., May, D. C., & Levin, M. L. (1999). Teenage partners' communication about sexual risk and condom use: The importance of parent-teenage discussions. *Family Planning Perspectives*, 31(3), 117-121.
- Wilens, T. E., Biederman, J., Kiely, K., Bredin, E., & Spencer, T. J. (1995). Pilot study of behavioral and emotional disturbances in the high-risk children of parents with opioid dependence. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34(6), 779-785.
- Zaya, L. H. & Romano, K. (1994). Adolescents and Parental Death from AIDS. In B. O. Dane & C. C. Levine (Eds.), *AIDS and New Orphans* (pp. 59-76). Westport, CT: Auburn House.

CHAPTER 2

Parenting style, family functioning, and parent's quality of life and self-esteem and emotional intelligence of HIV-affected adolescents in Thailand

Abstract

Background: There are many HIV-affected families in Thailand but the impact of HIV-infected parents' characteristics on the mental health of their adolescent children has not been well established. This study examines the role of parenting style, parent's quality of life, and family functioning in self-esteem and emotional intelligence of HIV-affected adolescents aged 12-17 years in Thailand.

Methods: This study used follow-up data from 173 Thai HIV-affected adolescents and their parents at baseline, 6, 12, 18, and 24 months. Bivariate correlation and mixed model analyses were used to examine the parental predictors of self-esteem and emotional intelligence of the adolescents.

Results: Self esteem and emotional intelligence of adolescents were highly positively correlated. Adolescents with higher self-esteem reported higher parenting care style and better family functioning. Emotional intelligence of adolescents was positively associated with parents' quality of life and parenting care style but negatively associated with overprotecting parenting style.

Conclusions: The role of parenting, quality of life and family functioning of parents in developing self-esteem and emotional intelligence of Thai HIV-affected adolescents has been demonstrated. To improve the adolescent's mental health, interventions which promote appropriate parenting and targets the family as a whole should be developed and implemented.

Keywords: Self-esteem, Emotional intelligence, parenting, family function, HIV-affected adolescent, Thailand

Introduction

Due to the high incidence and increasing prevalence of HIV-infected individuals, i.e. people living with HIV/AIDS (or PLH), in Thailand during the past several decades, a large number of HIV-affected families have occurred (Punpanich, Ungchusak, & Detels, 2004). Adolescents in those HIV-affected families whose parents are infected or died from HIV/AIDS (HIV-affected adolescents) also tend to have higher risks for many mental health and behavioral problems compared with general adolescents (Rotheram-Borus, Murphy, Miller, & Draimin, 1997; Rotheram-Borus, Lee, Gwadz, & Draimin, 2004). However, it has been demonstrated that better quality, i.e. closer bonding between parents and their children significantly predicts better children's adjustment following parental death from HIV/AIDS (Lester, Stein, & Bursch, 2003; McGarvey, Clavet, Mason, & Waite, 1999). Thus, good parenting skill can improve children's emotional function and behavior.

In general, self-esteem refers to an individual's overall positive evaluation of self (Gecas, 1982; Rosenberg, 1990; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Child and adolescent self-esteem have been related to several behavioral, academic, and psychological outcomes (Marsh & Gouvemet, 1989). For example, higher levels of self-esteem are associated with better social and interpersonal relations, as well as higher levels of coping and academic achievement (Delugach, Bracken, Bracken, & Schicke, 1992; Gurney, 1986; Shirk, 1988). Self-esteem is also a protective factor that may delay first sexual intercourse (Longmore, Manning, Giordano, & Rudolph, 2004). On the other hand, there is evidence to show that lower levels of self-esteem are correlated with a wide range of negative outcomes, including higher rates of teenage pregnancy,

alcohol and drug abuse, juvenile delinquency, suicide, loneliness, depression, social anxiety, and alienation (Shirk, 1998; Blascovic & Tomaka, 1991; Lipka & Brinthaupt, 1992).

The concept of emotional intelligence was first developed and introduced to the academic community in 1990. Emotional intelligence is defined as an individual's ability to monitor one's own and others' emotions, to be aware of the positive and negative effects of those emotions and to use that information to guide one's thoughts and actions (Mayer, DiPaolo, & Salovey, 1990). This concept is related to self-awareness which allows an individual to utilize their own resources and motivate oneself to perform constructively. Furthermore, emotional intelligence reflects the capacity of an individual for understanding and managing their own emotions and is also presented in social skills and is regarded as one supporting factor for a fulfilled life (Dulewicz & Higgs, 2000; Akerjordet & Severinsson, 2004). There is evidence to support that emotional regulation skill has a positive effect on children's social well-being (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Cole, Martin, & Dennis, 2004).

Although both self-esteem and emotional intelligence are important predictors of positive behaviors and successful living, little is known about psychological and behavioral challenges of adolescents living with HIV/AIDS parents (or HIV-affected adolescents) in Thailand. Most of the existing published-in-English studies were conducted in the western world, rarely in Asian countries, and never in Thailand. Even with those existing studies from western countries, they rarely mention the role of parental bonding on self-esteem and emotional intelligence of HIV-affected adolescents which may differ from general (non HIV-affected) adolescents. This study therefore aimed to examine roles of parenting style, parent's quality of life, and family

functioning on self-esteem and emotional intelligence of HIV-affected adolescents aged 12-17 years in Thailand.

Methods

Study design and participants

This study used the data collected from a two-year follow-up, randomized, controlled family intervention trial in Thailand which aimed to develop and evaluate a psycho-education intervention for HIV-infected parents and family caregivers in order to benefit their school-age children i.e. aged 6-17 years (Li et al., 2010; Li et al., 2012). These data were collected during 2007- 2010 from four district hospitals (two from the north region and two from the northeast region). Families in the study areas with at least one HIV-infected parent, one adult care-giver, and one school-age child were screened. Only families of PLH who had already disclosed their HIV status to their adult caregivers and adolescent children aged 12-17 years were eligible and invited to participate in the study. After the process of enrollment and informed consent was obtained from family members, 410 families were recruited from all 4 sites and evaluated at baseline. Among those recruited families, 204 families had adolescent children aged 12-17 year who were the target of this study. Of those 204 families, 173 (85%) completed a 5-visit follow-up, i.e. at 0 (baseline), 6, 12, 18, and 24 months.

Data collection

The data were collected by trained interviewers at each district hospital using a self-administered questionnaire (Computer Assisted Personal Interview) to assess several characteristics of adolescents aged 12-17 years and their PLH parents. A total of 173 adolescents aged 12-17 years

and 173 PLH parents were included in this study. All participants received 300 Baht (\$10) for their participation at each visit. After the interview process was completed, the data was automatically coded by predefined coding variables and checked for data completeness and logical consistency. Then the password-protected database was sent to researchers. This study was reviewed and approved by Institutional Review Boards of the University of California at Los Angeles, and the Thailand Ministry of Public Health Ethical Review Committee for Research in Human Subjects.

Measurements

Outcome variables

Self-esteem of adolescents was assessed by using a standardized measurement, the “Rosenberg Self-Esteem Scale” (Rosenberg, 1965). Rosenberg's Self-Esteem Scale is a brief, unidimensional measure of global self-esteem. The Rosenberg Self-Esteem Scale has demonstrated good reliability and validity across a large number of different sample groups including adolescent (Hudson, Elek, & Campbell-Grossman, 2000). The scale has been validated for use with both male and female adolescents, adult and elderly populations. Satisfactory internal consistency (Cronbach's alpha of 0.86) has also been demonstrated among Thai university students (Wongpakaran & Wongpakaran, 2012). Scores range from 10 to 40, with higher scores indicating higher self-esteem.

Emotional intelligence of adolescents was assessed using the standardized measurement, the “Thai Emotional Quotient (Thai EQ) 12-17”. In this instrument, there are 52 items measuring emotional awareness and ability to control their emotion. Possible scores range from 52 to 208.

The higher scores suggest higher emotional intelligence. The measurement was developed by Department of Mental Health, Thai Ministry of Public Health (Thai Department of Mental Health, 2004). The Cronbach's alpha is 0.83.

Predictor variables

Parental bonding perceived by adolescents was assessed using the standardized measurement called "Parental Bonding Instrument (PBI): Thai version". The Parental Bonding Instrument, developed by Parker and colleagues is a measurement of quality of attachment or "bond" between parent and child (Parker, Tupling, & Brown, 1979). The total score ranges from 0-75 and reflects two adolescent perceived parenting styles. The scores of parenting care style (12 items) range from 0-36. The care dimension involves, at one end, affection, emotional warmth, empathy, and closeness, and on the other, emotional coldness, indifference, and neglect (Parker, 1990; Parker et al., 1979). The scores for overprotecting style (13 items) range from 0-39. Internal consistencies of the instrument for parental care was 0.75–0.83 and protection dimensions was 0.82–0.86 (Canetti, Bachar, Galili-Weisstub, De-Nour, & Shalev, 1997; Fendrich, Warner, & Weissman, 1990). The PBI has good validity as a measure both of perceived and actual parenting style (Parker, 1981).

Quality of life of PLH parents was assessed with the Thai Quality of Life Questionnaire adapted from World Health Organization Quality of Life Questionnaire (Thai Department of Mental Health, 1998). The Thai version has 26 items which represent five indicators. Each item is scaled from 1-5, the total score ranges from 26- 130. Higher scores indicate better quality of life. This measurement had a satisfactory internal consistency (Cronbach's alpha = 0.84).

Family functioning was evaluated on PLH parents using the Thai Family Functioning Scale adapted from the McMaster Model of Family Functioning (Epstein, Baldwin, & Bishop. 1983). It reflects interactions within the family during the last three months. Each of 30 items has a score of 0 (never) to 3 (always). Higher total scores suggest better family functioning. The internal consistency is high with a Cronbach's alpha of 0.93.

Other covariates

The demographics included age in years and gender of the adolescents, and age in years and educational level (primary school or less vs. above primary school) of PLH parents. Intervention status of their families and follow-up visit was also included in the regression analysis.

Data analyses

Exploratory data analysis was conducted to facilitate understanding of the dataset. For the purpose of this study, only the data of adolescents who completed all 5-visit follow-ups was analyzed. Each measurement and characteristic of interest at baseline was described in terms of mean (and standard deviation) or number (and percentage) according to types of variables (i.e. continuous or categorical variable respectively). For each measurement scale, Cronbach's alpha coefficient was calculated to verify internal consistency. Differences between adolescent gender of those characteristics were compared using a two-sample t-test (for continuous variables) or Chi-square test (for categorical variables). Pearson correlation coefficients were analyzed to verify bivariate interrelationships among adolescents' age in years, self-esteem, emotional intelligence, parenting care style, and overprotecting parenting style, and parents' quality of life and family functioning.

In this study, a hierarchical structure of the dataset could be delineated since there were five observations (level 1) over two years for each adolescent (level 2). Furthermore, adolescents lived in four communities (level 3) which might differentially affect individuals' life due to unequal degrees of HIV-related contextual issues such as stigma, discrimination, or social acceptability and support in each area. Because of the hierarchical nature of the dataset, multilevel regression models were used to estimate associations between outcomes of interest and their potential predictors and covariates. This type of analysis accounts for correlated outcome data arising from multiple levels of clusters and allows separating nested sources of variation (Snijders & Bosker, 1999; Afifi, May, & Clark, 2012). Models for the outcomes of interest were fitted. Before model fitting, the box plot graph of each outcome was generated to verify the normality assumption. Because both self-esteem and emotional intelligence were not normally distributed, logarithmic transformations of both outcomes were used in the models. Lists of potential variables to be included in the final models were selected based on prior knowledge, statistical criteria, and subjective interest. Follow-up visit was also included in the model as indicator variables to assess potential associations between outcomes and time of follow-up. For selection of the final model, best subset regression with forcing of some important variables was performed. The Akaike Information Criterion (AIC) was used as a guideline. Standardized coefficients and p-values from regression models are reported.

All statistical analyses were conducted with STATA version 10. (StataCorp, College Station, Texas, USA).

Results

Of those 204 families with adolescent children aged 12-17 year, 173 (85%) completed 5-visit follow-ups and were analyzed in this study. There is no significant difference in important baseline characteristics (including age, gender, self-esteem, emotional intelligence, parenting care style, and overprotecting parenting style of the adolescents, and age, and educational level, quality of life, and family functioning of their parents) between those 173 families retained and 31 families loss to follow up. Baseline characteristics of 173 HIV-affected adolescents and their PLH parents are illustrated in table 1. About 57% of the 12 to17-year-old adolescents were female. The average age of the adolescents was 13.8 years (standard deviation [s.d.]=1.5). The self-esteem of the adolescents had mean score of 28.9 (s.d.=2.8). The average emotional intelligence was 152.1 (s.d.=15.1). The mean of parenting care style was 26.7 (s.d.=5.4) while the mean of overprotecting parenting style was 17.6 (s.d.=5.1). For the PLH parents of those adolescents, average age was 39.4 (s.d.=5.7) and 73.4% of them were female. Only 16.8% of these parents had finished an education level above primary school. The mean score of quality of life and family functioning were 91.8 (s.d.=11.1), and 61.3 (s.d.=14.8), respectively. Mean and standard deviation of characteristics of HIV-affected adolescents and their PLH parents over five-visit follow-up are shown in table 2. Potential decreasing trend of overprotection parenting styles perceived by the adolescents and potential increasing trend of family functioning of parents across time were observed.

Table 3 outlines pair-wise correlation among self-esteem, emotional intelligence, parenting care style, and overprotecting parenting style of the adolescents, and quality of life, and family functioning of the parents. Self-esteem was positively correlated with emotional intelligence

($r=0.42$, $p<0.001$) and parenting care style ($r=0.33$, $p<0.001$). Emotional intelligence was positively associated with parenting care style ($r=0.39$, $p<0.001$). There was a negative association between caring and overprotecting parenting styles ($r=-0.35$, $p<0.001$). Overprotecting parenting style was also negatively correlated with emotional intelligence ($r=-0.27$, $p<0.001$), parenting care style ($r=-0.35$, $p<0.001$), and age of the adolescents ($r=-0.18$, $p<0.05$). Lastly, we observed a positive association between parents quality of life and family functioning scale ($r=0.51$, $p<0.001$).

Table 4 demonstrates the multilevel regression model examining associations between self-esteem and potential predictors. After controlling for age and gender of the adolescents, age and educational level of PLH parents, and intervention status, we found a significant positive association between self-esteem and parenting care style (standardized coefficient [b]=0.09, $p=0.026$). Adolescents of the parents with higher family functioning reported significantly higher self-esteem ($b=0.08$, $p=0.040$). A significant positive association between self-esteem and emotional intelligence was also observed ($b=0.32$, $p<0.001$).

Results of the multilevel model for emotional intelligence were presented in table 5. Again, age and gender of the adolescents, age and educational level of PLH parents, and intervention status were controlled in the model. We found that adolescents with higher emotional intelligence also reported significantly higher perception of parenting care style ($b=0.24$, $p<0.001$) whereas there was a significant negative association between emotional intelligence and overprotecting parenting style ($b=-0.07$, $p=0.040$). Finally, a significant positive association between parents' quality of life and adolescents' emotional intelligence was observed ($b=0.07$, $p=0.045$).

Since we did not see any significant association between follow-up time and outcomes of interest, the indicator variables of follow-up visit were excluded from the final multilevel model presented in table 4 and table 5.

Discussion

This study is one of the very early studies exploring complex relationships between self-esteem and emotional intelligence of HIV-affected adolescents and parenting style, family functioning, and quality of life of their PLH parents in Thailand. Very limited data on this topic have been reported to date. In this study, positive associations between HIV-affected adolescents' self-esteem and emotional intelligence were identified in both bivariate correlation and multivariate analysis. Adolescents who evaluated themselves positively tended to reported better ability to monitor and regulate their emotional responses regardless of age or gender. This finding is consistent with other studies which found high emotional intelligence to be associated with high self-esteem (Schutte et al., 2002). A study in Thailand also demonstrated that providing an intervention for promoting self-esteem to general early adolescents can improve their emotional intelligence (Munsawaengsub, Yimklib, Nanthamongkolchai, & Apinanthavech, 2009). Findings from this present study and these related literatures suggest that developing and implementing an intervention aiming to support HIV-affected adolescents' self-esteem can be beneficial to their emotional intelligence.

In this study, the importance of parenting style and family functioning on adolescents' self-esteem has been underscored. Adolescents with higher self-esteem reported higher parenting care style and better family functioning. This result suggests that parenting in a caring manner and

good family functioning may work in concert to predict how highly their adolescent children regard themselves. Other researchers have also suggested that good family relationships and improvement of parent-child communication can prevent poor self-esteem in adolescent child (Jessor & Jessor, 1977; Riesch, Anderson, & Krueger, 2006). In Thailand, there is also an evidence of positive effect of family functioning on self-esteem among Thai adolescents with asthma (Preechawong et al., 2007). Thus, to promote HIV-affected adolescents' self-esteem, public health personnel must consider the role of PLH parents as a vital part of the intervention.

Our study demonstrated that emotional intelligence of adolescents was positively associated with parents' quality of life and parenting care style but negatively associated with overprotecting parenting style. Past literatures has demonstrated that, even with an unclear causal explanation, emotional intelligence is correlated to perceived parental warmth and perceived social support from parents (Ciarrochi, Chan, & Caputi, 2000; Mayer, Caruso, & Salovey, 1999; Lopes, Salovey, & Straus, 2003). We found that adolescents with higher parenting style of caring reported higher emotional intelligence but those who perceived higher overprotection had lower emotional intelligence. This finding underscores the importance of parenting in "appropriate style" on the adolescent children's capability to manage their and others' feelings. As some researcher from the western world have reported, parenting style with high caring but low overprotection is appropriate for children (Parker et al., 1979). Furthermore, we observed that parents of the adolescents with higher emotional intelligence also had a better quality of life. These findings underscore the importance of parents' well-being with adolescent's mental health.

There are some limitations in our study that should be mentioned. Firstly, despite using the data from a two-year follow-up study, causality inference cannot be claimed since all those predictor characteristics of interest were based on observation of non-randomized participants and nearly all of variables were time-varying by nature. However, by using repeated observations on the same person over five visits, instead of analyzing one-visit data cross-sectionally, we can reduce confounding by unmeasured time-constant individual characteristics. Secondly, external validity of the study has to be restricted. Since the samples were drawn from families with PLH parents who disclosed their serostatus to their family members, particularly their adolescent children, these participating families would have been, at least, partially adjusted and probably do not represent all HIV-affected families in the areas. Also, the families from districts in only two provinces may not reflect all HIV-affected families in Thailand.

Findings from our study emphasize the important role of PLH parents (classified into parenting style, family functioning, and quality of life) as important predictors of their adolescent children's self-esteem and emotional intelligence in Thailand. Given that these two mental characteristics of the adolescents are indicators of both present and future well-being, reduced vulnerability and increased quality of life, an intervention which targets the family as a whole which promotes appropriate parenting, and improves PLH parents' quality of life and family functioning needs to be developed.

Table 1. Baseline characteristics of HIV-affected adolescents and their PLH parents (N=173)

Characteristics	Total (N = 173) mean (s.d.*); N (%)	Female (N =98) mean (s.d.); N (%)	Male (N = 75) mean (s.d.); N (%)	p- value
Adolescents				
Age	13.8 (1.5)	14.0 (1.6)	13.5 (1.4)	0.026
Study site - N (%)				0.240
Site 1	63 (36.4)	34 (34.7)	29 (38.7)	
Site 2	37 (21.4)	19 (19.4)	18 (24.0)	
Site 3	38 (22.0)	27 (27.6)	11 (14.7)	
Site 4	35 (20.2)	18 (18.4)	17 (22.7)	
Self-esteem ($\alpha=0.67$)	28.9 (2.8)	28.8 (2.5)	29.0 (3.2)	0.739
Emotional intelligence ($\alpha=0.83$)	152.1 (15.6)	151.7 (15.5)	152.6 (15.9)	0.728
Parenting style				
Care ($\alpha=0.77$)	26.7 (5.4)	27.2 (5.5)	26.1 (5.1)	0.189
Overprotection ($\alpha=0.72$)	17.6 (5.1)	17.9 (5.5)	17.2 (4.4)	0.428
Parents				
Age	39.4 (5.7)	39.1 (5.4)	39.8 (5.9)	0.372
Female gender - N (%)	127 (73.4)	69 (70.4)	58 (77.3)	0.307
Highest education - N (%)				0.373
Primary school or less	145 (83.8)	80 (81.6)	65 (86.7)	
Above primary school	28 (16.2)	18 (18.4)	10 (13.3)	
Quality of life ($\alpha=0.84$)	91.8 (11.1)	91.8 (12.3)	91.8 (9.6)	0.980
Family functioning ($\alpha=0.93$)	61.3 (14.8)	62.4 (14.9)	59.9 (14.6)	0.296
Received intervention - N (%)	100 (57.8)	57 (58.2)	43 (57.3)	0.913

*s.d. = Standard Deviation

Table 2. Mean and standard deviation of characteristics of HIV-affected adolescents and their PLH parents (N=173) over five-visit follow-up (at baseline, 6, 12, 18, and 24 months)

Characteristics	Baseline		6 month		12 month		18 month		24 month		p-value**
	mean	s.d.*	mean	s.d.	mean	s.d.	mean	s.d.	mean	s.d.	
Adolescents											
Self-esteem	28.9	2.8	29.2	2.5	29.2	2.5	29.2	2.4	29.4	2.6	0.521
Emotional intelligence	152.1	15.6	153.5	15.0	153.7	16.3	152.0	15.9	152.2	15.8	0.755
Parenting style											
Care	26.7	5.4	28.4	5.0	28.3	4.7	28.2	4.7	28.0	5.1	0.011
Overprotection	17.6	5.1	15.7	5.2	14.8	5.3	14.4	5.3	14.2	5.1	<0.001
Parents											
Quality of life	91.8	11.1	93.7	10.5	93.4	11.1	93.7	10.4	94.7	11.3	0.213
Family functioning	61.3	14.8	64.9	14.7	65.0	14.2	65.5	14.8	66.6	15.3	0.019

*s.d. = Standard Deviation

**p-value from one-way Analysis of Variance

Table 3. Bivariate correlations among characteristics of interest at baseline

Characteristics	1	2	3	4	5	6	7
1. Self-esteem	1						
2. Emotional intelligence	0.42**	1					
3. Parenting care style	0.33**	0.39**	1				
4. Overprotecting parenting style	-0.07	-0.27**	-0.35**	1			
5. Quality of life	0.05	0.00	0.02	-0.05	1		
6. Family functioning scale	0.08	-0.09	-0.05	0.05	0.51**	1	
7. Adolescent's age	0.03	0.03	-0.04	-0.18*	0.08	0.00	1

*p<0.05

**p<0.001

Table 4. Associations of self-esteem* with parenting style, parent's quality of life and family function among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Standardized coefficient	p-value
Emotional intelligence	0.32	<0.001
Parenting care style	0.09	0.026
Overprotecting parenting style	-0.06	0.152
Quality of life	0.00	0.959
Family functioning	0.08	0.040
Adolescent's gender	0.02	0.667
Adolescent's age	0.00	0.955

*Logarithmic transformed

**Other covariates in the models included age and educational level of PLH parents, and intervention status

Table 5. Associations of emotional intelligence* with parenting style, parent's quality of life and family function among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Standardized coefficient	p-value
Self-esteem	0.19	<0.001
Parenting care style	0.24	<0.001
Overprotecting parenting style	-0.07	0.040
Quality of life	0.07	0.045
Family functioning	-0.03	0.383
Adolescent's gender	-0.03	0.611
Adolescent's age	0.00	0.988

*Logarithmic transformed

**Other covariates in the models included age and educational level of PLH parents, and intervention status

References

- Afifi, A., May, S., & Clark, V.A. (2012). *Practical Multivariate Analysis*. Boca Raton, FL: CRC Press.
- Akerjordet, K., & Severinsson, E. (2004). Emotional intelligence in mental health nurses talking about practice. *International Journal of Mental Health Nursing, 13*(3), 164– 170.
- Blascovic, J., & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes*. San Diego: Academic.
- Canetti, L., Bachar, E., Galili-Weisstub, E., De-Nour, A. K., & Shalev, A. Y. (1997). Parental bonding and mental health in adolescence. *Adolescence, 32*(126), 381-394.
- Ciarrochi, J. V., Chan, A. Y., & Caputi, P. (2000). A critical evaluation of the emotional intelligence concept. *Personality and Individual Difference, 28*(3), 539–561.
- Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: methodological challenges and directions for child development research. *Child Development, 75*(2), 317–333.
- Delugach, R. R., Bracken, B. A, Bracken, M. J., & Schicke, M. C. (1992). Self concept: Multidimensional construct exploration. *Psychology in the Schools, 29*(3), 213-223.
- Dulewicz, V., & Higgs, M. (2000). Emotional intelligence. A review and evaluation study. *Journal of Managerial Psychology, 15*(4), 341–372.
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: their role in predicting quality of social functioning. *Journal of personality and social psychology, 78*(1), 136–157.

- Epstein, N., Baldwin, L., & Bishop, D. (1983). The McMaster Family Assessment Device. *Journal of Marital & Family Therapy*, 9(2), 171–180.
- Fendrich, M., Warner, V., & Weissman, M. M. (1990). Family risk factors, parental depression, and psychopathology in offspring. *Developmental Psychology*, 26(1), 40–50.
- Gecas, V. (1982). The Self-Concept. *Annual Review of Sociology*, 8, 1-33.
- Gurney, P. (1986). Self-esteem in the classroom: Theoretical perspectives and assessment issues. *School Psychology International*, 7(4), 199-209.
- Hudson, D. B., Elek, S. M., & Campbell-Grossman, C. (2000). Depression, self-esteem, loneliness, and social support among adolescent mothers participating in the new parents' project. *Adolescence*, 35(139), 445–466.
- Jessor, R., & Jessor, S. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Lester, P., Stein, J. A., & Bursch B. (2003). Developmental predictors of somatic symptoms in adolescents of parents with HIV: a 12-month follow-up. *Journal of Developmental Behavior and Pediatrics*, 24(4), 242-250.
- Li, L., Lee, S. J., Jiraphongsa, C., Khumtong, S., Iamsirithaworn, S., Thammawijaya, P., Rotheram-Borus, M. J. (2010). Improving Health and Mental Health for People Living with HIV/AIDS: 12-month Assessment of a Behavioral Intervention in Thailand. *American Journal of Public Health*, 100(12), 2418-2425.
- Li, L., Liang, L. J., Lee, S. J., Iamsirithaworn, S., Wan, D., & Rotheram-Borus, M. J. (2012). Efficacy of an Intervention for Families Living with HIV in Thailand: A Randomized Controlled Trial. *AIDS and Behavior*, 16(5), 1276–1285.

- Lipka, R. P., & Brinthaupt, T. M. (1992). *Self-perspectives across the life span*. Albany: State University of New York.
- Longmore, M. A., Manning, W. D., Giordano, P. C., & Rudolph, J. L. (2004). Self-esteem, depressive symptoms, and adolescents' sexual onset. *Social Psychology Quarterly*, *67*(3), 279-295.
- Lopes, P. N., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality, and the perceived quality of social relationships. *Personality and Individual Difference*, *35*(3), 641–658.
- Marsh, H. W. & Gouvemet, P. J. (1989). Multidimensional self concepts and perceptions of control: Construct validation of responses by children. *Journal of Educational Psychology*, *81*(1), 57-69.
- Mayer, J. D., Caruso, D. R., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, *27*(4), 267–98.
- Mayer, J. D., DiPaolo, D. R. & Salovey, O. (1990). Perceiving affective content in ambiguous visual stimuli: a component of emotional intelligence. *Journal of Personality Assessment*, *54*(3-4), 772–781.
- McGarvey, E. L., Clavet, G. J., Mason, W., & Waite, D. (1999). Adolescent inhalant abuse: environments of use. *American Journal of Drug Alcohol Abuse*, *25*(4), 731-741.
- Munsawaengsub, C., Yimklib, S., Nanthamongkolchai, S., Apinanthavech, S. (2009). Effect of promoting self-esteem by participatory learning process on emotional intelligence among early adolescents. *Journal of the Medical Association of Thailand*, *92*(Suppl 7), S13-S20.

- Parker, G. (1981). Parental responses of depressives: an investigation of several explanations. *Journal of Affective Disorders*, 3(2), 131–140.
- Parker, G. (1990). The Parental Bonding Instrument. *Social Psychiatry and Psychiatric Epidemiology*, 25(6), 281-282.
- Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. *British Journal of Medical Psychology*, 52(1), 1-10.
- Preechawong, S., Zauszniewski, J. A., Heinzer, M. M., Musil, C. M., Kercksmar, C., & Aswinanong, R. (2007). Relationships of family functioning, self-esteem, and resourceful coping of Thai adolescents with asthma. *Issues in Mental Health Nursing*, 28(1), 21-36.
- Punpanich, W., Ungchusak, K., & Detels, R. (2004). Thailand's Response to the HIV Epidemic: Yesterday, Today and Tomorrow. *AIDS Education and Prevention*, 16(A), 119-136.
- Riesch, S. K., Anderson, L. S., & Krueger, H. A. (2006). Parent-child communication Process: Preventing children's health-risk behavior. *Journal for Specialists in Pediatric Nursing*, 11(1), 41-56.
- Rosenberg, M. (1965). *Society and The Adolescent Self-Image*. Princeton, NJ: Princeton University Press.
- Rosenberg, M. (1990). The Self-Concept: Social Product and Social Force. In M. Rosenberg, R. H. Turner (Eds.), *Social Psychology: Sociological Perspectives* (pp. 593-624). Brunswick, NJ: Transaction.
- Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global Self-Esteem and Specific Self-Esteem. *American Sociological Review*, 60(1), 141-156.

- Rotheram-Borus, M. J., Lee, M. B., Gwadz, M., & Draimin, B. (2004). An intervention for parents with AIDS and their adolescent children. *American Journal of Public Health, 91*(8), 1294-1302.
- Rotheram-Borus, M. J., Murphy, D. A., Miller, S., & Draimin, B. H. (1997). An Intervention for adolescents whose parents are living with AIDS. *Clinical Child Psychology and Psychiatry, 2*(2), 201-219.
- Schutte, N. S., Malouff, J. M., Bobik, C., Coston, T. D., Greeson, C., Jedlicka, C., Rhodes, E., & Wendorf, G. (2001). Emotional intelligence and interpersonal relations. *The Journal of Social Psychology, 141*(4), 523-536.
- Shirk, S. R. (1988). What is child psychotherapy? In S. R. Shirk (Ed.), *Cognitive development and child psychotherapy* (pp. 1-16). New York: Plenum.
- Snijders, T. A. B., Bosker, R. J. (1999). *Multilevel analysis: an introduction to basic and advanced multilevel modeling*. Thousand Oaks, CA: Sage Publications.
- Thai Department of Mental Health. (1998). *WHOQOL-BREF-THAI, Ministry of Public Health, Thailand*. Retrieved from <http://www.dmh.go.th/test/whoqol/>
- Thai Department of Mental Health. (2004). *Emotional quotient questionnaire from Department of health mental 2004, Thailand*. Retrieved from <http://www.dmh.moph.go.th/ebook/s.asp?code=3>
- Wongpakaran, T., Wongpakaran, N. (2012). A Comparison of Reliability and Construct Validity between the Original and Revised Versions of the Rosenberg Self-Esteem Scale. *Psychiatry Investigation, 9*(1), 54-58.

CHAPTER 3

Friend network and emotional intelligence of Thai HIV-affected adolescents and their stress, substance use, and sexual behavior

Abstract

Background: There are many concerns about mental and behavioral problems of HIV-affected adolescents. This study identifies associations of perceived social support, emotional intelligence and self-esteem of HIV-affected adolescents aged 12-17 years in Thailand with their stress, substance use, and sexual behavior.

Methods: This study used follow-up data from 173 Thai HIV-affected adolescents and their parents at baseline, 6, 12, 18, and 24 months. Exploratory factor analysis was used to develop indicators of adolescents' perceived social support. Bivariate correlation and mixed model analyses were used to examine predictors of adolescents' stress, substance use, and sexual behavior.

Results: While the males reported having a higher number of close friends, greater frequency of calling friends and more social activities than the females, they have less frequency of friend visiting activities. HIV-affected adolescents having higher emotional intelligence reported lower level of stress and less alcohol drinking in the past 30 days. Unsurprisingly, higher frequency of having alcohol drinking was positively associated with larger friend network and more social

activities. Older adolescents reported higher stress and alcohol drinking. No significant predictor of sexual behavior was identified.

Conclusions: Emotional intelligence plays important role on predicting stress and alcohol drinking behavior of HIV-affected adolescents. Size of friend network and social activities is also related to alcohol drinking but not to stress. Intervention to reduce stress and alcohol drinking among the adolescents needs to address how to improve emotional intelligence and constructive friend and social activities.

Keywords: Stress, Substance use, Sexual behavior, Social support, HIV-affected adolescent, Thailand

Introduction

Despite being regarded as one of the most successful countries in the developing world in confronting the HIV/AIDS epidemic, recent findings suggest that Thailand is still facing increasing HIV infection rates in some subpopulations particularly in the north and the northeast (Poolchareon, 2006; Ainsworth, Beyrer, & Soucat, 2003; Bureau of Epidemiology, 2008). A large number of HIV-affected families has been estimated in Thailand (Punpanich, Ungchusak, & Detels, 2004). Without knowing the number of children of people living with HIV/AIDS (PLH), it has been estimated that, in 2005, there were 20,000 children living with HIV/AIDS and 380,000 children orphaned by HIV/AIDS (UNICEF Thailand, 2009). Some studies suggested that more than two-thirds of HIV infected adults are married (Thaikruea et al., 2004) and most couples have 3-4 children (Wachter, Knodel, & VanLandingham, 2002).

Adolescent children in families whose their parents are infected or have died from HIV/AIDS (or HIV-affected adolescents) have a higher risks for mental and behavioral health problems compared with general (non HIV-affected) adolescents (Rotheram-Borus, Murphy, Miller, & Draimin, 1997; Rotheram-Borus, Lee, Gwadz, & Draimin, 2004). It has been found that HIV infected parent's behavior is the primary determinant of children's adjustment to their parents' infection. HIV infected people also tend to have pre-existing and long-standing stressors such as poverty, substance abuse and violence (Centers for Disease control and Prevention, 1995; Zaya & Romano, 1994).

Stress is a term which refers to the consequences of the failure of an individual to respond appropriately to emotional or physical threats, whether actual or imagined (Selye, 1956).

Adolescent children of HIV-infected parents are likely to experience high levels of stress similar to other bereaved children or children of chronically-ill parents (West, Sandler, Pillow, Baca, & Gersten, 1991; Gray, 1987; Harris, 1991; Raphael, Cubis, & Dunne, 1990). Some studies have demonstrated that adolescents of HIV-infected parents tend to have higher risk for substance abuse, partly because their parents engaged in drug use or were less likely to take care of them. In parallel to substance abuse, frequent and early sexual risk behaviors in adolescents are associated with high levels of emotional distress and low parental monitoring (Harvey & Spigner, 1995; DiClemente, Crosby, & Wingood, 2002). It has been demonstrated that female adolescents in HIV-affected families are more likely to be emotionally distressed compared with male adolescents (Rotheram-Borus, Leonard, & Lightfoot, 2002; Rotheram-Borus, Stein, & Lester, 2006; Rotheram-Borus, Lee, Lin, & Lester, 2004)

Regardless of parental HIV status, there is evidence that children of substance users are at high risk for psychopathology and impaired social functioning (Hogan, 1998; Wilens, Biederman, Kiely, Bredin, & Spencer, 1995) and are themselves at risk for substance use (U.S. Department of Health and Human Services, 2003). HIV infection may also be associated with depression (Ciesla & Roberts, 2001), and children of depressed parents are known to be at risk for alcohol and drug abuse in late adolescence and early adulthood (Weissman, Warner, Wickramaratne, Moreau, & Olfson, 1997). Children of HIV-infected parents have high rates of mental health diagnoses, again, placing them at additional risk for substance use (Pilowsky, Zybert, Hsieh, Vlahov, & Susser, 2003). Substance use increases with age and is more common among male HIV-affected adolescents than females (Rotheram-Borus et al., 2006; Rotheram-Borus, Lee, Gwadz, & Draimin, 2001).

Generally, adolescents have identified parents as the most important information source that influenced their sexual decision-making (National Campaign to Prevent Teen Pregnancy, 2001). Parents' personal experience with negative outcomes of risky sex, specifically HIV infection may influence perceptions of their adolescents' sexual behavior when they talk with their adolescents about sex. Parents living with HIV may be intimately familiar with the possible consequences of sexual risk behavior, and this may affect their parenting behavior around the behavior of their children (Newcomer & Udry, 1984; Marhefka, Mellins, Brackis-Cott, Dolezal, & Ehrhardt, 2008). Similar to general adolescents, sexual risk behaviors increase with age and are more common among male adolescents affected by HIV (Rotheram-Borus et al., 2006).

Social support, in social psychology, is defined as "the existence or availability of people on whom we can rely, people who let us know that they care about, value, and love us" (Sarason, Levine, & Basham, 1983). A study in Thailand also suggested that perceived social support is negatively correlated to perceived stigma in HIV-infected women (Ross & Srisaeng, 2005). In adolescents, there is evidence that perceived availability of social support is negatively correlated with trauma-related symptoms in a group of general, nonclinical adolescents (Bal, Crombez, Van Oost, & Debourdeaudhuij, 2003). The role of perceived social support and mental and behavioral outcomes has been identified among adolescents affected by HIV/AIDS. It was demonstrated that higher levels of social support are positively associated with lower levels of depression and fewer conduct problems (Lee, Detels, Rotheram-Borus, & Duan, 2007; Lee, Detels, Rotheram-Borus, Duan, & Lord, 2007). In adolescents, however, understanding about causal relationships between social support and psychological well-being is relatively recent compared with that of

adults, partly because a reliable and convenient measurement of social support for adolescents has not been established yet (Tolsdorf, 1976; Belle, Dill, & Burr, 1991; Colletta, 1987; Eckenrode, 1983).

Although some studies in the US have suggested a positive effect of perceived social support of HIV-affected adolescents and their lower psychological difficulties such as depressions, its effect on risky behaviors such as substance use and sexual behavior, as well as everyday stress, is yet to be identified particularly in culturally-different areas such as Thailand. This study, therefore, examines associations of perceived social support, emotional intelligence and self-esteem of HIV-affected adolescents aged 12-17 years in Thailand with their stress, substance use, and sexual behavior.

Methods

Study design and participants

This study used the data set from a two-year follow-up, randomized, controlled family intervention trial in Thailand which aimed to develop and evaluate a psycho-education intervention for HIV-infected parents and family caregivers in order to benefit their school-age children i.e. aged 6-17 years (Li et al., 2010; Li et al., 2012). These data were collected during 2007- 2010 from four district hospitals (two from the north region and two from the northeast region). Families in the study areas with at least one HIV-infected parent, one adult care-giver, and one school-age child were screened. Only families of PLH who had already disclosed their HIV status to their adult caregivers and adolescent children aged 12-17 years were eligible and invited to participate in the study. After the process of enrollment and informed consent was

obtained from family members, 410 families were recruited from all 4 sites and evaluated at baseline. Among those recruited families, 204 families had adolescent children aged 12-17 year who were the target of this study. Of those 204 families, 173 (85%) completed a 5-visit follow-up, i.e. at 0 (baseline), 6, 12, 18, and 24 months.

Data collection

The data were collected by trained interviewers at each district hospitals using a self-administered questionnaire (Computer Assisted Personal Interview) to assess several characteristics of adolescents aged 12-17 years and their PLH parents. A total of 173 adolescents aged 12-17 years and 173 PLH parents were included in this study. All participants received 300 Baht (\$10) for their participation at each visit. After finishing the interview process, the data was automatically coded by predefined coding variables and checked for data completeness and logical consistency. Then the password-protected database was sent to researchers. This study was reviewed and approved by Institutional Review Boards of the University of California at Los Angeles, and the Thailand Ministry of Public Health Ethical Review Committee for Research in Human Subjects.

Measurements

Outcome variables

Stress of adolescents was assessed by using a standardized measurement called the “Everyday Stress Index (ESI): Thai adolescent version”. In this instrument, there are 26 items asking about common concerns of adolescents with a score ranging from 26 to 104. A higher score is associated with a higher level of everyday stress. The measurement was developed by

Department of mental health, Thai Ministry of Public Health (Thai Department of Mental Health, 2009). The measurement had satisfactory internal consistency (Cronbach's alpha = 0.85). Substance use of adolescents was assessed by using the standardized measurement developed by the US Centers for Disease Control and Prevention. The measurement used in the "Youth Risk Behavior Surveillance System" (YRBSS, 2009) included 9 questions regarding alcohol and other drug use behaviors. The focus of this study was alcohol use of the adolescents

Sexual behavior of adolescents was assessed using a standardized measurement developed by the US Centers for Disease Control and Prevention. The "Youth Risk Behavior Surveillance System" (YRBSS, 2009) included 6 questions regarding sexual behaviors.

Predictor variables

Perceived social support of adolescents was assessed by using questions adapted from the standardized measurement called the Medical Outcomes Study (MOS) Social Support Survey (Sherbourne & Stewart, 1991). The questions were designed to measure size of social support by asking the number of people or activities which may provided social support as reported by the adolescents including number of close friends, number social activities, frequency of times calling to their friends, and times visited friends. To measure perceived social support of the adolescents more comprehensively, this study developed new weighted combination scales from three related measures: 1) size of social support mentioned above, 2) caring parenting style score measured using the "Parental Bonding Instrument (PBI): Thai version" which was adapted from The Parental Bonding Instrument developed by Parker and colleagues (Parker, Tupling, & Brown, 1979), 3) plus additional three questions from the standardized measurement, the "Thai

Emotional Quotient (Thai EQ) 12-17” (Thai Department of Mental Health, 2004) asking about opinion concerning acceptance of receiving support from others and about long-time close friends. The new two scales were developed and were classified into two dimension based on their major component: 1) Parental support and personal trait, and 2) Friend network and social activity. Higher scores of both scales suggest higher level of each supportive dimension.

Self-esteem of adolescents was assessed by using a standardized instrument, the “Rosenberg Self-Esteem Scale” (Rosenberg, 1965). Rosenberg's Self-Esteem Scale is a brief, unidimensional measure of global self-esteem. The Rosenberg Self-Esteem Scale has demonstrated good reliability and validity across a large number of different sample groups including adolescents (Hudson, Elek, & Campbell-Grossman, 2000). The scale has been validated for use with both male and female adolescents, as well as adult and elderly populations. Satisfactory internal consistency (Cronbach’s alpha of 0.86) has also been demonstrated among Thai university students (Wongpakaran & Wongpakaran, 2012). Scores range from 10 to 40, with higher scores indicating higher self-esteem.

Emotional intelligence of adolescents was assessed using the standardized measurement, the “Thai Emotional Quotient (Thai EQ) 12-17”. In this instrument, there are 52 items measuring emotional awareness and ability to control their emotions. Scores range from 52 to 208. Higher scores suggest higher emotional intelligence. The measurement was developed by Department of Mental Health, Thai Ministry of Public Health (Thai Department of Mental Health, 2004). The Cronbach’s alpha is 0.83.

Other covariates

The collected demographics included age in years and gender of the adolescents, and age in years and educational level (primary school or less vs. above primary school) of PLH parents. Intervention status of their families and follow-up visit was also included in the regression analysis.

Data analyses

Exploratory data analysis was conducted to facilitate understanding of the dataset. For the purpose of this study, only the data of adolescents who completed all 5-visits follow-up was analyzed. Each measurement and characteristic of interest at baseline was described in terms of mean (and standard deviation) or number (and percentage) according to types of variables (i.e. continuous or categorical variable respectively). For each measurement scale, Cronbach alpha coefficient was calculated to verify internal consistency. Differences between adolescent gender of those characteristics were compared using the two-sample t-test (for continuous variables) or Chi-square test (for categorical variables). Pearson correlation coefficients were analyzed to verify bivariate interrelationships among adolescents' everyday stress index, parental support, friend network and social activity, emotional intelligence, self-esteem, and age in years of the adolescents.

Exploratory factor analysis was performed to generate two scales of important dimensions regarding perceived social support from the three related measures mentioned above. The principal component analysis method was used for initial extraction and oblique rotation (direct

quartimin procedure) was conducted to identify the best variable combination scales. Standardized factor score assigning was done using a regression procedure.

For this study, a hierarchical structure of the dataset was delineated since there were five observations (level 1) over two years for each adolescent (level 2). Furthermore, adolescents lived in four communities (level 3) which might differentially affect individuals' life due to unequal degrees of HIV-related contextual issues such as stigma, discrimination, or social acceptability and support in each area. Because of the hierarchical nature of the dataset, multilevel regression models were used to estimate associations between outcomes of interest and their potential predictors and covariates. This type of analysis accounts for correlated outcome data arising from multiple levels of clusters and allows separating nested sources of variation (Snijders & Bosker, 1999; Afifi, May, & Clark, 2012). Models for the outcomes of interest were fitted. Before model fitting, the box plot graph of each outcome was generated to verify the normality assumption. Because the everyday stress index score was not normally distributed, logarithmic transformation of this outcome was used in the models. Potential variables to be included in the final models were selected based on prior knowledge, statistical criteria, and subjective interest. Follow-up visit was also included in the model as indicator variables to assess potential associations between outcomes and time of follow-up. For selection of the final model, best subset regression with forcing of some important variables was performed. The Akaike Information Criterion (AIC) was used as a guideline. Standardized coefficients and p-values from regression models are reported for continuous outcomes. Adjusted odds ratios and 95% confidence intervals are reported for dichotomous outcomes.

All statistical analyses were conducted with STATA version 10. (StataCorp, College Station, Texas, USA).

Results

Of those 204 families with adolescent children aged 12-17 year, 173 (85%) completed 5-visit follow-ups and were analyzed in this study. There is no significant difference in important baseline characteristics (including age, gender, everyday stress index, alcohol, smoking and sexual behaviors, self-esteem, and emotional intelligence of the adolescents, and age, and educational level of their parents) between those 173 families retained and 31 families loss to follow up. Baseline characteristics of 173 HIV-affected adolescents and their PLH parents are illustrated in Table 1. About 57% of the 12 to17-year-old adolescents were female. The average age of the adolescents was13.8 years (standard deviation [s.d.]=1.5). The mean of everyday stress index scale was 38.4 (s.d.=10.7). Among 173 adolescents, 55 (31.8%) reported that they had ever drunk alcohol in their life time, 25 (17.8%) reported that they had ever smoked cigarette in their life time. For sexual behavior, 33 (19.1%) adolescents reported that they had ever had sexual intercourse in their life time. Of note, although not statistically significant, female adolescents had higher proportion of engaging in all of the above unfavorable behaviors than male adolescents in this study. Male adolescents reported significantly higher number of close friends, number of social activities away from house, and number of phone calls to their friends than did female adolescents. However, female adolescents reported significantly a higher number of times visiting friends' houses or being visited by friends at their houses than did male adolescents. The self-esteem of the adolescents had a mean of 28.9 (s.d.=2.8). The average emotional intelligence was 152.1 (s.d.=15.1). For the PLH parents of those adolescents, average

age was 39.4 (s.d.=5.7) and 73.4% of them were female. Only 16.8% of these parents had completed an education level above primary school.

Table 2 outlines the standardized factor scores for perceived social support of the adolescents using exploratory factor analysis. Factor 1 had more weights on caring parenting style (item 5) and adolescents' characteristics concerning receiving support (items 6-8) with scoring coefficients ranging from 0.33 to 0.39. Factor 2 had more weights on number of close friends and close relatives (item 1) and numbers of contacts or social activities (items 2-4). Adolescents' scoring coefficients ranged from 0.28 to 0.49. Therefore the factor 1 can be seen as the main combination of parental support and personal trait while the factor 2 is highly focused on friend network and social activity. Table 3 shows mean and standard deviation of some important characteristics of HIV-affected adolescents over five-visit follow-up. No significant difference across time in levels of those characteristics was observed.

Bivariate correlations among stress, factor 1, factor 2, emotional intelligence, self-esteem, and age in years are presented in table 4. Stress was negatively correlated with the factor 1 ($r=-0.25$, $p=0.003$) and emotional intelligence ($r=-0.19$, $p=0.02$) but was positively associated with self-esteem ($r=0.18$, $p=0.02$). We found that adolescent with higher levels of factor 1 reported a higher level of emotional intelligence ($r=0.62$, $p<0.001$) and self-esteem ($r=0.36$, $p<0.001$). A positive association between age and the factor 1 ($r=0.18$, $p=0.02$) was observed. Lastly, there was a positive association between emotional intelligence and self-esteem ($r=0.42$, $p<0.001$).

Table 5 presents the multilevel regression model examining the association between stress of the adolescents and potential predictors. After controlling for age and gender of the adolescents, age and educational level of PLH parents, and intervention status, we found a significant negative association between stress and emotional intelligence (standardized coefficient $[b]=-0.19$, $p<0.001$). Adolescents higher age were reported significantly higher stress ($b=0.12$, $p=0.01$).

The multilevel model for alcohol drinking was demonstrated in table 6. When controlling for age and gender of the adolescents, age and educational level of PLH parents, and intervention status in the model, we found that adolescents with higher emotional intelligence were less likely to report drinking alcohol in past 30 days (adjusted OR = 0.96, 95%CI = 0.93-0.98). But level of friend network and social activity was positively associated with alcohol drinking in past 30 days (adjusted OR = 1.88, 95%CI = 1.33-2.66). Finally, significant positive association between alcohol drinking and adolescents' age was observed (adjusted OR = 1.83, 95%CI = 1.45-2.31).

Based on regression analyses using either baseline data or data from across the two-year five-visit follow-ups, significant associations with predictors of smoking and sexual intercourse in this study were not found.

Since we did not see any significant association between follow-up time and outcomes of interest, the indicator variables of follow-up visit were excluded from the final multilevel model presented in table 5 and table 6.

Discussion

To our knowledge, no empirical data about stress, substance use and sexual behavior of Thai HIV-affected adolescents has been documented to date. This present study is one of the first studies that explored those mental and behavioral factors and their associations with emotional intelligence, self-esteem, and perceived social support of HIV-affected adolescents in Thailand. We found that emotional intelligence predicts adolescent's stress and alcohol consumption behavior. From our study, HIV-affected adolescents having higher emotional intelligence reported a lower level of stress and less alcohol drinking. These findings are consistent with the theory that emotional intelligence influences the ability of individuals to monitor and manage their own feeling and cope when confronting with stressors (Goleman, 1988; van Heck & den Oudsten, 2008). Some researchers demonstrated that emotional intelligence was negatively associated with substance uses, including alcohol and tobacco, among adolescent in the US. They also proposed that adolescents with high emotional intelligence might have better mental ability to read other persons' mental or emotional status and therefore can avoid unwanted pressure from their friends (Trinidad & Johnson, 2002).

Our study also identified some differences in sizes of friend network and social activities between female and male adolescents. While male adolescents reported having higher number of close friends, times speaking with friends on the telephone and number of social activities outside their houses when compared with females, they had less frequency of friend visiting activities (i.e. visiting friends' houses or being visited by their friends). This finding indicates the different nature of social activities between Thai female and male adolescents and may have practical implications if public health officers wish to design supportive interventions for HIV-

affected adolescents through peer-assisted strategies. Unsurprisingly, based on multilevel model analysis, higher frequency of alcohol drinking was positively associated with increasing score of friend network and number of social activities. This finding is consistent with the past study in Thailand which observed that alcohol consumption behavior of university students was significantly associated with peer drinking, relatives drinking, accessibility of alcohol in the surrounding community, and other predictors (Vantamay, 2009).

As with other research, several limitations in this present study should be noted. Firstly, although the existing literature reports that higher levels of social support provided are positively associated with fewer conduct problems and also underscored the complex relationships between social support and psychological well-being of adolescents, we did not find any positive association between higher perceive social support scores and lower levels of stress, substance use, or sexual behaviors. This unexpected finding may be partly explained by a lower reliability of measurement of social support for the adolescents when compared with that of adults (Belle et al., 1991; Colletta, 1987). The social support measures used in this present study might be able to capture only some parts of the complex, multi-dimension nature of true adolescent social support. Secondly, generalizability is limited. The samples were drawn from PLH families who had disclosed their status and might not represent all HIV-affected families in the areas. Also, the families from districts in two provinces may not reflect all HIV-affected families in Thailand. Lastly, because of non-randomized nature of observational data, complex relationship of characteristics of interest, and covariate-outcome across follow-up time, a causal relationship cannot be established. However, by using repeated observations on the same person over five

visits, instead of analyzing one-visit data cross-sectionally, we can reduce confounding by unmeasured time-constant individual characteristics.

In sum, this study underscored the role of emotional intelligence as an important predictor of Thai HIV-affected adolescent stress and alcohol drinking. Furthermore, size of friend network and social activities is also related to alcohol drinking. As stress and alcohol drinking are not uncommon challenges in adolescents particularly ones living in HIV-affected families, intervention aiming to improve emotional intelligence and constructive friend and social activities could be beneficial to HIV-affected adolescents, although complex associations have yet to be clarified. Finally, to gain a better understanding of the impact of social support on adolescents' psycho-behavioral attributes, more sensitive and better multi-dimensional measures are required.

Table 1. Baseline characteristics of HIV -affected adolescents and their PLH parents (N=173)

Characteristics	Total (N = 173) mean (s.d.); N (%)	Female (N =98) mean (s.d.); N (%)	Male (N = 75) mean (s.d.); N (%)	p- value
Adolescents				
Age	13.8 (1.5)	14.0 (1.6)	13.5 (1.4)	0.026
Study site - N (%)				0.240
Site 1	63 (36.4)	34 (34.7)	29 (38.7)	
Site 2	37 (21.4)	19 (19.4)	18 (24.0)	
Site 3	38 (22.0)	27 (27.6)	11 (14.7)	
Site 4	35 (20.2)	18 (18.4)	17 (22.7)	
Stress ($\alpha=0.85$)	38.7 (10.7)	38.8 (9.6)	38.7 (11.9)	0.942
Ever drunk alcohol - N (%)	55 (31.8)	36 (36.7)	19 (25.3)	0.111
Ever smoked cigarette - N (%)	27 (15.8)	16 (16.7)	11 (14.7)	0.722
Ever had sexual intercourse - N (%)	33 (19.1)	20 (20.4)	13 (17.3)	0.610
Number of close friends and close relatives	3.7 (2.8)	3.3 (2.5)	4.3 (3.0)	0.018
Number of social activities from your home past week	2.9 (2.6)	2.4 (1.9)	3.5 (3.2)	0.008
Number of of times you spoke with friends on the phone past week	2.8 (2.4)	2.4 (2.0)	3.2 (2.8)	0.046

*s.d. = Standard Deviation

Table 1 (cont). Baseline characteristics of HIV-affected adolescents and their PLH parents (N=173)

Characteristics	Total (N = 173) mean (s.d.); N (%)	Female (N =98) mean (s.d.); N (%)	Male (N = 75) mean (s.d.); N (%)	p- value
Adolescents				
Number of times visiting friends' houses/your friends visited your house	3.3 (4.1)	4.2 (4.3)	2.3 (3.4)	0.004
Having at least one best friend - N (%)	163 (94.2)	92 (93.9)	71 (94.7)	0.826
Self-esteem ($\alpha=0.67$)	28.9 (2.8)	28.8 (2.5)	29.0 (3.2)	0.739
Emotional intelligence ($\alpha=0.83$)	152.1 (15.6)	151.7 (15.5)	152.6 (15.9)	0.728
Parents				
Age	39.4 (5.7)	39.1 (5.4)	39.8 (5.9)	0.372
Female gender - N (%)	127 (73.4)	69 (70.4)	58 (77.3)	0.307
Highest education - N (%)				0.373
Primary school or less	145 (83.8)	80 (81.6)	65 (86.7)	
Above primary school	28 (16.2)	18 (18.4)	10 (13.3)	
Received intervention - N (%)	100 (57.8)	57 (58.2)	43 (57.3)	0.913

*s.d. = Standard Deviation

Table 2. Scoring coefficients for social support and related variables from exploratory factor analysis

Item	Description	Factor 1	Factor 2
1.	No. close friends and close relatives	-0.004	0.284
2.	No. of social activities from you home past week	-0.032	0.492
3.	No. of times you spoke with friends on the phone past week	-0.044	0.448
4.	No. of times you visited friends' homes/your friends visited your home	0.135	0.232
5.	Caring parenting style	0.334	-0.091
6.	Do you think it is worth in sympathy that others display towards me	0.368	-0.071
7.	Do you think you can easily make acquaintances with others	0.389	0.0004
8.	Do you think you have many close friends that you have known for a long time	0.379	0.03642
	variance explained	1.79	1.70
	percentage	22.3	21.3

Table 3. Mean and standard deviation of characteristics of HIV-affected adolescents (N=173) over five-visit follow-up (at baseline, 6, 12, 18, and 24 months)

Characteristics	Baseline		6 month		12 month		18 month		24 month		p-value**
	mean	s.d.*	mean	s.d.	mean	s.d.	mean	s.d.	mean	s.d.	
Stress	38.7	10.7	36.8	9.1	36.8	9.2	37.8	13.1	38.6	14.5	0.333
Factor 1: Parental support and personal trait	-0.1	1.0	0.0	1.0	0.1	1.0	0.0	1.0	0.0	0.9	0.846
Factor 2: Friend network and social activity	0.0	1.0	0.0	1.1	0.0	1.1	0.0	1.0	0.0	0.9	0.941
Self-esteem	28.9	2.8	29.2	2.5	29.2	2.5	29.2	2.4	29.4	2.6	0.521
Emotional intelligence	152.1	15.6	153.5	15.0	153.7	16.3	152.0	15.9	152.2	15.8	0.755

*s.d. = Standard Deviation

**p-value from one-way Analysis of Variance

Table 4. Bivariate correlations among characteristics of interest at baseline

Characteristics	1	2	3	4	5	6
1. Stress	1					
2. Factor 1: Parental support and personal trait	-0.25*	1				
3. Factor 2: Friend network and social activity	0.03	-0.05	1			
4. Emotional intelligence	-0.19*	0.62**	-0.05	1		
5. Self-esteem	0.18*	0.36**	-0.10	0.42**	1	
6. Adolescent's age	0.04	0.18*	0.07	0.03	0.03	1

*p<0.05

**p<0.001

Table 5. Associations of everyday stress* with perceived social support, emotional intelligence, and self-esteem among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Standardized coefficient	p-value
Factor 1: Parental support and personal trait	0.02	0.699
Factor 2: Friend network and social activity	0.01	0.654
Emotional intelligence	-0.19	<0.001
Self-esteem	-0.05	0.132
Adolescent's gender	0.00	0.984
Adolescent's age	0.12	0.013

*Logarithmic transformed

**Other covariates in the models included age and educational level of PLH parents, and intervention status

Table 6. Associations of alcohol drinking* with perceived social support, emotional intelligence, and self-esteem among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Odds ratio	95% Confidence interval	
		Lower	Upper
Factor 1: Parental support and personal trait	1.32	0.88	1.97
Factor 2: Friend network and social activity	1.88	1.33	2.66
Emotional intelligence	0.96	0.93	0.98
Self-esteem	1.06	0.93	1.20
Adolescent's gender	1.47	0.72	3.04
Adolescent's age	1.83	1.45	2.31

*Having at least one drink of alcohol in past 30 days

**Other covariates in the models included age and educational level of PLH parents, and intervention status

References

- Afifi, A., May, S., & Clark, V.A. (2012). *Practical Multivariate Analysis*. Boca Raton, FL: CRC Press.
- Ainsworth, M., Beyrer, C., & Soucat A. (2003). AIDS and public policy: the lessons and challenges of 'success' in Thailand. *Health Policy*, *64*(1), 13-37.
- Bal, S., Crombez, G., Van Oost, P., & Debourdeaudhuij, I. (2003). The role of social support in well-being and coping with self-reported stressful events in adolescents. *Child Abuse and Neglect*, *27*(12), 1377–1395.
- Belle, D. E., Dill, D., & Burr, R. (1991). Children's network orientations. *Journal of Community Psychology*, *19*(4), 362–372.
- Bureau of Epidemiology. (2008). *The Situation of HIV Infection of Thailand 2007*. Nonthaburi, Thailand: Bureau of Epidemiology, Thai Ministry of Public Health.
- Centers for Disease Control and Prevention. (1995). *HIV/AIDS Surveillance Report: US HIV and AIDS case reported through June 1995*. Atlanta, GA: Centers for Disease control and Prevention.
- Ciesla, J. A., & Roberts, J. E. (2001). Meta-analysis of the relationship between HIV infection and the risk for depressive disorders. *American Journal of Psychiatry*, *158*(5), 725–730.
- Colletta, N. D. (1987). Correlates of young mothers' network orientations. *Journal Community Psychology*, *15*(2), 149–160.
- DiClemente, R. J., Crosby, R. A., & Wingood, G. M. (2002). Enhancing STD/HIV prevention among adolescents: the importance of parenteral monitoring. *Minerva Pediatrica*, *54*(3), 171–177.

- Eckenrode, S. (1983). The mobilization of social supports: Some individual constraints. *American Journal of Community Psychology, 11*(5), 509–520.
- Goleman, G. (1998). *Working with Emotional Intelligence*. USA: Bantam Books.
- Gray, R. E. (1987). Adolescent response to death of a parent. *Journal of Youth and Adolescence, 16*(6), 511–524.
- Harris, E. S. (1991). Adolescent bereavement following the death of a parent: an exploratory study. *Child Psychiatry and Human Development, 21*(4), 267–281.
- Harvey, S. M., & Spigner, C. (1995). Factors associated with sexual behavior among adolescents: a multivariate analysis. *Adolescence, 30*(118), 253–264.
- Hogan, D. M. (1998). Annotation: The psychological development and welfare of children of opiate and cocaine users: review and research needs. *Journal of Child Psychology and Psychiatry, 39*(5), 609–620.
- Hudson, D. B., Elek, S. M., & Campbell-Grossman, C. (2000). Depression, self-esteem, loneliness, and social support among adolescent mothers participating in the new parents' project. *Adolescence, 35*(139), 445–466.
- Lee, S., Detels, R., Rotheram-Borus, N. J., & Duan, N. (2007). The effect of social support on mental and behavioral outcomes among adolescents with parents with HIV/ AIDS. *American Journal of Public Health, 97*(10), 1820–1826.
- Lee, S., Detels, R., Rotheram-Borus, N. J., Duan, N., & Lord, L. (2007). Depression and social support among HIV-affected adolescents. *AIDS Patient Care and STDs, 21*(6), 409–417.
- Li, L., Lee, S. J., Jiraphongsa, C., Khumtong, S., Iamsirithaworn, S., Thammawijaya, P., Rotheram-Borus, M. J. (2010). Improving Health and Mental Health for People Living

- with HIV/AIDS: 12-month Assessment of a Behavioral Intervention in Thailand.
American Journal of Public Health, 100(12), 2418-2425.
- Li, L., Liang, L. J., Lee, S. J., Iamsirithaworn, S., Wan, D., & Rotheram-Borus, M. J. (2012).
Efficacy of an Intervention for Families Living with HIV in Thailand: A Randomized
Controlled Trial. *AIDS and Behavior, 16*(5), 1276–1285.
- Marhefka, S. L., Mellins, C. A., Brackis-Cott, E., Dolezal, C., & Ehrhardt, A. A. (2008).
Perceptions of Adolescents' Sexual Behavior Among Mothers Living With and Without
HIV: Does Dyadic Sex Communication Matter? *Archives of Sexual Behavior, 38*(5), 788-
801.
- National Campaign to Prevent Teen Pregnancy. (2001). *With one voice: American's adults and
teens sound off about teen pregnancy*. Washington, DC: National Campaign to Prevent
Teen Pregnancy.
- Newcomer, S. E., & Udry, J. R. (1984). Mother's influence on the sexual behavior of their
teenage children. *Journal of Marriage and the Family, 46*(2), 477–485.
- Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. *British Journal
of Medical Psychology, 52*(1), 1-10.
- Pilowsky, D. J., Zybert, P. A., Hsieh, P. W., Vlahov, D., & Susser, E. (2003). Children of HIV-
positive drug-using parents. *Journal of the American Academy of Child and Adolescent
Psychiatry, 42*(8), 950-956.
- Poolchareon, W. (2006). Thailand. In T. Yamamoto, & S. Itoh (Eds.), *Fighting a Rising Tide:
The Response to AIDS in East Asia* (pp.247-265). Tokyo, Japan; Japan Center for
International Exchange.

- Punpanich, W., Ungchusak, K., & Detels, R. (2004). Thailand's Response to the HIV Epidemic: Yesterday, Today and Tomorrow. *AIDS Education and Prevention, 16*(A), 119-136.
- Raphael, B., Cubis, J., & Dunne, M. (1990). The impact of parental loss on adolescents' psychosocial characteristics. *Adolescence, 25*(99), 689–700.
- Rosenberg, M. (1965). *Society and The Adolescent Self-Image*. Princeton, NJ: Princeton University Press.
- Ross, R., & Srisaeng, P. (2005). *Depression and its correlates among HIV-positive pregnant women in Thailand*. A paper presented on November 12, 2006 at the Sigma Theta Tau International: 38th Biennial Convention, Indianapolis, Indiana.
- Rotheram-Borus, M. J., Lee, M. B., Gwadz, M., & Draimin, B. (2001). An intervention for parents with AIDS and their adolescent children. *American Journal of Public Health, 91*, 1294 –1302.
- Rotheram-Borus, M. J., Lee, M. B., Gwadz, M., & Draimin, B. (2004). An intervention for parents with AIDS and their adolescent children. *American Journal of Public Health, 91*(8), 1294-1302.
- Rotheram-Borus, M. J., Lee, M. B., Lin, Y. Y., & Lester, P. (2004). Six year intervention outcomes for adolescent children of parents with HIV. *Archives of Pediatrics, 158*(8), 742–748.
- Rotheram-Borus, M. J., Leonard, N. R., & Lightfoot, M. (2002). Picking up the pieces: caregivers of adolescents bereaved by parental AIDS. *Journal of Clinical Child Psychology, 7*(1), 115–124.

- Rotheram-Borus, M. J., Murphy, D. A., Miller, S., & Draimin, B. H. (1997). An Intervention for adolescents whose parents are living with AIDS. *Clinical Child Psychology and Psychiatry*, 2(2), 201-219.
- Rotheram-Borus, M. J., Stein, J. A., & Lester, P. (2006). Adolescent adjustment over six years in HIV-affected families. *Journal of Adolescent Health*, 39(2), 174–182.
- Sarason, I. G., Levine, H. M., & Basham, R. B., (1983) Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology*, 44(1), 127–139.
- Selye, H. (1956). *The Stress of Life*, New York: McGraw-Hill.
- Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science and Medicine*, 32(6), 705-714.
- Snijders, T. A. B., Bosker, R. J. (1999). *Multilevel analysis: an introduction to basic and advanced multilevel modeling*. Thousand Oaks, CA: Sage Publications.
- Thai Department of Mental Health. (2004). *Emotional quotient questionnaire from Department of health mental 2004, Thailand*. Retrieved from <http://www.dmh.moph.go.th/ebook/s.asp?code=3>
- Thai Department of Mental Health. (2009). *Mental Health Promotion for Middle and High School Students*. Retrieved from <http://www.dmh.moph.go.th/ebook/s.asp?code=41>
- Thaikruea, L., Thongsawat, S., Manekarn, N., Netski, D., Thomas, D. L., Nelson, K. E. (2004). Risk factors for hepatitis C virus infection among blood donors in northern Thailand. *Transfusion*, 44(10), 1433-1440.
- Tolsdorf, C. C. (1976). Social networks, support and coping: An exploratory study. *Family Process*, 15(4), 407–417.

- Trinidad, D. R., Johnson, C. A. (2002). The association between emotional intelligence and early adolescent tobacco and alcohol use. *Personality and Individual Differences, 32*(1), 95-105.
- UNICEF Thailand. (2009). HIV/AIDS: Overview and Challenges. Retrieved from: http://www.unicef.org/thailand/hiv_aids.html
- U.S. Department of Health and Human Services. (2003). *Analyses of Substance Abuse and Treatment Need Issues, Part I: Children at Risk Because of Parental Substance Abuse*. Retrieved from <http://www.oas.samhsa.gov/Treatan/toc.htm>
- van Heck, G. L., & den Oudsten, B. L. (2008). Emotional intelligence: relationship to stress, health, and well-being. In A. Vingerhoets, I. Nyklicek, & J. Denollet (Eds.), *Emotion regulation. Conceptual and clinical issues* (pp.97-121). New York, NY: Springer.
- Vantamay S. (2009). Alcohol consumption among university students: applying a social ecological approach for multi-level preventions. *The Southeast Asian Journal of Tropical Medicine and Public Health, 40*(2), 354-369.
- Wachter, K., Knodel, J., & VanLandingham, M. (2002). AIDS and the Elderly of Thailand: Projecting Familial Impacts. *Demography, 39*(1), 25-41.
- Weissman, M. M., Warner, V., Wickramaratne, P., Moreau, D., & Olfson, M. (1997). Offspring of depressed parents. 10 years later. *Archives of General Psychiatry, 54*(10), 932-940.
- West, S. G., Sandler, I., Pillow, D. R., Baca, L. & Gersten, J. C. (1991). The use of structural equation modeling in generative research: Towards the design of a preventive intervention of bereaved children. *American Journal of Community Psychology, 19*(4), 459-480.

- Wilens, T. E., Biederman, J., Kiely, K., Bredin, E., & Spencer, T. J. (1995). Pilot study of behavioral and emotional disturbances in the high-risk children of parents with opioid dependence. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34(6), 779–785.
- Wongpakaran, T., Wongpakaran, N. (2012). A Comparison of Reliability and Construct Validity between the Original and Revised Versions of the Rosenberg Self-Esteem Scale. *Psychiatry Investigation*, 9(1), 54-58.
- YRBSS, Centers for Disease Control and Prevention. (2009). *YRBSS 009 Questionnaires and Item Rationale*. Retrieved from http://www.cdc.gov/HealthyYouth/yrbs/questionnaire_rationale.htm
- Zaya, L. H. & Romano, K. (1994). Adolescents and Parental Death from AIDS. In B. O. Dane & C. C. Levine (Eds.), *AIDS and New Orphans* (pp. 59-76). Westport, CT: Auburn House.

CHAPTER 4

Emotional intelligence, parenting styles, and functioning at school and experiences in family of HIV-affected adolescents in Thailand

Abstract

Background: Adolescent children of HIV-infected parents tend to have several challenges for functioning at school and in their families. This study explored associations of parenting style, and emotional intelligence with functioning at school and their experiences in family of HIV-affected adolescents aged 12-17 years in Thailand.

Methods: This study used 5-visit follow-up data from 173 Thai HIV-affected adolescents and their parents at baseline, 6, 12, 18, and 24 months. Bivariate correlation and mixed model analyses were used to examine predictors of functioning at school and experiences in the family of the adolescents.

Results: Adolescents with better school functioning had a significantly higher score for emotional intelligence and reported more parenting care style. Adolescents' participation in their family activities (i.e. housework or leisure) was positively associated with emotional intelligence and overprotecting parenting style. Adolescents with higher negative family experience reported less parenting care style and lower emotional intelligence.

Conclusions: Intervention aiming to promote appropriate parenting and increase emotional intelligence could be beneficial to adolescent's quality of life both at school and within their families.

Keywords School, Family, Emotional intelligence, Parenting, HIV-affected adolescent, Thailand

Introduction

Adolescents whose parents are living with HIV/AIDS (PLH) tend to have several psychological and behavioral challenges (Rotheram-Borus, Murphy, Miller, & Draimin, 1997; Rotheram-Borus, Lee, Gwadz, & Draimin, 2004). This is particularly true in a country like Thailand where families are involved in almost all activities of family members (Knodel, Chayovan, Graiurapong, & Suraratdecha, 2000; VanLandingham, Knodel, Im-em, & Saengtienchai, 2000). When parents get HIV infection, the disease also affects their family members including their adolescent children (HIV-affected adolescents).

Living in family is one of important challenges of the adolescent children of HIV-infected parents. In general and cross-culturally, parents' adjustment behavior impacts their children's behaviors regardless of symptoms or illness (Romer, Barkman, & Schulte-Markwood, 2002; Smith, Hill, & Mullis, 1998). PLH parents tend to have pre-existing and long-standing stressors such as poverty, substance abuse and violence (Centers for Disease control and Prevention, 1995; Zaya & Romano, 1994). They tend to display helplessness that can lead to disruptions in their relationships with their children (Cate, Graham, Boeglin, & Tielker, 1990). HIV-affected adolescents tend to be confronted with high levels of stress in their families as a result of many factors including HIV-related stigma, parentification (e.g. taking care of younger siblings and handling household chores), low economic status, and parental unemployment due to illness (Lee, Lester, & Rotheram-Borus, 2002; Stein, Riedel, & Rotheram-Borus, 1999).

Functioning at school is another challenge for HIV-affected adolescents. Given that adolescents in HIV-affected families are still stigmatized in several communities, they often have to cope

with ridicule from their friends, further increasing their sense of alienation (Frierson, Lippman, & Johnson, 1987). It has been demonstrated that failure in school is also connected with social and emotional conflict in their relationships with parents (Hurrelmann, Engel, Holler, & Nordlohne, 1988). Given that failure in school performance could lead to a lower likelihood of occupational and social success in future life, appropriate adolescents' adjustment for functioning at school is critical.

Parenting style is also another potential predictor of adolescents' experiences at school and, particularly, within the family. An association between parenting style and adolescent mood problems has been demonstrated (Piko & Balazs, 2012). Also an overprotecting parenting style is found to be positively correlated with stress in adolescent children (Ridhitraitatana, 2001). Both associations can affect adolescents' attitude towards both their school and family life. Furthermore, some researchers observed good parenting to be associated with high levels of academic performance and study skills (Abar, Carter, & Winsler, 2009). These findings suggested that adolescents' perception about the "climate" in their families and at schools might be related to how their parents interact with them.

Emotional intelligence reflects the capacity of an individual for understanding and managing his/her own emotion and is reflected in social skills and is regarded as one supporting factor for a fulfilled life (Dulewicz & Higgs, 2000; Akerjordet & Severinsson, 2004). It has been demonstrated that emotional intelligence consistently predicts positive social and academic outcomes in children (Eisenberg, Fabes, Guthrie, & Reiser, 2000; Schultz, Izard, & Bear, 2004;

Izard et al., 2001). Therefore emotional intelligence could play an important role in HIV-affected adolescents' school and family life.

Self-esteem refers to an individual's overall positive evaluation of their self (Gecas, 1982; Rosenberg, 1990; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Higher levels of self-esteem are associated with better social and interpersonal relations, as well as higher levels of coping and academic achievement (Delugach, Bracken, Bracken, & Schicke, 1992; Gurney, 1986; Shirk, 1988). As with emotional intelligence, self-esteem may be a predictor of successful functioning of the adolescents.

As described above, functioning at school and in family of the adolescents is not only challenging but also crucial for their current and long-term quality of life. While there are many published papers about difficulties of the adolescents in their school and family living, to our knowledge, they have been rarely conducted in the developing countries, such as Thailand. The objective of this study was therefore to identify associations of parenting style, and emotional intelligence with family experiences and functioning at school of HIV-affected adolescents aged 12-17 years in Thailand.

Methods

Study design and participants

This study used the data set from a two-year follow-up randomized controlled family intervention trial in Thailand which aimed to develop and evaluate a psycho-education intervention for HIV-infected parents and family caregivers in order to benefit their school-age

children i.e. aged 6-17 years (Li et al., 2010; Li et al., 2012). These data were collected during 2007- 2010 from four district hospitals (two from the north region and two from the northeast region). Families in the study areas with at least one HIV-infected parent, one adult care-giver, and one school-age child were screened. Only families of PLH who had already disclosed their HIV status to their adult caregivers and adolescent children aged 12-17 years were eligible and invited to participate in the study. After the process of enrollment and informed consent was obtained from family members, 410 families were recruited from all 4 sites and evaluated at baseline. Among those recruited families, 204 families had adolescent children aged 12-17 year who were the target of this study. Of those 204 families, 173 (85%) completed a 5-visit follow-up, i.e. at 0 (baseline), 6, 12, 18, and 24 months.

Data collection

The data were collected by trained interviewers at each district hospital using a self-administered questionnaire (Computer Assisted Personal Interview) to assess several characteristics of adolescents aged 12-17 years and their PLH parents. A total of 173 adolescents aged 12-17 years and 173 PLH parents were included in this study. All participants received 300 Baht (\$10) for their participation at each visit. After the interview process was completed, the data was automatically coded by predefined coding variables and checked for data completeness and logical consistency. Then the password-protected database was sent to researchers. This study was reviewed and approved by Institutional Review Boards of the University of California at Los Angeles, and the Thailand Ministry of Public Health Ethical Review Committee for Research in Human Subjects.

Measurements

Outcome variables

Functioning at school of the adolescents consists of measures related to school history and their attitude and was developed for the purpose of this study. It can be divided into three parts: 1) history of having repeated a grade, 2) history of having skipped a class without a good reason, and 3) school functioning score which is the combination of two questions related to their evaluation of themselves and their schools, two questions regarding their relationship with classmates and teachers, and nine questions about to their school-related stress extracted from the standardized measurement called “Everyday Stress Index (ESI): Thai adolescent version” which was developed by Department of mental health, Thai Ministry of Public Health (Thai Department of Mental Health, 2009). The school functioning scores ranged from 13-56, higher scores of the adolescents suggest better functioning at school. Internal consistency of the school functioning score was satisfactory (Cronbach’s alpha = 0.88).

Experience in families of the adolescents was assessed by using the rating-scale question adapted from the work by Weisner (1984). The experiences in families measures were divided into two parts: 1) family participation in activities consist of eight questions related to several kinds of housework and leisure in which the adolescents participated during the past 3 months, and 2) negative family experience consists of six questions asking about punishments, arguments with or between their parents, and demands required by their families during the past 3 months and seven questions about to their family-related stress extracted from the standardized measurement called the “Everyday Stress Index (ESI): Thai adolescent version” which was developed by Department of mental health, Thai Ministry of Public Health (Thai Department of Mental

Health, 2009). The family participation scores ranged from 0-24, higher scores indicate a higher level of participation. The negative family experience scores ranged from 7-46, higher scores of the adolescents reflect more unsatisfactory experience in their families. Internal consistency of the family participation scores and the negative family experience scores were acceptable (Cronbach's alpha = 0.69 and 0.78 respectively).

Predictor variables

Parental bonding perceived by adolescents was assessed using the standardized measurement called "Parental Bonding Instrument (PBI): Thai version". The Parental Bonding Instrument, developed by Parker and colleagues is a measurement of quality of attachment or "bond" between parent and child (Parker, Tupling, & Brown, 1979). The total score ranges from 0-75 and reflects two adolescent perceived parenting styles. The scores of parenting care style (12 items) range from 0-36. The care dimension involves, at one end, affection, emotional warmth, empathy, and closeness, and on the other, emotional coldness, indifference, and neglect (Parker, 1990; Parker et al., 1979). The scores for overprotecting style (13 items) range from 0-39. Internal consistencies of the instrument for parental care was 0.75–0.83 and protection dimensions was 0.82–0.86 (Canetti, Bachar, Galili-Weisstub, De-Nour, & Shalev, 1997; Fendrich, Warner, & Weissman, 1990). The PBI has good validity as a measure both of perceived and actual parenting style (Parker, 1981).

Emotional intelligence of adolescents was assessed using a standardized measurement, the "Thai Emotional Quotient (Thai EQ) 12-17". In this measurement, there are 52 items measuring emotional awareness and ability to control their emotion. Scores ranged from 52 to 208. A higher

score suggests higher emotional intelligence. The measurement was developed by the Department of Mental Health, Thai Ministry of Public Health (Thai Department of Mental Health, 2004). The Cronbach alpha was 0.83.

Self-esteem of adolescents was assessed by using a standardized measurement, the “Rosenberg Self-Esteem Scale” (Rosenberg, 1965). Rosenberg's Self-Esteem Scale is a brief, unidimensional measure of global self-esteem. The Rosenberg Self-Esteem Scale has demonstrated good reliability and validity across a large number of different sample groups including adolescent (Hudson, Elek, & Campbell-Grossman, 2000). The scale has been validated for use with both male and female adolescents, adult and elderly populations. Satisfactory internal consistency (Cronbach’s alpha of 0.86) has also been demonstrated among Thai university students (Wongpakaran & Wongpakaran, 2012). Scores range from 10 to 40, with higher scores indicating higher self-esteem.

Other covariates

The demographics included age in years and gender of the adolescents, as well as age in years and educational level (primary school or less vs. above primary school) of PLH parents. Intervention status of their families and follow-up visit was also included in the regression analysis.

Data analyses

Exploratory data analysis was conducted to facilitate understanding of the dataset. For the purpose of this study, only the data on adolescents who completed all 5-visit follow-ups was

analyzed. Each measurement and characteristic of interest at baseline was described in terms of mean (and standard deviation) or number (and percentage) according to types of variables (i.e. continuous or categorical variable respectively). For each measurement scale, Cronbach alpha coefficients were calculate to verify their internal consistency. Differences between adolescent gender of those characteristics were compared using the two-sample t-test (for continuous variables) or Chi-square test (for categorical variables). Pearson correlation coefficients were calculated to verify bivariate interrelationships among adolescents' age in years, school functioning scores, family participation scores, negative family experience score, self-esteem, emotional intelligence, parenting care style, and overprotecting parenting style.

In this study, a hierarchical structure of the dataset was delineated since there were five observations (level 1) over two years for each adolescent (level 2). Furthermore, adolescents lived in four communities (level 3) which might differentially affect individuals' life due to unequal degrees of HIV-related contextual issues such as stigma, discrimination, or social acceptability and support in each area. Because of the hierarchical nature of the dataset, multilevel regression models were used to estimate associations between outcomes of interest and their potential predictors and covariates. This type of analysis accounts for correlated outcome data arising from multiple levels of clusters and allows separating nested sources of variation (Snijders & Bosker, 1999; Afifi, May, & Clark, 2012). Models for the outcomes of interest were fitted. Before model fitting, the box plot graph of each outcome was generated to verify the normality assumption. Because school functioning, family participation and negative family experience were not normally distributed, logarithmic transformations of these outcomes were used in the models. Lists of potential variables to be included in the final models were

selected based on prior knowledge, statistical criteria, and subjective interest. Follow-up visit was also included in the model as indicator variables to assess potential associations between outcomes and time of follow-up. For selection of the final model, best subset regression with forcing some important variables was performed. The Akaike Information Criterion (AIC) was used as a guideline. Standardized coefficients and p-values from regression models are reported for continuous outcomes. Adjusted odds ratios and 95% confidence intervals are reported for dichotomous outcomes.

All statistical analyses were conducted with STATA version 10. (StataCorp, College Station, Texas, USA).

Results

Of those 204 families with adolescent children aged 12-17 year, 173 (85%) completed 5-visit follow-ups and were analyzed in this study. There is no significant difference in important baseline characteristics (including age, gender, self-esteem, and emotional intelligence, both parenting styles, educational status, school functioning score, family participation score, and negative family experience score of the adolescents, and age, and educational level of their parents) between those 173 families retained and 31 families loss to follow up. Baseline characteristics of 173 HIV-affected adolescents and their PLH parents are outlined in table 1. About 57% of the 12 to 17-year-old adolescents were female. Average age of the adolescents was 13.8 years (standard deviation [s.d.]=1.5). The self-esteem of the adolescents had a mean of 28.9 (s.d.=2.8). The average emotional intelligence was 152.1 (s.d.=15.1). The mean of parenting care style was 26.7 (s.d.=5.4) while the mean of overprotecting parenting style was 17.6

(s.d.=5.1). For the PLH parents of the adolescents, the average age was 39.4 (s.d.=5.7) and 73.4% of them were female. Only 16.8% of these parents had completed education above primary school.

School and family characteristics of the adolescents at baseline are presented in Table 2. More than 94% of these adolescents reported that they were currently studying. For those who have already left school, more than half of them finished some secondary or vocational school level. Most of the 163 adolescent students were in secondary school (69.9%). Sixteen of these students (9.7%) reported that they had ever repeated a grade while 43 (25.9%) reported that they had ever skipped a class on purpose, i.e. for no good reason. Female adolescent students report significantly higher scores of relationship with their teachers when compared with male students ($p = 0.005$). There was no significant difference between male and female adolescent students in terms of school functioning score, family participation score, and negative family experience score. Mean and standard deviation of some important characteristics of HIV-affected adolescents over five-visit follow-up are illustrated in table 3. Potential increasing trend of school functioning score and potential decreasing trend of overprotection parenting styles perceived by the adolescents across time were observed.

Table 4 presents pair-wise correlations among several characteristics of interest. School functioning score was positively correlated with family participation score ($r=0.18$, $p=0.02$), self-esteem ($r=0.24$, $p=.002$), emotional intelligence ($r=0.40$, $p<0.001$) and parenting care style ($r=0.32$, $p<0.001$) but negatively associated with negative family experience score ($r=-0.50$, $p<0.001$). Family participation score was also positively associated with self-esteem ($r=0.19$,

$p < 0.016$), emotional intelligence ($r = 0.27$, $p < 0.001$), parenting care style ($r = 0.19$, $p = 0.015$). There was a negative association between negative family experience and self-esteem ($r = -0.17$, $p = 0.003$), emotional intelligence ($r = -0.39$, $p < 0.001$), and parenting care style ($r = -0.24$, $p = 0.002$) but we found negative family experience was positively associated with parenting care style ($r = 0.24$, $p = 0.002$). Self-esteem and emotional intelligence were positively associated ($r = 0.42$, $p < 0.001$). Parenting care style was positively correlated with self-esteem ($r = 0.33$, $p < 0.001$) and emotional intelligence ($r = 0.39$, $p < 0.001$). Lastly, overprotecting parenting style was negatively correlated with emotional intelligence ($r = -0.27$, $p < 0.001$), parenting care style ($r = -0.35$, $p < 0.001$) and age of the adolescents ($r = -0.18$, $p < 0.05$).

Table 5 presents the multilevel regression model examining associations between having ever skipped a class on purpose during the past 3 months and several potential predictors. After controlling for gender of the adolescents, age and educational level of PLH parents, and intervention status, we found that age (in years) of the adolescents was the only single significant predictor (adjusted odds ratio = 1.94, 95%CI = 1.51-2.48). Although not statistically significant, emotional intelligence and self-esteem were two possible protective factors of skipping a class.

A multilevel model for school functioning is demonstrated in table 6. When age and gender of the adolescents, age and educational level of PLH parents, and intervention status were included in the model, we found that adolescents with higher school functioning score also had significantly higher emotional intelligence (standardized coefficient $[b] = 0.22$, $p < 0.001$) and reported a higher level of parenting care style ($b = 0.14$, $p < 0.001$).

Table 7 illustrates associations of family participation and potential correlates. Controlling for age and gender of the adolescents, age and educational level of PLH parents, and intervention status, we found that adolescents who reported higher family participation score tended to have higher emotional intelligence ($b=0.11$, $p=0.014$) and, surprisingly, higher perceived level of overprotecting parenting style ($b=0.09$, $p=0.02$). A negative association between family participation and adolescent age was observed ($b=-0.13$, $p=0.007$).

Finally, in table 8, associations between negative family experience and its predictors were revealed. After controlling for age and gender of the adolescents, age and educational level of PLH parents, and intervention status, we found that adolescents with higher negative family experience reported lower emotional intelligence ($b=-0.28$, $p<0.001$) and lower parenting care style ($b=-0.11$, $p=0.001$).

Since we did not see any significant association between follow-up time and outcomes of interest, the indicator variables of follow-up visit were excluded from the final multilevel model presented in table 5, table 6, table 7, and table 8.

Discussion

Our study explored adolescents' experiences of living in two important settings, i.e. school and family. To our knowledge, this is one of first studies conducted in Thailand which examined the complex associations of those two living experiences with emotional intelligence, self-esteem, and perceived parenting style of HIV-affected adolescents. In this study, we found that emotional

intelligence and parenting style are predictors of adolescents' attitudes and behaviors related to their function at school and in their family.

Findings from our study indicated that both emotional intelligence and parenting style are predictors of adolescents' attitude towards school. We found HIV-affected adolescents with high emotional intelligence score reported higher scores for school functioning. Recent studies have indicated that emotional intelligence is positively related to academic outcomes and negatively associated to less antisocial behaviors in children (Schultz, Izard, & Bear, 2004; Mavroveli & Sanchez-Ruiz, 2010). This finding from our study is also consistent with the work of Petrides et al. who stated that at least one dimension of emotional intelligence predicted academic performance and unfavorable behaviors including unauthorized school absences among secondary school students (Petrides, Frederickson, & Furnham, 2004). Our study demonstrated that parenting style also affected adolescent's school functioning. We found adolescents with high perceived parenting care style reported better school functioning. This finding suggested that parenting care enhances adolescents' attitude towards school which also has been observed by other researchers (Heaven, Mak, Barry, & Ciarrochi, 2002).

Regarding family experiences, we found that adolescents with higher emotional intelligence also reported a higher score on family participation, and conversely a lower score of negative family experience. Past empirical studies have demonstrated a significant positive relationship between high emotional intelligence and family climate (Kaur & Jaswal, 2005). In this study, emotional intelligence was as a positive predictor of social well-being of HIV-affected adolescents when living in their families or vice versa. Our study also demonstrated that an overprotecting

parenting style was associated with higher family participation. Overprotecting parents have a more “restrictive” and “controlling” parenting style and their children tend to be less autonomous and independent compared with others without overprotecting parents (Thomasgard & Metz, 1993). This can explain why these adolescents spend more time with their families. Berge et al have reported a positive association between authoritative parenting style and frequency of family meals (Berge, Wall, Neumark-Sztainer, Larson, & Story, 2010). Our study also found that adolescents with higher negative family experience reported less perceived parenting care style. Since parenting care style is associated with a high level of affection, warmth and support (DeVore & Ginsburg, 2005; Parker et al., 1979), adolescents with high parental care usually have better relationships and more communication with their parents. This relationship in turn prevents involvement in several high-risk behaviors of the adolescents (DeVore & Ginsburg, 2005).

In this study, a few limitations need to be noted. Firstly, since data came from an observational, non-randomized study, causal associations cannot be addressed. However, by using repeated observations on the same person over five visits, instead of analyzing one-visit data cross-sectionally, we can reduce confounding by unmeasured time-constant individual characteristics. Secondly, external validity of the study is limited. The samples were drawn from families in two provinces in Thailand and might therefore be not representative all of HIV-affected families in the country. Furthermore, because all PLH parents in this study have disclosed their serostatus to their family members, particularly their adolescent children, these participating families might not reflect characteristics of all HIV-affected families who have not disclosed.

Quality of living in both schools and families of the HIV-affected adolescents, who usually face more challenges than general teenagers, are not only important for their current life but also for their long-term wellbeing. Parenting style and emotional intelligence are two among several factors that can predict how well adolescents function at school and in their families. Interventions targeting the whole family and aiming to promote appropriate parenting and improve emotional intelligence can be beneficial to the adolescents and therefore are strongly recommended.

Table 1. Baseline characteristics of HIV-affected adolescents and their PLH parents (N=173)

Characteristics	Total (N = 173) mean (s.d.*); N (%)	Female (N =98) mean (s.d.); N (%)	Male (N = 75) mean (s.d.); N (%)	p- value
Adolescents				
Age	13.8 (1.5)	14.0 (1.6)	13.5 (1.4)	0.026
Study site - N (%)				0.240
Site 1	63 (36.4%)	34 (34.7%)	29 (38.7%)	
Site 2	37 (21.4%)	19 (19.4%)	18 (24.0%)	
Site 3	38 (22.0%)	27 (27.6%)	11 (14.7%)	
Site 4	35 (20.2%)	18 (18.4%)	17 (22.7%)	
Self-esteem ($\alpha=0.67$)	28.9 (2.8)	28.8 (2.5)	28.96 (3.2)	0.739
Emotional intelligence ($\alpha=0.83$)	152.1 (15.6)	151.7 (15.5)	152.55 (15.9)	0.728
Parenting style				
Care ($\alpha=0.77$)	26.7 (5.4)	27.2 (5.5)	26.08 (5.1)	0.189
Overprotection ($\alpha=0.72$)	17.6 (5.1)	17.9 (5.5)	17.23 (4.4)	0.428
Parents				
Age	39.4 (5.7)	39.1 (5.4)	39.83 (5.9)	0.372
Female gender - N (%)	127 (73.4%)	69 (70.4%)	58 (77.3%)	0.307
Highest education - N (%)				0.373
Primary school or less	145 (83.8%)	80 (81.63%)	65 (86.7%)	
Above primary school	28 (16.2%)	18 (18.37%)	10 (13.3%)	
Received intervention - N (%)	100 (57.8%)	57 (58.16%)	43 (57.3%)	0.913

*s.d. = Standard Deviation

Table 2. Baseline school and family characteristics of HIV-affected adolescents (N=173)

Characteristics	Total (N = 173) mean (s.d.*); N (%)	Female (N =98) mean (s.d.); N (%)	Male (N = 75) mean (s.d.); N (%)	p- value
School				
Do you currently study - N (%)	163 (94.2%)	91 (92.9%)	72 (96.0%)	0.380
What is your current grade? (for current student) - N (%)				0.459
Primary	39 (23.9%)	19 (20.9%)	20 (27.8%)	
Secondary	114 (69.9%)	65 (71.4%)	49 (68.1%)	
Vocational	8 (4.9%)	5 (5.5%)	3 (4.2%)	
Other	2 (1.2%)	2 (2.2%)	0 (0.0%)	
What grade you finished? (for current non-student) - N (%)				0.179
No education	1 (5.9%)	1 (10.0%)	0 (0.0%)	
Primary	7 (41.2%)	2 (20.0%)	5 (71.4%)	
Secondary	8 (47.1%)	6 (60.0%)	2 (28.6%)	
Vocational	1 (5.9%)	1 (10.0%)	0 (0.0%)	
Have you ever repeated a grade? - N (%)	16 (9.7%)	7 (7.6%)	9 (12.3%)	0.309
Have you ever skipped a class on purpose? - N (%)	43 (25.9%)	24 (26.1%)	19 (25.7%)	0.952

*s.d. = Standard Deviation

**higher scores suggest higher level of the relevant characteristics

Table 2 (cont). Baseline school and family characteristics of HIV-affected adolescents (N=173)

Characteristics	Total (N = 173) mean (s.d.*); N (%)	Female (N =98) mean (s.d.); N (%)	Male (N = 75) mean (s.d.); N (%)	p- value
How much you like school? (score range=1-5)**	3.9 (0.7)	4 (0.7)	3.9 (0.7)	0.234
How good student you are? (score range= 1-5)**	3.4 (0.6)	3.5 (0.6)	3.3 (0.6)	0.178
How good your relationship with your teachers? (score range=1-5)**	3.9 (0.6)	4.0 (0.5)	3.7 (0.6)	0.005
How good your relationship with your classmates? (score range= 1-5)**	4.2 (0.8)	4.3 (0.7)	4.2 (0.9)	0.229
School functioning score (score 13-56, $\alpha=0.88$)	46.9 (4.1)	46.9 (4.2)	46.9 (4.1)	0.992
Family				
How much you like place where you live? (score range= 1-5)**	4.0 (0.8)	3.9 (0.8)	4.1 (0.8)	0.202
Family participation (housework and leisure time) (score 0-24, $\alpha=0.69$)	14.0 (3.9)	14.0 (3.6)	14.0 (4.2)	0.887
Negative family experience (score range=7-46, $\alpha=0.78$)**	16.7 (5.2)	16.8 (5.0)	16.6 (5.5)	0.799

*s.d. = Standard Deviation

**higher scores suggest higher level of the relevant characteristics

Table 3. Mean and standard deviation of characteristics of HIV-affected adolescents (N=173) over five-visit follow-up (at baseline, 6, 12, 18, and 24 months)

Characteristics	Baseline			6 month			12 month			18 month			24 month			p-value**
	mean	s.d.*		mean	s.d.		mean	s.d.		mean	s.d.		mean	s.d.		
School functioning score	46.9	4.1		47.4	3.7		47.0	4.0		47.5	5.1		48.6	7.8		0.030
Family participation	14.0	3.9		13.5	3.8		13.3	3.6		13.3	3.8		12.9	4.2		0.150
Negative family experience	16.7	5.2		15.9	5.1		16.0	4.7		16.2	4.7		16.3	5.1		0.578
Self-esteem	28.9	2.8		29.2	2.5		29.2	2.5		29.2	2.4		29.4	2.6		0.521
Emotional intelligence	152.1	15.6		153.5	15.0		153.7	16.3		152.0	15.9		152.2	15.8		0.755
Parenting style																
Care	26.7	5.4		28.4	5.0		28.3	4.7		28.2	4.7		28.0	5.1		0.011
Overprotection	17.6	5.1		15.7	5.2		14.8	5.3		14.4	5.3		14.2	5.1		<0.001

*s.d. = Standard Deviation

**p-value from one-way Analysis of Variance

Table 4. Bivariate correlations among characteristics of interest at baseline

Characteristics	1	2	3	4	5	6	7	8
1. School functioning score	1							
2. Family participation	0.18*	1						
3. Negative family experience	0.50**	0.09	1					
4. Self-esteem	0.24*	0.19*	-0.17*	1				
5. Emotional intelligence	0.40**	0.27**	0.39**	0.42**	1			
6. Parenting care style	0.32**	0.19*	-0.24*	0.33**	0.39**	1		
7. Overprotecting parenting style	-0.13	0.06	0.24*	-0.07	0.27**	0.35**	1	
8. Adolescent's age	-0.17*	-0.05	0.04	0.03	0.03	-0.04	-0.18*	1

*p<0.05

**p<0.001

Table 5. Associations of having skipped a class* with potential correlates among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Adjusted odds ratio	95% Confidence interval	
		Lower	Upper
Emotional intelligence	0.98	0.95	1.00
Self-esteem	0.95	0.83	1.09
Parenting care style	0.96	0.89	1.03
Overprotecting parenting style	0.96	0.90	1.03
Adolescent's gender	1.99	0.73	5.41
Adolescent's age	1.94	1.51	2.48

* Having ever skipped a class in past 3 months

** Other covariates in the models included age and educational level of PLH parents, and intervention status

Table 6. Associations of school functioning* with potential correlates among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Standardized coefficient	p-value
Emotional intelligence	0.22	<0.001
Self-esteem	-0.02	0.545
Parenting care style	0.14	<0.001
Overprotecting parenting style	-0.01	0.775
Adolescent's gender	-0.07	0.141
Adolescent's age	-0.05	0.274

*Logarithmic transformed

**Other covariates in the models included age and educational level of PLH parents, and intervention status

Table 7. Associations of family participation* with potential correlates among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Standardized coefficient	p-value
Emotional intelligence	0.11	0.014
Self-esteem	0.02	0.554
Parenting care style	0.02	0.646
Overprotecting parenting style	0.09	0.020
Adolescent's gender	-0.06	0.252
Adolescent's age	-0.13	0.007

*Logarithmic transformed

**Other covariates in the models included age and educational level of PLH parents, and intervention status

Table 8. Associations of negative family experience* with potential correlates among HIV-affected adolescents over five-visit follow-up (at baseline, 6, 12, 18, and 24 months) from the multilevel model**

Correlates	Standardized coefficient	p-value
Emotional intelligence	-0.28	<0.001
Self-esteem	-0.02	0.493
Parenting care style	-0.11	0.001
Overprotecting parenting style	0.04	0.194
Adolescent's gender	-0.09	0.079
Adolescent's age	0.06	0.198

*Logarithmic transformed

**Other covariates in the models included age and educational level of PLH parents, and intervention status

References

- Afifi, A., May, S., & Clark, V.A. (2012). *Practical Multivariate Analysis*. Boca Raton, FL: CRC Press.
- Abar, B., Carter, K. L., & Winsler, A. (2009). The effects of maternal parenting style and religious commitment on self-regulation, academic achievement, and risk behavior among African-American parochial college students. *Journal of Adolescence*, 32(2), 259-273.
- Akerjordet, K., & Severinsson, E. (2004). Emotional intelligence in mental health nurses talking about practice. *International Journal of Mental Health Nursing*, 13(3), 164–170.
- Berge, J. M., Wall, M., Neumark-Sztainer, D., Larson, N., & Story, M. (2010). Parenting style and family meals: cross-sectional and 5-year longitudinal associations. *Journal of the American Dietetic Association*, 110(7), 1036-1042.
- Canetti, L., Bachar, E., Galili-Weisstub, E., De-Nour, A. K., & Shalev, A. Y. (1997). Parental bonding and mental health in adolescence. *Adolescence*, 32(126), 381-394.
- Cate, J. A., Graham, G., Boeglin, D., & Tielker, S. (1990). Childhood loss of parent, lack of adequate family system. *Families in Society*, 71(4), 195-201.
- Centers for Disease Control and Prevention. (1995). *HIV/AIDS Surveillance Report: US HIV and AIDS case reported through June 1995*. Atlanta, GA: Centers for Disease control and Prevention.
- Delugach, R. R., Bracken, B. A., Bracken, M. J., & Schicke, M. C. (1992). Self concept: Multidimensional construct exploration. *Psychology in the Schools*, 29(3), 213-223.

- DeVore, E. R., & Ginsburg, K. R. (2005). The protective effects of good parenting on adolescents. *Current Opinion in Pediatrics*, 17(4), 460-465.
- Dulewicz, V., & Higgs, M. (2000). Emotional intelligence. A review and evaluation study. *Journal of Managerial Psychology*, 15(4), 341-372.
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: their role in predicting quality of social functioning. *Journal of personality and social psychology*, 78(1), 136-157.
- Fendrich, M., Warner, V., & Weissman, M. M. (1990). Family risk factors, parental depression, and psychopathology in offspring. *Developmental Psychology*, 26(1), 40-50.
- Frierson, R. L., Lippman, S. B., & Johnson, J. (1987). AIDS: Psychological stresses on the family. *Psychosomatics*, 28(2), 65-68.
- Gecas, V. (1982). The Self-Concept. *Annual Review of Sociology*, 8, 1-33.
- Gurney, P. (1986). Self-esteem in the classroom: Theoretical perspectives and assessment issues. *School Psychology International*, 7(4), 199-209.
- Heaven, P. C. L., Mak, A., Barry, J., & Ciarrochi, J. (2002). Personality and family influences on adolescent attitudes to school and self-rated academic performance. *Personality and Individual Differences*, 32(3), 453-462.
- Hudson, D. B., Elek, S. M., & Campbell-Grossman, C. (2000). Depression, self-esteem, loneliness, and social support among adolescent mothers participating in the new parents' project. *Adolescence*, 35(139), 445-466.
- Hurrelmann, K., Engel, U., Holler, B., Nordlohne, E. (1988). Failure in school, family conflicts, and psychosomatic disorders in adolescence. *Journal of Adolescence*, 11(3), 237-249.

- Izard, C. E., Fine, S., Schultz, D., Mostow, A. J., Ackerman, B., & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science, 12*(1), 18–23.
- Kaur, R., & Jaswal, S. (2005). Relationship Between Strategic Emotional Intelligence and Family Climate of Punjabi Adolescents. *Anthropologist, 7*(4), 293-298.
- Knodel, J., Chayovan, N., Graiurapong, S., & Suraratdecha, C. (2000). Ageing in Thailand: An overview of formal and informal support. In D. Phillips (Ed.), *Aging in the Asia Pacific regions: Issues and policies* (pp. 243-266). London: Routledge.
- Lee, M. B., Lester, P., & Rotheram-Borus, M. J. (2002). The relationship between adjustment of mothers with HIV and their adolescent daughters. *Clinical Child Psychology and Psychiatry, 7*(1), 71– 84.
- Li, L., Lee, S. J., Jiraphongsa, C., Khumtong, S., Iamsirithaworn, S., Thammawijaya, P., Rotheram-Borus, M. J. (2010). Improving Health and Mental Health for People Living with HIV/AIDS: 12-month Assessment of a Behavioral Intervention in Thailand. *American Journal of Public Health, 100*(12), 2418-2425.
- Li, L., Liang, L. J., Lee, S. J., Iamsirithaworn, S., Wan, D., & Rotheram-Borus, M. J. (2012). Efficacy of an Intervention for Families Living with HIV in Thailand: A Randomized Controlled Trial. *AIDS and Behavior, 16*(5), 1276–1285.
- Mavroveli, S., & Sanchez-Ruiz, M. J. (2011). Trait emotional intelligence influences on academic achievement and school behavior. *British Journal of Educational Psychology, 81*(1), 112-134.
- Parker, G. (1981). Parental responses of depressives: an investigation of several explanations. *Journal of Affective Disorders, 3*(2), 131–140.

- Parker, G. (1990). The Parental Bonding Instrument. *Social Psychiatry and Psychiatric Epidemiology*, 25(6), 281-282.
- Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. *British Journal of Medical Psychology*, 52(1), 1-10.
- Piko, B. F., & Balazs, M. A. (2012). Control or involvement? Relationship between authoritative parenting style and adolescent depressive symptomatology. *European Child & Adolescent Psychiatry*, 21(3), 149-155.
- Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, 36(2), 277-293.
- Ridhitraitana, S. (2001). *Prevalence and factors of depression in high school students in Petchaburi province*. Unpublished master's thesis, Bangkok, Thailand: Chulalongkorn University.
- Romer, G., Barkman, M., & Schulte-Markwood, G. (2002). Children with somatically ill parents: a methodologic review. *Clinical Child Psychology & Psychiatry*, 7(1), 17-38.
- Rosenberg, M. (1965). *Society and The Adolescent Self-Image*. Princeton, NJ: Princeton University Press.
- Rosenberg, M. (1990). The Self-Concept: Social Product and Social Force. In M. Rosenberg, R. H. Turner (Eds.), *Social Psychology: Sociological Perspectives* (pp. 593-624). Brunswick, NJ: Transaction.
- Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global Self-Esteem and Specific Self-Esteem. *American Sociological Review*, 60(1), 141-156.

- Rotheram-Borus, M. J., Lee, M. B., Gwadz, M., & Draimin, B. (2004). An intervention for parents with AIDS and their adolescent children. *American Journal of Public Health, 91*(8), 1294-1302.
- Rotheram-Borus, M. J., Murphy, D. A., Miller, S., & Draimin, B. H. (1997). An Intervention for adolescents whose parents are living with AIDS. *Clinical Child Psychology and Psychiatry, 2*(2), 201-219.
- Schultz, D., Izard, C. E., & Bear, G. (2004). Children's emotion processing: relations to emotionality and aggression. *Development and Psychopathology, 16*(2), 371-387.
- Shirk, S. R. (1988). What is child psychotherapy? In S. R. Shirk (Ed.), *Cognitive development and child psychotherapy* (pp. 1-16). New York: Plenum.
- Smith, L., Hill, E. W. & Mullis, R. L. (1998). Relational perceptions in mother-daughter attachments. *Marriage and Family Review, 27*(1-2), 37-49.
- Snijders, T. A. B., Bosker, R. J. (1999). *Multilevel analysis: an introduction to basic and advanced multilevel modeling*. Thousand Oaks, CA: Sage Publications.
- Stein, J. A., Riedel, M., & Rotheram-Borus, M. J. (1999). Parentification and its impact among adolescent children of parents with AIDS. *Family Process, 38*(2), 193-208.
- Thai Department of Mental Health. (2004). *Emotional quotient questionnaire from Department of health mental 2004, Thailand*. Retrieved from <http://www.dmh.moph.go.th/ebook/s.asp?code=3>
- Thai Department of Mental Health. (2009). *Mental Health Promotion for Middle and High School Students*. Retrieved from <http://www.dmh.moph.go.th/ebook/s.asp?code=41>
- Thomasgard, M., & Metz, W. P. (1993). Parental overprotection revisited. *Child Psychiatry and Human Development, 24*(2), 67-80.

- VanLandingham, M., Knodel, J., Im-em, W., & Saengtienchai, C. (2000). The impacts of HIV/AIDS on older populations in developing countries: Some observations based upon the Thai case. *Journal of Family Issues*, 21(6), 777-806.
- Weisner, T. S. (1984). Ecocultural niches of middle childhood: A cross cultural perspective. In W. A. Collins (Ed.), *Development during childhood: The years from six to twelve* (pp. 335-369). Washington, DC: National Academy of Science Press.
- Wongpakaran, T., Wongpakaran, N. (2012). A Comparison of Reliability and Construct Validity between the Original and Revised Versions of the Rosenberg Self-Esteem Scale. *Psychiatry Investigation*, 9(1), 54-58.
- Zaya, L. H. & Romano, K. (1994). Adolescents and Parental Death from AIDS. In B. O. Dane & C. C. Levine (Eds.), *AIDS and New Orphans* (pp. 59-76). Westport, CT: Auburn House.

CHAPTER 5

Summary

Thailand has faced the HIV/AIDS epidemic for more than two decades and there is large number of people living with HIV/AIDS. That also implies large numbers of HIV-affected families and adolescents children in those families, i.e. HIV-affected adolescents. Many previous studies suggested that adolescents living with HIV-infected parents tend to have higher risks in mental and behavioral health problems compared with general adolescents. There are rarely published studies about difficulties of those adolescents outside the US and, to our knowledge, might be non-existent in Thailand. This present research was comprised of three studies using the data from the two-year interventional study, called “Family-to-Family (F2F) Thailand: Psychoeducation to Improve Children’s Outcomes in HIV+ Families” study” which aimed to support HIV-infected parents and their families in order to improve their children’s mental and socio-behavioral well-being. The research aimed to address difficulties of Thai adolescents affected by HIV/AIDS including psychological characteristics (self-esteem and emotional intelligence), psycho-behavioral challenges (stress, substance use, and sexual behaviors) and functioning at schools and in families. In addition, this study also tried to examine complex associations among those difficulties and their potential predictors including role of parenting, family functioning and perceived social support of the adolescents.

Findings from our research emphasize the important role of parenting style, family functioning, and quality of life of Thai HIV-infected parents, as important predictors of their adolescent children’s self-esteem and emotional intelligence. The research further demonstrates the role of

emotional intelligence as an important predictor of the adolescents' stress and alcohol drinking behavior. And, finally, we also found that parenting style and emotional intelligence are factors that can predict how well adolescents function at school and in their families.

Given that these psycho-behavioral challenges and social functioning of adolescents are indicators of both present and future well-being, interventions aiming for reducing vulnerabilities and improve quality of life of HIV-affected adolescents in Thailand which include these following characteristics, as a minimum, are strongly recommended:

- targeting to the family as a whole rather than the individual adolescent,
- promoting appropriate parenting, and improving PLH parents' quality of life and family functioning,
- improving emotional intelligence of the adolescents, and
- encouraging constructive friend and social activities.

In this research, a few limitations need to be considered. Firstly, causal associations cannot be addressed since data came from a non-randomized observational study. However, by using repeated measures on the same person over five visits we hoped to reduce confounding by unmeasured time-constant individual characteristics. Secondly, external validity of the study is limited by the facts that the samples were drawn from families in only two provinces in Thailand and all PLH parents in this study had already disclosed their serostatus to their family members. These participating families might not reflect characteristics of all HIV-affected families especially those who have not disclosed. Finally, some measurements used in this present research might be able to capture only some parts of the complex, multi-dimension nature of

some psycho-behavioral characteristics of the adolescents, particularly for their social support, and need further development.

Even though interpretations of the findings may be partially constraint by the few limitations mentioned above, this research provides important inputs for Thai public health staff who wish to develop interventions for improving HIV-affected families' well-being and also for psycho-behavioral health researchers who wish to further examine existence and explanations of those associations identified by this research.

APPENDIX 1

Adolescent Questionnaire

Child (Age 12-17) Assessment

[INTERVIEWER READ: “Thank you for being willing to participate in our interview. Our goal is to assess the challenges faced by families in Thailand. Your participation is completely voluntary. If you feel uncomfortable about answering any of the questions, you do not have to answer them. I’d like to start off with getting some background information about you.”]

Demographics

1. [INTERVIEWER NOTE: Record the participant’s sex by circling one. If in doubt, ask: “What is your biological sex?”]

- | | |
|--------|---|
| Male | 1 |
| Female | 2 |

2. How old are you? [RECORD GIVEN RESPONSE]

_____ Years

3. What is your date of birth? [RECORD GIVEN RESPONSE]

_____/_____/_____
MM DD YY

4. How much do you weigh? _____Kg

5. How tall are you? _____Cm

6. How many hours of sleep each night, on average, do you get?
_____Hours

7. Do you eat fruits every day?
Yes 1
No 2

8. Do you eat vegetables every day?
Yes 1
No 2

9. How much you like the place where you live? (Show Hand Card 1)
Hate it 1
Don't like it 2
Neutral 3
Somewhat like it 4

School History

[INTERVIEWER READ: “The following questions are about your education and your school experiences.”]

1. Are you currently attending school [if on vacation, are you planning to return to school when the vacation is over]?

Yes

1

No

2 (Skip to Q 3)

2. What grade are you in now?

Grade_____ (Skip to Q 5)

3. What grade did you finish?

Grade_____

4. Why did you leave school?

Graduated

1

Dropped out	2
Expelled or suspended	3
Other (Specify: _____)	4

5. In general, how much (do/did) you like school? (Show Hand Card 1)

Hate it	1
Don't like it	2
Neutral	3
Somewhat like it	4
Very much	5

6. How would you describe yourself as a student? (Show Hand Card 2)

Excellent	1
Good	2
Fair	3
Poor	4
Very poor	5

7. Have you ever skipped a class on purpose?

Yes	1
No	2

8. Have you ever repeated a grade?

Yes	1
No	2

9. How would you describe your relationships with your teachers?

(Show Hand Card 2)

Excellent	1
Good	2
Fair	3
Poor	4
Very poor	5

10. How would you describe your relationships with your classmates? Would you say that, overall, your relationships are/were: (Show Hand Card 2)

Excellent	1
Good	2
Fair	3
Poor	4
Very poor	5

The Everyday Stress Index (ESI-Thai Adolescent version)

[INTERVIEWER READ: “We would now like to ask you some of the issues that adolescents face daily. Please tell me how much of each these issues concern or worry you.”]

(Show Hand Card 3)

Not at all=1 A little concern=2 Some concern=3 Very much concern=4

1.	Having no privacy at home	1	2	3	4
2.	Having different opinions about things with parents	1	2	3	4
3.	Having too many responsibilities	1	2	3	4
4.	Have to take care of others in family	1	2	3	4
5.	Fighting with siblings	1	2	3	4
6.	Family having financial difficulties	1	2	3	4
7.	Worrying about the health of family members	1	2	3	4
8.	Arguing with friends	1	2	3	4
9.	Competing with friends	1	2	3	4
10.	Problems with your boy (girl) friend	1	2	3	4
11.	Worrying about being liked or accepted by others	1	2	3	4
12.	Not having a boy (girl) friend	1	2	3	4
13.	Being harassed by other teens	1	2	3	4
14.	Being pressured into smoking by friends or other teens	1	2	3	4
15.	Being pressured into drinking by friends or other teens	1	2	3	4
16.	Being pressured to have sex by a boy (girl) friend	1	2	3	4
17.	Being punished by teachers	1	2	3	4

18.	Bias by teachers	1	2	3	4
19.	Disagreeing with teachers	1	2	3	4
20.	Not having a place to relax at school	1	2	3	4
21.	Issues with school rules or regulations	1	2	3	4
22.	Not having enough free time	1	2	3	4
23.	Being pressured to perform well in school	1	2	3	4
24.	Issues concerning testing (e.g. failing exam)	1	2	3	4
25.	Not understanding the material taught to me at school	1	2	3	4

Rosenberg Self-Esteem Scale

[INTERVIEWER READ: “For the next group of questions, please tell me if you strongly agree, agree, disagree, or strongly disagree with each statement.”]

(Show Hand Card 4)

1= Strongly agree 2= Agree 3=Disagree 4=Strongly disagree

1.	You feel that you are a person of worth, at least on an equal basis with others.	1	2	3	4
2.	You feel you have a number of good qualities.	1	2	3	4

3. All in all, you are inclined to feel that you are a failure.	1	2	3	4
4. You are able to do things as well as most other people.	1	2	3	4
5. You feel you do not have much to be proud of.	1	2	3	4
6. You take a positive attitude toward yourself.	1	2	3	4
7. On the whole, you are satisfied with yourself.	1	2	3	4
8. You wish you could have more respect for yourself.	1	2	3	4
9. You certainly feel useless at times.	1	2	3	4
10. At times you think you are no good at all.	1	2	3	4

The Parental Bonding Index (PBI Child- Thai Version)

[INTERVIEWER READ: “This group of questions is to assess the relationship between you and the caretaker (e.g., mother, father, and grandmother) in your household from the time of your childhood to the present. Please tell me how well each statement describes your adult’s characteristics.”]

(Show Hand Card 5)

3=Very Likely 2=Moderately likely 1= Moderately unlikely 0= Very Unlikely

1. Speak to me in a tone that is warm and friendly	3	2	1	0
2. Doesn’t help me as much as I would need	3	2	1	0
3. Allows me to participate in various activities	3	2	1	0

	that I enjoy				
4.	Seems to have a cold temper towards me	3	2	1	0
5.	Shows an understanding of my problems and worries	3	2	1	0
6.	Is a person that I love	3	2	1	0
7.	Prefers that I make my own decisions	3	2	1	0
8.	Doesn't want me to "grow up"	3	2	1	0
9.	Tries to control everything that I do	3	2	1	0
10.	Pries into the private matters of my life	3	2	1	0
11.	Enjoys speaking to me about various topics	3	2	1	0
12.	Smiles at me a lot	3	2	1	0
13.	Treats me like I am a child	3	2	1	0
14.	Doesn't seem to understand my needs	3	2	1	0
15.	Allows me to make my own decisions	3	2	1	0
16.	Makes me feel unwanted	3	2	1	0
17.	Is able to make me feel better when I am in a bad mood	3	2	1	0
18.	Doesn't have much conversation with me	3	2	1	0
19.	Tries to make me dependent on her	3	2	1	0
20.	Makes me feel as if I wouldn't be able to care of myself				
	if she were not with me	3	2	1	0
21.	Allows me as much freedom as I would like	3	2	1	0
22.	Allows me to go out as much as I would like	3	2	1	0
23.	Watches over me	3	2	1	0
24.	Doesn't regard me highly	3	2	1	0

25. Allows me to dress as I please 3 2 1 0

Alcohol and Drug Use (CDC Youth Risk Behavior Survey)

[INTERVIEWER READ: “The next five questions are about you alcohol and drug use.”]

1. In your lifetime, have you ever had at least one drink of alcohol?

No 0 (Skip to Q5)

Yes 1

2. In your lifetime, how many days have you had at least one drink of alcohol?

(Show Hand Card 6)

1 or 2 days 1

3 to 9 days 2

10 to 19 days 3

20 to 39 days 4

40 to 99 days 5

100 or more days 6

3. In the past 30 days, on how many days did you have at least one drink of alcohol?

(Show Hand Card 7)

0 days 0

1 or 2 days 1

3 to 5 days	2
6 to 9 days	3
10 to 19 days	4
20 or more days	5

4. In the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, within a couple of hours?

(Show Hand Card 7)

0 days	0
1 or 2 days	1
3 to 5 days	2
6 to 9 days	3
10 to 19 days	4
20 or more days	5

5. In your lifetime, have you ever had drugs to get high?

No 0 (Skip to next section)

Yes 1

6. In the past 30 days, on how many days have you used drugs to get high?

(Show Hand Card 7)

0 days	0
1 or 2 days	1

3 to 5 days	2
6 to 9 days	3
10 to 19 days	4
20 or more days	5

Sexual Behaviors (CDC Youth Risk Behavior Survey)

[INTERVIEWER READ: “The next six questions are about sexual behavior.”]

1. In your lifetime, have you ever had sexual intercourse?

No	0 (Skip to next section)
Yes	1

2. How old were you when you had sexual intercourse for the first time?

_____ years old

3. In your lifetime, with how many people have you had sexual intercourse?

_____ people

4. In the past 3 months, with how many people did you have sexual intercourse?

_____ people

5. Did you drink alcohol or use drugs before you had sexual intercourse the last time?

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

6. The last time you had sexual intercourse, did you or your partner use a condom?

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

Thai Emotional Quotient (Thai EQ 12-17)

[INTERVIEWER READ: “This group of questions is to assess various feelings and emotions you may have. There is no wrong or right answer so please be as truthful as you can when answering these questions. Your responses will be kept confidential”]

(Show Hand Card 8)

1=Not true 2. Sometimes true 3= Almost true 4 = Very true

Self regulation

- | | | | | | |
|----|--|---|---|---|---|
| 1. | When angry or upset, I know what is going on with me | 1 | 2 | 3 | 4 |
| 2. | I cannot tell what makes me angry | 1 | 2 | 3 | 4 |

- | | | | | | |
|----|--|---|---|---|---|
| 3. | When I can't get what I want, I feel moody to the point
Where I can't control my emotions | 1 | 2 | 3 | 4 |
| 4. | I can wait until I get the results that I want | 1 | 2 | 3 | 4 |
| 5. | I often overreact to little problems | 1 | 2 | 3 | 4 |
| 6. | When I am forced to do something I do not like,
I can explain my reasoning until other can accept it. | 1 | 2 | 3 | 4 |

Empathy

- | | | | | | |
|-----|--|---|---|---|---|
| 7. | I can sense when there is a change in the moods of
people close to me | 1 | 2 | 3 | 4 |
| 8. | I do not care about the problems of others that
I do not know | 1 | 2 | 3 | 4 |
| 9. | I cannot accept when others do things contrary
to what I think | 1 | 2 | 3 | 4 |
| 10. | I can accept when others have good reasons to
disagree with what I do | 1 | 2 | 3 | 4 |
| 11. | I feel that others want too much attention | 1 | 2 | 3 | 4 |
| 12. | Even when I have my own work, I can
wholehearted listen to other people's problem when they need help | 1 | 3 | 3 | 4 |

Responsibility

- | | | | | | |
|-----|--|---|---|---|---|
| 13. | It is normal to take advantage of others
if you have a chance | 1 | 2 | 3 | 4 |
|-----|--|---|---|---|---|

- | | | | | | |
|-----|--|---|---|---|---|
| 14. | I see worth in sympathy that others display towards me | 1 | 2 | 3 | 4 |
| 15. | When I have done something wrong to others,
I can apologize to them | 1 | 2 | 3 | 4 |
| 16. | It is hard for me to accept the mistakes of others | 1 | 2 | 3 | 4 |
| 17. | I can sacrifice my personal gain for
the benefit of the public | 1 | 2 | 3 | 4 |
| 18. | I have a hard time doing things for others | 1 | 2 | 3 | 4 |

Motivation

- | | | | | | |
|-----|---|---|---|---|---|
| 19. | I do not know what I am good at | 1 | 2 | 3 | 4 |
| 20. | Even if the task is challenging, I am confident
that I can do it | 1 | 2 | 3 | 4 |
| 21. | When I do not succeed, I feel powerless | 1 | 2 | 3 | 4 |
| 22. | I feel a sense of worth when I do things
to my fullest potential | 1 | 2 | 3 | 4 |
| 23. | When I am faced with failures, I do not give up | 1 | 2 | 3 | 4 |
| 24. | Everything I do, I end up failing | 1 | 2 | 3 | 4 |

Decisiveness

- | | | | | | |
|-----|---|---|---|---|---|
| 25. | When there is a problem, I try to find out
the real reason behind it | 1 | 2 | 3 | 4 |
| 26. | Oftentimes, I do not know what makes me unhappy | 1 | 2 | 3 | 4 |
| 27. | I feel that it is hard for me to find a solution to a problem | 1 | 2 | 3 | 4 |

28. When faced with multiple tasks, I can decide what to do first and last 1 2 3 4
29. I have a hard time when I am with strangers or people I do not know well 1 2 3 4
30. I can't stand the fact that I have to be in a community with rules that I am not accustomed to 1 2 3 4

Good relationship with others

31. I can easily make acquaintances with others 1 2 3 4
32. I have many close friends that I have known for a long time 1 2 3 4
33. I do not dare to let others know what I want 1 2 3 4
34. I can do anything that I want without troubling others 1 2 3 4
35. I have trouble arguing with others even when there are enough reasons 1 2 3 4
36. When I disagree with others, I can explain my reasoning until others can accept it 1 2 3 4

Pride

37. I feel lower than others 1 2 3 4
38. I can fulfill my duties well whatever my roles may be 1 2 3 4
39. I can do the work that is assigned to me very well 1 2 3 4
40. I am not confident to the work that is challenging to me 1 2 3 4

Satisfaction with life

- | | | | | | |
|-----|---|---|---|---|---|
| 41. | Even when faced with bade situations,
I hope hopeful that things will get better | 1 | 2 | 3 | 4 |
| 42. | There's usually a solution to every problem | 1 | 2 | 3 | 4 |
| 43. | Even when faced with stressful events,
I can change it so that it seems better | 1 | 2 | 3 | 4 |
| 44. | I always have a good time during weekends
and or holidays | 1 | 2 | 3 | 4 |
| 45. | I feel dissatisfied when others get things better than me | 1 | 2 | 3 | 4 |
| 46. | I feel satisfied with myself | 1 | 2 | 3 | 4 |

Calm and Peaceful

- | | | | | | |
|-----|---|---|---|---|---|
| 47. | I don't know what to do when I am bored | 1 | 2 | 3 | 4 |
| 48. | When I don't have to fulfill my duties, I do things I enjoy | 1 | 2 | 3 | 4 |
| 49. | When I feel upset, I have ways to make myself calm down | 1 | 2 | 3 | 4 |
| 50. | I can calm myself down even when I am tired of my duties | 1 | 2 | 3 | 4 |
| 51. | I cannot be happy until I get everything that I want | 1 | 2 | 3 | 4 |
| 52. | I often get upset with little things that happen | 1 | 2 | 3 | 4 |

MOS-Social Support

[INTERVIEWER READ: "Next are some questions about your friends and relatives that are available to you."]

1. About how many close friends and close relatives do you have, people you feel at ease with and can talk with about what is on your mind?

____ ____

2. How many social activities away from your home have you participated in this past week (e.g. attended movies with friends, met others for coffee or an activity, attended event)?

__ __ __ times

3. How many times have you spoken with friends on the phone this past week?

__ __ __ times

4. How many times have you visited friends at their homes or had friends visit you at your home this past week?

__ __ __ times

5. Do you have at least one person you would consider a best friend?

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

Family Routines

[INTERVIEWER READ: “This group of questions is to assess the events or situations you may experience with your family. Please indicate how much you have experienced in your family in the past 3 months for the following statement. There is no right or wrong answer for each question. Please feel free to give the truth without consulting other family members. Your responses will be kept confidential”]

(Show Hand Card 9)

0 = Never 1 = Sometimes 2 = Usually 3 = Always

- | | | | | | |
|----|---|---|---|---|---|
| 1. | You helped to clean your house | 0 | 1 | 2 | 3 |
| 2. | You took care of your brothers or sisters | 0 | 1 | 2 | 3 |
| 3. | You helped your brothers or sisters with their schoolwork | 0 | 1 | 2 | 3 |
| 4. | You helped to cook a meal for your family | 0 | 1 | 2 | 3 |
| 5. | You helped your parents at their work | 0 | 1 | 2 | 3 |
| 6. | You ate a meal with your family | 0 | 1 | 2 | 3 |
| 7. | You spent leisure time with your family | 0 | 1 | 2 | 3 |
| 8. | You spent time with aunts, uncles, cousins, or grandparents | 0 | 1 | 2 | 3 |

9.	You were punished or disciplined by your parents	0	1	2	3
10.	Something bad happened to someone else in your family	0	1	2	3
11.	Your parents had an argument with each other	0	1	2	3
12.	You argued with your mother about something	0	1	2	3
13.	You argued with your father about something	0	1	2	3
14.	You had a lot of work at home	0	1	2	3
15.	You had a lot of demands made by your family	0	1	2	3

APPENDIX 2

Parent Questionnaire

PARENT LIVING WITH HIV (PLH) ASSESSMENT

[INTERVIEWER READ: “Thank you for your willingness to participate in our study. Our goal is to assess the challenges faced by Parents Living with HIV and their families and children as they cope with the illness. Your participation is completely voluntary. If you feel uncomfortable about answering any of the questions, you do not have to answer them. I’d like to start off with getting some background information about you.”]

Demographics

1. [INTERVIEWER NOTE: Record the participant’s sex by circling one. If in doubt, ask:

“What is your biological sex?”]

Male 1

Female 2

2. How old are you? _____ Years

3. What is the highest grade of education you have completed?

I never went to school 0

Elementary school/Junior high school 1

Some high school 2

High school 3

Some college 4

- College graduate or above 5
4. What is your primary job at the moment?
- I do not have a primary job 0
- Fill in job description_____ 1
5. What is your secondary job at the moment?
- I do not have a secondary job 0
- Fill in job description_____ 1
6. What is your marital status?
- Currently married or living together 1
- Divorced 2
- Separated 3
- Widowed 4
- Never married 5
7. What is your personal annual income? _____Baht
8. What is your total household annual income? _____Baht

9. Do you have electricity in your house?
- | | |
|-----|---|
| Yes | 1 |
| No | 0 |
10. Do you have running tap water in your house?
- | | |
|-----|---|
| Yes | 1 |
| No | 0 |
11. Do you have T.V. in your household?
- | | |
|-----|---|
| Yes | 1 |
| No | 0 |
12. How do you feel about your current living situation? (Show Hand Card 1)
- | | |
|-------------------|---|
| Very dissatisfied | 1 |
| Dissatisfied | 2 |
| Neutral | 3 |
| Satisfied | 4 |
| Very satisfied | 5 |

WHO Quality of Life (Thai Version)

[INTERVIEWER READ: “Now I’d like to ask you some questions regarding quality of life.”

Please answer how much you have experienced certain things in the past two weeks.]

1 = Very poor 2 = Poor 3 = Neither poor nor good 4 = Good 5 = Very good

1. How would you rate your quality of life? 1 2 3 4 5

(Show Hand Card 2)

1 = Very dissatisfied 2 = Dissatisfied 3 = Neutral 4 = Satisfied 5 = Very satisfied

2. How satisfied are you with your health? 1 2 3 4 5

(Show Hand Card 1)

1 = Not at all 2 = A little 3 = A moderate amount 4 = Very much 5 = An extreme amount

(Show Hand Card 3)

3. To what extent do you feel that physical pain e.g., headache, stomachache, body pain prevents you from doing what you need to do? 1 2 3 4 5

4. How much do you need any medical treatment to function in your daily life? 1 2 3 4 5

5. How much do you enjoy life? 1 2 3 4 5

6. To what extent do you feel your life to be meaningful? 1 2 3 4 5

7. How well are you able to concentrate? 1 2 3 4 5

8. How safe do you feel in your daily life? 1 2 3 4 5

9. How healthy is your physical environment? 1 2 3 4 5

10. Do you have enough energy for doing activities in 1 2 3 4 5

everyday life (work and routine activities)?

11. Are you able to accept your bodily appearance? 1 2 3 4 5

12. Have you enough money to meet your needs? 1 2 3 4 5

13. How available to you is the information

that you need in your day-to-day life?

14. To what extent do you have the

opportunity for leisure activities?

1 = Very poor 2 = Poor 3 = Neither poor nor good 4 = Good 5 = Very good

15. How well are you able to get around? 1 2 3 4 5

(Show Hand Card 2)

1 = Very dissatisfied 2 = Dissatisfied 3 = Neutral 4 = Satisfied 5 = Very satisfied

(Show Hand Card 1)

16. How satisfied are you with your sleep? 1 2 3 4 5

17. How satisfied are you with your ability

to perform your daily living activities?

18. How satisfied are you with your capacity for work? 1 2 3 4 5

19. How satisfied are you with yourself? 1 2 3 4 5

20. How satisfied are you with your

personal relationships?

21. How satisfied are you with your sex life? 1 2 3 4 5

22. How satisfied are you with the support you get from your friends? 1 2 3 4 5
23. How satisfied are you with the conditions of your living place? 1 2 3 4 5
24. How satisfied are you with your access to health services? 1 2 3 4 5
25. How satisfied are you with your transport? 1 2 3 4 5

5 = Never 4 = Seldom 3 = Quite often 2 = Very often 1 = Always

(Show Hand Card 4)

26. How often do you have negative feelings such as blue mood, despair, anxiety, depression? 1 2 3 4 5

Thai Family Functioning Scale (TFFS)

[INTERVIEWER READ: “This group of questions is to assess the experiences families have. Please indicate how often you have experienced in your family in the past 3 months for the following statement. There is no right or wrong answer for each question. Please feel free to give the truth without consulting other family members. Your responses will be kept confidential”]

0 = Never 1 = Sometimes 2 = Usually 3 = Always

(Show Hand Card 6)

1.	My family was able to solve most daily problem(s) that occur in household	0	1	2	3
2.	Family members confided in each other	0	1	2	3
3.	Family members were obedient to seniors	0	1	2	3
4.	Family members hardly expressed their love and care	0	1	2	3
5.	In times of crisis family members turned to each other for support	0	1	2	3
6.	My family solved problem(s) by having agreement	0	1	2	3
7.	Senior members were kind and merciful to younger persons in my family	0	1	2	3
8.	Family members could not talk to each other about the sadness one feels	0	1	2	3
9.	Family members had kindness to help each other	0	1	2	3
10.	My family had plans to handle emergency situation	0	1	2	3
11.	My family followed religious sayings	0	1	2	3
12.	I could not tell what my family members felt by the words they spoke	0	1	2	3
13.	My family tried to find ways to solve problem(s)	0	1	2	3
14.	Family members were good role models for each other	0	1	2	3
15.	Family members avoided discussing feelings of fears and concerns that they may have had	0	1	2	3
16.	My family was able to make decisions about how to solve problem(s)	0	1	2	3

17.	My family had time for each other	0	1	2	3
18.	When family members got mad or angry with others, they did not talk to each other	0	1	2	3
19.	After my family was able to solve a problem, we always discussed the effectiveness of strategy	0	1	2	3
20.	Family members shared love and unity	0	1	2	3
21.	My family discussed responsibilities of each member	0	1	2	3
22.	My family was reluctant to express love to each other	0	1	2	3
23.	My family used reasoning to solve problem(s)	0	1	2	3
24.	My family valued gratitude to parents or other persons who gave support	0	1	2	3
25.	My family encountered mood problem(s)	0	1	2	3
26.	There were lots of bad feelings in my family	0	1	2	3
27.	My family was able to solve most of problem(s) that were irritable to other members	0	1	2	3
28.	Family members talked politely to each other	0	1	2	3
29.	Family members cared for each other	0	1	2	3
30.	Often times, family members could not talk to other members as they wanted to	0	1	2	3