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# Effects of Socio-Demographic Characteristics and Peer Relations on the Emotional, Behavioral, and Comorbid Disorder Symptoms in Low-SES Children

*The current study examined the effects of socio-demographic characteristics and peer relations on the emotional, behavioral, and comorbid disorder symptoms among low-low-SES children, using the Young Lives Survey: an International Study of Childhood Poverty: Round 1, 2002. Participants were 1,000 8-year-old children (502 boys and 498 girls) from low-low-SES families. Data were analyzed using ANOVA, t-tests, post hoc test (Scheffé's method), correlations, and multiple logistic regression analyses according to the analysis strategy. There was a moderate correlation between selected socio-demographic variables and emotional/behavioral disorder symptoms, and the caregiver's marital status, child's health compared to others, child's work status corresponded to significant differences in their emotional/behavior levels. Regarding the logistic regression analysis, in addition to the effects of socio-demographic variables reflecting the characteristics of less-developed countries, marital status, child's working status, and conflicts with peers proved to be detrimental to emotional, behavioral, or comorbid disorder symptoms in low-SES children, who have been lack quality parenting, social resources, and child human rights. Results indicated the need to develop health care services that would address those problems and appropriate intervention and prevention programs targeting children in low-income families. Moreover, careful assessment and intervention for child's health status, child's working status and peer relationship problems are suggested as possible strategies for helping children at risk of exhibiting further problematic behaviors.*

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*Key Words: less-developed countries, emotional/behavioral problems, comorbidity, peer relation*

Childhood is generally viewed as not only an important period to develop 'sense of self or human identity' (Erikson, 1963) but also one of most vulnerable times of life. In order to accommodate healthy child development including physical, social, intellectual, cognitive and emotional domains, much time and effort is spent on nutrition, nurturing, education, and training within the family, at school, and beyond during this crucial period. Indeed, secure attachment to parents, appropriate nutrition, and quality education appear to be crucial for fostering human dignity development during childhood. Therefore recognizing that 'the child, for the full and harmonious development of his or her personality, should grow up in a family environment, in an atmosphere of happiness, love and understanding, the Convention on the Rights of the Child is convinced that 'the family, as the fundamental group of society and the natural environment for the growth and well-being of all its members and particularly children, should be afforded the necessary protection and assistance so that it can fully assume its responsibilities within the community' (Convention on the Rights of the Child, Preamble, 1989).

In low-SES (social-economic status) countries such as India, Vietnam, and Bangladesh, where poverty negatively affects family life, however, many children often lose opportunities to enjoy the full development of their human dignity. Economic pressure itself jeopardizes warm and positive parenting, resulting in child distress and non-

desirable social behaviors (Shek, 2007). There are also research findings suggesting that economic stress exerts negative influence on the marriage and consequent emotional/familial maladjustment within the family, when they fail to cope with stressful situations (Bronfenbrenner, 2004; O'Donnel *et al.*, 2010).

In addition to increased possibility of impaired parenting due to economic disadvantage, low-SES children are likely to spend as much time working inside or outside the home as they do at school (Das & Mukheriee, 2007). Previous studies (Das & Mukheriee, 2007; French, 2009) have suggested that compulsory in child labor and home duties can have negative impact on the psychological well-being and lead to non-desirable behavioral outcomes like school dropout, deviant behavior, and low levels of academic achievement which discourage the development of development of children's health.

Thus there is considerable evidence that children in less-developed countries are also at increased risk of having emotional and behavioral problems in comparison with children in better off countries. Amstadter and his colleagues (2009), for example, reported on epidemiological surveys of mental health problems with Vietnamese adolescents and found that the estimates of prevalence of mental health problems were consistent with those with other Western counties. Based on the assumption that poor economic conditions and related variables are connected to various adverse influences on emotional and behavioral development, empirical studies have documented the influence of socio-demographic characteristics on child's emotional and behavioral adjustment.

Many studies have documented the problem of comorbid behavior symptoms among disadvantaged children. In medical terminology, comorbidity refers to the coexistence of two or more behavioral, emotional, and cognitive disorders in the same person (The American Heritage® Medical Dictionary, 2010). Because comorbidity can also occur with two or more disorders temporally separated, depending on the nature of the disorders, cultural variations, or symptom presentations (Maser & Dinges, 1993), it may be important for clinical practitioners to examine carefully whether the symptoms co-exist. Although many children with problematic behavior tend to have other similar behavior problems, the practitioners may fail to assess and report co-existing disorders, if the problems are not relatively distinct.

There is considerable evidence that children with comorbidity are at increased risk of showing poor levels of educational attainments, and delinquency (Boylan *et al.*, 2007; Swendsen, 1997). Studies assessing the prevalence of comorbidity in children have also found that disadvantaged children such as offenders, those from families with marital conflict, and abused children are more likely to have comorbidity of emotional and behavior difficulties than those with no such problems (Carwell, 2004; Loeber *et al.*, 1999; Salafia *et al.*, 2008). Thus onset of one emotional or behavioral problem would be indicative of comorbidity in disadvantaged children. Nonetheless, less attention has been paid to evaluate the extent to which this form of comorbidity accounts for another comorbid problem after controlling for socio-demographic variables. High comorbidity is likely to affect other forms of behavior disorder symptom negatively.

## LITERATURE REVIEW

### *Emotional or Behavioral Problems and Socio-Demographic Characteristics*

Economic disadvantage has been defined as a limitation on appropriate parenting, and it has been linked to a variety of negative developmental outcomes among children, including emotional distress, impaired parent-child interactions, low levels of academic attainments, and increased likelihood of getting involved in delinquent behavior (Ge *et al.*, 1992; McLoyd *et al.*, 1994; Radigan *et al.*, 2009; Shek, 2008; Wagmiller *et al.*, 2006). As compared with children from better off families, poor children tend to exhibit more emotional and behavioral problems.

Numerous studies have also identified marital conflicts as important determinants of emotional or behavioral problems among children (Davies & Windle, 2001; O'Donnel *et al.*, 2010; Salafia *et al.*, 2008). Exposure to marital conflict leads to child

maladjustment, which is predictive of depressive symptoms (Cox *et al.*, 2001), conduct disorders, difficulties with social relationships and academic failure (Amato & Cheadle, 2008).

Whereas economic disadvantage, marital conflict, and the child's health may influence children's emotional and behavior characteristics, gender, child's work status, and child's religion can affect the emotional or behavioral development among low-SES children in crucial ways. Cauce, Paradise, Ginzler, Embry, Morgan, Lohr and Theofelis (2000) found that boys tend to report behavior problems such as substance abuse and antisocial behavior under stressful situations, whereas girls tend to report high levels of emotional distress. Some type of coping strategy, which may or not reflect of gender differences, is employed by children, seeking the best coping methods to minimize the demands of a stressful situation.

Poor health conditions are a substantial public problem in low income countries and in low socio-economic families. It is becoming increasingly apparent Childhood chronic physical illness affects the psychological morbidity in both children and caregivers (Bakare *et al.*, 2008). Childhood chronic illness is linked to deterioration in emotional health among children in poor physical conditions (Malhotra & Singh, 2002) and serious psychological burden of care among caregivers (Bakare *et al.*, 2008). In the long term, it impedes psychological adjustment and inhibits ineffective coping, leading to psychological distress and anxiety.

Child labor is another issue of concern regarding the protection of children's human rights and may also be increased risk of having emotional or behavioral maladjustment as well. Despite the United Nations Convention of the Rights of the Child (1989), many children in less-developed countries are more likely to be engaged in child labor or other home duties (Das & Mukheriee, 2007; French, 2009). While there is limited research on child labor in less-developed countries, still less is known about children's emotional, behavior, or comorbidity adjustments related to child labor.

Religion is an additional variable that has been linked to emotional or behavioral adjustment in stressful environments. Studies of religiosity and spirituality have examined positive associations between religion and emotional or behavioral adjustments (Ciarrocchi & Deneke, 2006; Cotton *et al.*, 2005; Holder & Coleman, 2008). It is specially reported that religion plays an important role in the lives of many children in Vietnam, when they are confronted with life events (Amstadter *et al*, 2009). The Constitution of the Socialist Republic of Vietnam formally allows religious freedom, and over 80% of Vietnamese identify with Buddhism (Wikipedia, 2010), although Christianity is growing rapidly. Given the limited nature of familial and social support and the emotional and behavior problems commonly exhibiting by children in Vietnam, religion may carry potential benefits for those who have experienced familial and social isolation. Therefore, information on whether socio-demographic characteristics serve as determinants to predict emotional or behavioral problems would be important for developing effective health care provisions to treat and prevent a wide range of emotional and behavioral problems among SES children.

### *Peer Relationships VS Emotional or Behavioral Problems*

Social influence theory suggests that social influence occurs when children shape their beliefs and behaviors, comparing themselves with peers (Erikson, 1963). When they move toward adolescence, various influences shape their internal and external behaviors. Although they acquire social information from parents and teachers, peers appear to play a crucial role in the development of a child's internalizing and externalizing behaviors, especially when they are exposed to environments where positive parenting and social resources are limited. The caregivers' demanding work life decreases opportunities for positive supervision and parenting in children's development, which disturbs their emotional and behavioral developments (Bronfenbrenner, 2004). The caregiver's tiredness may also raise the risk of inappropriate parenting, which accommodates negative parent-children interaction environments where children choose to spend more time with and

increasingly depend on friends to cope with their psychosocial distress. Thus peer relations have been recognized as important determinants of psychological adjustments among disadvantaged children (Weyers *et al*., 2008). Whereas peer relationships can play an important role in coping with psychosocial distress, they may also jeopardize healthy behaviors. Studies have provided possible evidence of a contagion effect for aggressive or delinquent behaviors among children, suggesting that affiliation with peers who engage in problematic behavior is related to increases in the child's own negative behavior (Boxer *et al*., 2005; Prinstein *et al*., 2005).

Although these studies have well documented the effects of socio-demographic variables during childhood as a concomitant of internalizing and externalizing behavior maladjustment, they are limited in finding out that which socio-demographic factors are most importantly associated with emotional, behavioral, and comorbid behavior symptoms among low-SES children. While some studies have also examined the influence of peer relationships on internalizing or externalizing behavior problems among adolescents (Bayar & Sanil, 2005; Boles *et al*., 2006; Malti *et al*., 2010; Prinstein *et al*., 2005), few studies have tested the possible influences of socio-demographic characteristics and peer relationship problems on emotional, behavior, and comorbid behavior symptoms together in low-SES children. Examining effects of socio-demographic characteristics and peer relations on the emotional, behavioral disorder symptoms, and comorbidity symptoms in low-SES children seems like an important factor to help effectively those who are in the increased vulnerability but limited social resources. Therefore the purpose of this study was to establish the emotional, behavioral symptoms, and comorbidity differences according to socio-demographic variables of in low-SES children, and its relationship to socio-demographic factors found to be associated to such disorder symptoms in previous work.

Based on the finding above which show socio-demographic disparities and peer relation problems would be related to the lack of emotional and behavior development in children with poverty, it was first hypothesized that there would be emotional and behavior disorder symptom differences according to socio-demographic variables. Secondly it was also hypothesized that socio-demographic characteristics would be related with emotional, behavior, and comorbid disorder symptoms in children with low socioeconomic families. Lastly, it was assumed that poor socio-demographic characteristics and peer relationship problems would negatively influence the emotional, behavioral, and comorbid well-being in low-SES children. Therefore, the research questions as follows:

- Are there emotional and behavior disorder symptom differences according to socio-demographic variables?
- Are socio-demographic characteristics related with emotional, behavior, and comorbid disorder symptoms in children with low socioeconomic families?
- Do poor socio-demographic characteristics negatively influence the emotional, behavioral, and comorbid well-being in low-SES children?
- Do peer relationship problems negatively influence the emotional, behavioral, and comorbid well-being in low-SES children?

The model in Figure 1 summarizes the frame of this study.

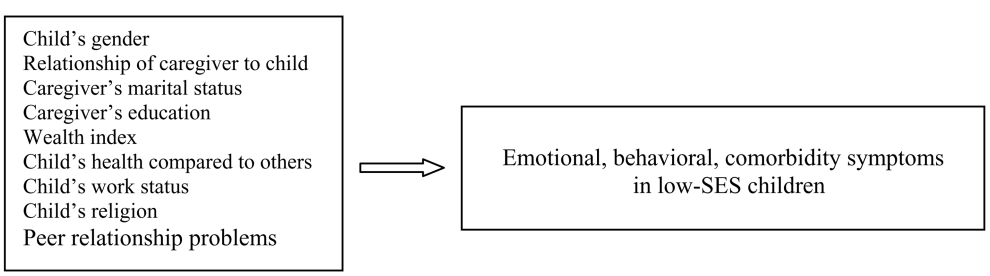


Figure 1. *Effects of Socio-Demographic Characteristics and Peer Relations on the Emotional, Behavioral, or Comorbidity Disorder Symptoms in Low-SES Children*

Table 1 *Characteristics of Participants (N = 1,000)*

| Variables | | N | % |
|---|---|---|---|
| Child's Gender | Boys | 502 | 50.2 |
| | Girls | 498 | 49.8 |
| Relationship of Caregiver to Child | Non-Biological Caregiver | 46 | 4.6 |
| | Biological Caregiver | 954 | 95.4 |
| Caregiver's Marital Status | Permanent Partner | 955 | 95.5 |
| | Divorced or Separated | 17 | 1.7 |
| | Single | 7 | .7 |
| | Widowed | 21 | 2.1 |
| Caregiver's Education | Completed Primary School | 685 | 68.5 |
| | Did not Complete Primary School | 314 | 31.4 |
| Wealth Index | .00 | 104 | 10.4 |
| | .25 | 327 | 32.7 |
| | .50 | 269 | 26.9 |
| | .75 | 91 | 9.1 |
| | 1.00 | 91 | 9.1 |
| Child's Health Compared to Others | Better | 483 | 48.3 |
| | Same | 221 | 22.1 |
| | Worse | 296 | 29.6 |
| Child's Work Status | Child has not Done any Formal Work Nor Regular Chores | 134 | 13.4 |
| | Child has done Formal Work But not Regular Chores | 5 | .5 |
| | Child has not Done Formal Work but does Regular Chores | 722 | 72.2 |
| | Child has done Formal Work and does Regular Chores | 139 | 13.9 |
| Child's Religion | No Religion | 844 | 84.4 |
| | Ancestor Worship | 47 | 4.7 |
| | Buddhist | 78 | 7.8 |
| | Christian | 31 | 3.1 |
| Child's Age (Mean) | 7.96 | | |

## METHODS

### *Data and Participants*

The study included a total of 1,000 Vietnamese children (502 boys and 498 girls) who participated in the Young Lives Survey: an International Study of Childhood Poverty: Round 1, 2002. The Young Lives Survey 2002-2006, based at the University of Oxford's department of International Development, is an international long-term investigation to find out the consequences of childhood poverty and to develop effective policies.

Table 1 presents Characteristics of participants. As to participants' family compositions, 95.4% of children reported that they were under the care of their biological mothers, and the remainder reported being cared by another caregiver such as grandparents, relatives, and others. 95.5% of caregivers also reported living with permanent partners. With regard to caregiver's education, it was found that 31.4% of them did not complete primary school. Wealth Index of households indicated that only 9.1% was reached the high levels of Wealth Index. 29.6% of the children reported that their health conditions

were worse than others. The majority of the children were found to have been involved in any formal work or regular chores. Only 15.6% of children reported having religion. The mean age of children was 7.96.

### *Measurement*

*Emotional and behavioral disorder symptoms, and peer relationship problems* Emotional, behavior disorder symptoms, and peer relationship problem scores were screened by the Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997) for 3-16 year olds. The SDQ consists of 25 items and those items are divided into 5 categories such as emotional symptoms (5 items), conduct problems (5 items), hyperactivity/inattention (5 items), peer relationship problems (5 items), and pro-social behavior (5 items). The researcher asks whether the respondent thinks the child has a problem. Each item was scored 0, 1, or 2. The current research used emotional and conduct problem results. To conduct logistic regression, child groups were categorized as emotional symptoms only (interpreting that above 7 total score are in emotional disorder group with high emotional needs, UK Department of Health, Strengths and Difficulties Questionnaire Scoring: 3), behavioral symptoms only (interpreting that above 5 total score are in behavior disorder group with high conduct problems, UK Department of Health, Strengths and Difficulties Questionnaire Scoring: 3), and comorbidity group (children with both emotional and behavior disorders were categorized in comorbidity group, UK Department of Health, Strengths and Difficulties Questionnaire Scoring: 3). Cronbach's alpha values were 0.64-0.72 in emotional symptom and behavior problem subscales.

*Wealth Index* The value is calculated as the average of the Housing Quality Index, the Consumer Durables Index and the Services Index, valuing between 0 and 1. WI = (HQ + CD + SV) / 3. The Housing Quality Index is based on the numbers per person in the household and the main materials used for the walls, roof and floor. The Consumer Durable Index is based the number of assets (radio, refrigerator, bicycle, television, motorbike/scooter, car, mobile phone, landline telephone and fan) owned by the household. The value of Services Index is based on whether or not the dwelling has electricity, the source of drinking water, type of toilet facility and the main type of fuel used for cooking.

### *Data Analysis*

The statistical analyses were performed using the PASW Statistics 18. The analyses were conducted in a series of stages. First, to investigate emotional and conduct disorder symptom differences according to socio-demographic variables, the results of ANOVA, *t*-tests, post hoc test (Scheffé's method) were reported.

As a preliminary analysis, correlations were conducted to ensure that the data did not violate the assumptions for regression analysis.

Finally, multiple logistic regression analyses were conducted to examine whether which selected factors would influence emotional, behavior, and comorbidity disorder symptoms among children.

## RESULTS

### *Emotional and Behavioral Disorder Symptom Differences according to Socio-Demographic Variables*

Table 2 and 3 shows the means, standard deviations, ANOVA, *t*-tests, and post hoc test (Scheffé's method) for emotional/behavioral disorder symptom differences according to socio-demographic variables. For the levels of emotional symptoms, the tests revealed no significant difference between genders. The same was found for relationship of caregiver to child, caregiver's marital status, caregiver's education, wealth index, child's schooling status, child's work status, and child's religion. Only child's health indicated significant differences in the levels of emotional disorder symptoms ($F = 31.470$, $p < .001$).

Boys reported more behavior disorder symptoms than did girls ($t=1.681$, $p<.01$, see Table 3). Children in poor health rated significantly higher scores of behavior disorder symptoms than did those in good health ($F=2.772$, $p<.05$). Furthermore, children who have been involved in heavy work reported significantly higher levels of behavior disorder symptoms ($F=9.597$, $p<.001$).

Table 2. *Emotional Disorder Symptom Differences according to Socio-Demographic Variables*

| Category | Variables | | N | M | S.D. | F(*t*), Scheffé |
|---|---|---|---|---|---|---|
| The Levels of Emotional Symptoms | Child's Gender | Boys | 502 | .93 | .924 | t = -.1.084 |
| | | Girls | 498 | 1.00 | .934 | |
| | Relationship of Caregiver | Non-Biological Caregiver | 46 | .91 | .138 | *t* = -.381 |
| | | Biological Caregiver | 954 | .97 | .030 | |
| | Caregiver's Marital Status | Permanent Partner | 955 | .95 | .928 | F = 1.478 |
| | | Divorced or Separated | 17 | 1.00 | .935 | |
| | | Single | 7 | 1.43 | .976 | |
| | | Widowed | 21 | 1.29 | .956 | |
| | Caregiver's Education | Completed Primary School | 685 | .98 | .934 | *t* = .807 |
| | | Did not Complete Primary School | 314 | .93 | .919 | |
| | Wealth Index | .00 | 104 | .86 | .897 | F = .965 |
| | | .25 | 327 | .95 | .927 | |
| | | .50 | 269 | .95 | .929 | |
| | | .75 | 91 | .98 | .945 | |
| | | 1.00 | 91 | .77 | .895 | |
| | Child's Health Compared to Others | Better | 483 | .90 | .938 | F = 31.470*** c > b > a |
| | | Same | 221 | .67 | .871 | |
| | | Worse | 296 | 1.28 | .864 | |
| | Child's Schooling Status | Currently in SChool | 985 | .97 | .929 | *t* = .565 |
| | | Dropped out of SChool | 3 | .67 | 1.155 | |
| | Child's Work Status | Child has not done any Formal Work nor Regular Chores | 134 | 1.00 | .893 | F = 1.215 |
| | | Child has done Formal Work but not Regular Chores | 5 | .40 | .894 | |
| | | Child has not done Formal Work but does Regular Chores | 722 | .98 | .932 | |
| | | Child has done Formal Work and does Regular Chores | 139 | .87 | .947 | |
| | Child's Religion | No Religion | 844 | .97 | .927 | F = .839 |
| | | Ancestor Worship | 47 | .87 | .947 | |
| | | Buddhist | 78 | 1.01 | .933 | |
| | | Christian | 32 | .74 | .965 | |

*p < .05, **p < .01, ***p < .001; Scheffé's multiple range tests at the 5% level

### *Correlations*

As a preliminary analysis, correlations were conducted to ensure that the data did not violate the assumptions for regression analysis (Table 4). A number of significant correlations emerged among the variables. For example, the marital status of the caregiver (r=.-.062, p<.05), child's health (r=.155, p<.01), and peer relationship problems (r=.249, p<.01) were significantly associated with emotional symptoms.

Child's working status (r=-.145, p<.01), emotional symptom (r=.189, p<.01), and peer problem (r=.164, p<.01) may or may not have affected behavial problems.

### *Effects of Socio-Demographic Characteristics and Peer Problem Variables on Emotional Disorder, Behavioral, and Comorbid Symptoms*

It was hypothesized that socio-demographic variables and peer relationship problems would be associated with an increase in the levels of emotional disorder, behavior and comorbidity symptoms among children.

Table 3 *Behavior Disorder Symptom Differences according to Socio-Demographic Variables*

| Category | | Variables | N | M | S.D. | F(*t*), Scheffé |
|---|---|---|---|---|---|---|
| | Child's Gender | Boys | 502 | .36 | .688 | *t* = 1.681** |
| | | Girls | 497 | .29 | .644 | |
| | Relationship of Caregiver | Non-Biological Caregiver | 46 | .26 | .648 | *t* = -.629 |
| | | Biological Caregiver | 953 | .32 | .668 | |
| | Caregiver's Marital Status | Permanent Partner | 954 | .32 | .665 | F = .127 |
| | | Divorced or Separated | 17 | .29 | .686 | |
| | | Single | 7 | .43 | .787 | |
| | | Widowed | 21 | .38 | .740 | |
| | Caregiver's Education | Completed Primary School | 684 | .33 | .675 | *t* = .510 |
| | | Did not Complete Primary School | 314 | .31 | .651 | |
| | Wealth Index | .00 | 104 | .18 | .498 | F = 1.762 |
| | | .25 | 327 | .31 | .668 | |
| | | .50 | 268 | .37 | .715 | |
| | | .75 | 91 | .26 | .612 | |
| The Levels of Behavior Symptoms | | 1.00 | 91 | .34 | .636 | |
| | Child's Health Compared to Others | Better | 483 | .33 | .670 | F = 2.772* b, c > a |
| | | Same r | 220 | .24 | .588 | |
| | | Worse | 296 | .38 | .712 | |
| | Child's sChooling Status | Currently in School | 984 | .32 | .667 | *t* = -.892 |
| | | Dropped out of School | 3 | .67 | .67 | |
| | Child's Work Status | Child has not done any Formal Work nor Regular Chores | 134 | .49 | .763 | F = 9.597*** c, d > b, a |
| | | Child has done Formal Work but not Regular Chores | 5 | 1.00 | 1.000 | |
| | | Child has not done Formal Work but does Regular Chores | 722 | .33 | .673 | |
| | | Child has done Formal Work and does Regular Chores | 138 | .11 | .413 | |
| | Child's Religion | No religion | 843 | .31 | .657 | F = 2.065 |
| | | Ancestor worship | 47 | .32 | .695 | |
| | | Buddhist | 78 | .29 | .626 | |
| | | Christian | 32 | .61 | .919 | |

*p < .05, **p < .01, ***p < .001; Scheffé's multiple range tests at the 5% level

Table 4 *Inter-Correlations among Variables*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gender | - | | | | | | | | | | |
| Relationship of Caregiver to Child | .018 | | | | | | | | | | |
| Marital Status of Caregiver | -.029 | -.329** | | | | | | | | | |
| Education Level of Caregiver | -.041 | -.047 | .088** | | | | | | | | |
| Wealth Index | -.010 | .003 | .003 | -.402** | | | | | | | |
| Child's Schooling Status | -.018 | .012 | -.011 | .083** | -.089** | | | | | | |
| Child's Working Status | .164** | -.013 | -.006 | -.025 | -.122** | -.036 | | | | | |
| Child's Health Compared to Others | -.039 | .024 | -.018 | .013 | -.013 | .012 | -.137** | | | | |
| Child's Religion | .012 | -.035 | -.022 | .041 | -.038 | .101** | -.007 | .038 | | | |
| Peer Relationship Problems Score | -.004 | .041 | .002 | .009 | .054 | .031 | -.063* | .102** | .039 | | |
| Emotional Symptoms Score | .034 | .012 | .062* | -.026 | -.010 | -.018 | -.026 | .155** | -.025 | .249** | |
| Conduct Problems Score | -.053 | .020 | .015 | -.016 | .051 | .028 | -.145** | .023 | .046 | .189** | .164** |

*p < .05, **p < .01

1 = Gender; 2 = Relationship of caregiver to child; 3 = Marital status of caregiver; 4 = Education level of caregiver; 5 = Wealth index, 6 = Child's schooling status; 7 = Child's working status; 8 = Child's health compared to others; 9 = Child's religion; 10 = Emotional symptoms; 11 = Peer relationship problems Relationship Score

Table 5. *Factors Associated with Emotional Disorder, Conduct Disorder, and Comorbidity (N=1,000)*

| | Emotional Disorder | | | | | Conduct Disorder | | | | | Comorbidity | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 95% C.I. for Exp (B) | | | | | 95% C.I. for Exp (B) | | | | | 95% C.I. for Exp (B) | |
| | B | S.E, | Exp(B) | Lower | Upper | B | S.E, | Exp(B) | Lower | Upper | B | S.E, | Exp(B) | Lower | Upper |
| Child's Gender | .110 | .148 | 1.116 | .834 | 1.492 | -.258 | .233 | .773 | .489 | 1.221 | -.008 | .318 | .992 | .532 | 1.850 |
| Relationship of Caregiver to Child | .690 | .438 | 1.994 | .844 | 4.708 | -.125 | .617 | .883 | .264 | 2.956 | -.622 | 1.154 | .537 | .056 | 5.152 |
| Marital Status of Caregiver | | | | | | | | | | | | | | | |
| Divorced or Separated | .150 | .578 | 1.162 | .375 | 3.605 | -.447 | .720 | .640 | .156 | 2.623 | -.080 | 1.177 | .923 | .092 | 9.273 |
| Single | .934 | .948 | 2.544 | .397 | 16.310 | -.063 | 1.065 | .939 | .116 | 7.574 | .755 | 1.446 | 2.129 | .125 | 36.228 |
| Widowed | 1.482 | .535 | 4.402** | 1.543 | 12.559 | -.144 | 1.327 | .866 | .064 | 11.663 | .491 | 1.662 | 1.634 | .063 | 42.444 |
| Education Level of Caregiver | -.129 | .169 | .879 | .631 | 1.223 | .090 | .265 | 1.094 | .650 | 1.841 | -.217 | .344 | .805 | .410 | 1.580 |
| Wealth Index | -.239 | .367 | .788 | .383 | 1.618 | .002 | .568 | 1.002 | .329 | 3.049 | -.450 | .765 | .637 | .142 | 2.853 |
| Child's Schooling Status | -.560 | 1.315 | .571 | .043 | 7.515 | .570 | 1.499 | 1.768 | .094 | 33.368 | 1.759 | 1.493 | 5.808 | .311 | 108.340 |
| Child's Working Status | | | | | | | | | | | | | | | |
| Does Formal Work but not Regular Chores | -.654 | 1.222 | .520 | .047 | 5.707 | 1.403 | .584 | 4.069* | 1.295 | 12.783 | 2.333 | 1.069 | 10.306* | 1.268 | 83.738 |
| Not Formal Work but does Regular Chores | .102 | .219 | 1.107 | .721 | 1.701 | 1.741 | 1.285 | 5.703 | .460 | 70.753 | -1.832 | 1.471 | .000 | .000 | . |
| Does Formal Work and Regular Chores | .085 | .284 | 1.088 | .623 | 1.900 | 1.233 | .534 | 3.431* | 1.205 | 9.768 | 1.919 | 1.031 | 6.817* | .904 | 51.383 |
| Child's Health Compared to Others | | | | | | | | | | | | | | | |
| Better | -.325 | .195 | .722 | .493 | 1.058 | .094 | .258 | 1.099 | .662 | 1.822 | .054 | .343 | 1.056 | .539 | 2.067 |
| Worse | .573 | .169 | 1.774*** | 1.274 | 2.472 | -.289 | .342 | .749 | .383 | 1.465 | -.501 | .499 | .606 | .228 | 1.614 |
| Child's Religion | | | | | | | | | | | | | | | |
| Ancestor Worship | -.650 | .434 | .522 | .223 | 1.221 | -1.345 | .451 | .261** | .108 | .631 | .315 | .884 | 1.370 | .242 | 7.748 |
| Buddhist | -.090 | .244 | .914 | .567 | 1.474 | -.909 | .723 | .403 | .098 | 1.662 | .513 | 1.171 | 1.670 | .168 | 16.580 |
| Christianity | .194 | .406 | 1.214 | .548 | 2.691 | -1.699 | .617 | .183** | .055 | .612 | -.868 | 1.123 | .420 | .046 | 3.789 |
| Peer Relationship Problem Score | .473 | .083 | 1.605*** | 1.364 | 1.889 | .675 | .131 | 1.964*** | 1.520 | 2.538 | 1.164 | .209 | 3.202*** | 2.127 | 4.821 |
| Constant | -1.722 | .574 | .179 | | | -2.457 | 1.922 | .086 | | | -7.582 | 2.589 | .001 | | |
| | Chi-square = 74.236 for 17 df | | | | | Chi-square = 54.490 for 17 df | | | | | Chi-square = 64.742 for 17 df | | | | |

*p < .05, **p < .01, ***p < .001

Therefore, multiple logistic regression analyses were conducted to examine which factors most strongly associated with the emotional disorder, behavior or comorbidity symptoms. Independent variables included the child's gender, the relationship of the caregiver to child, the marital status of the caregiver, the education level of the caregiver, wealth index, the child's schooling status, the child's working status, the child's health compared to others, and the child's religion, and the level of peer relationship problems where emotional disorder, behavior disorder symptoms, or comorbidity (see Table 5).

First, in the logistic regression analysis for children's emotional disorder symptoms, the marital status of the caregiver, the child's health, and the peer relationship had a significant effect on emotional disorder symptoms among children. Being cared for by a widowed caregiver was over four times more likely to increase emotional disorder symptoms than those under both parents (OR=4.4.2, 95% CI: 1.543, 12.559, p<.01). The coefficient (B) indicated that children with worse health condition were 1.77 times more likely to experience emotional disorder symptoms (OR=1.774, 95% CI: 1.274, 2.472, p< .001). The coefficient (B) also indicated that children with high levels of peer relationship problems in contrast to those who had low levels of peer relationship problems, were more likely to experience emotional disorder symptoms (OR=1.605, 95% CI: 1.364, 1.889, p<.001).

As a second test of association, when the relationship of socio-demographic variables, the level of peer relationship, and behavior disorder symptoms among children, the result indicated that child's working status, child's religion, and peer relationship were significant factors influencing behavior disorder symptoms among children. It was found that children who do formal work and/or regular chores were more likely to show behavior disorder symptoms than those who don't formal work and/or regular chores (OR=4.069, 95% CI: 1.295, 12.783, p<.05 for child does formal work but not regular chores; OR=3.431, 95% CI: 1.205, 9.768, p<.05 for child does formal work and regular chores). It was interesting to find that children with religion were less likely to get involved in behavior problems, compared to those with no religion (OR=.261, 95% CI: .108, .631, p<.01 for Ancestor worship; OR=.183, 95% CI: .055, .612, p<.01 for Christianity). The level of peer relationship problems remained significant variables that influenced the levels of behavior disorder symptoms among children. Children with high levels of peer relationship problems in contrast to those who had low levels of peer relationship problems, were 1.9 times more likely to show behavior disorder symptoms (OR= 1.964, 95% CI: 1.520, 2.538, p<.001).

To examine whether socio-demographic variables and levels of peer relationship further associated with comorbidity among children, socio-demographic variables and peer relationship problems scores were entered in the logistic regression analyses. Child's working status and the level of peer relationship problems still remained significant contributions, reporting that children doing formal work and/or regular chores were significantly more likely to show comorbidity compared to others were not involved formal work and/or regular chores (OR=10.306, 95% CI: 1.268, 83.738, p<.05 for child does formal work but not regular chores; OR=6.817, 95% CI: .904, 51.383, p<.05 for child does formal work and regular chores). Furthermore, children who had high levels of peer relationship problems in contrast to those who did not, were over 3 times more likely to experience comorbidity problems (OR=3.202, 95% CI: 2.127, 4.821, p<.001).

## DISCUSSION

The current study examined the effects of socio-demographic characteristics and peer relations on the emotional and behavioral disorder symptoms among low-SES children. The important findings in the current study are follows: First, the marital status of the caregiver, the child's health, and the peer relationship had a significant effect on emotional disorder symptoms among children in less-developed countries. Second, the level of peer relationship, and behavior disorder symptoms among children, the result indicated that child's working status, child's religion, and peer relationship were significant

factors influencing behavior disorder symptoms among children less-developed countries. Third, child's working status and the level of peer relationship problems made significant contributions, reporting that children doing formal work and/or regular chores, or poor peer relationships were significantly more likely to show comorbidity compared to others who were not involved formal work and/or regular chores, or who had poor peer relationships among children less-developed countries.

While the existing research has focused on the detrimental effects in development outcomes among children growing up with those growing up with only one parent (Brown, 2004; Jones *et al.*, 2002; Turner, 2005), little is known about the experiences among children in widowed families. The unexpected death of a parent can cause emotional and economic stress for the surviving family members but current study further points that the experiences of children living in widowed-parent families demand particular attention, because they are at significantly increased risk for mental health problems than children from two parent families; with the grief and overwhelming loss of a father, the children may also suffer a great sense of emotional stress.

With regard to emotional and behavioral symptom differences according to socio-demographic variables, other studies have found that health conditions were related not to internalizing symptoms (Bakare *et al.*, 2008; Knapp & Harris, 1998) but externalizing symptoms. But the current results showed that children in poor health conditions compared to others displayed emotional disorder symptoms than those with better health. Bakare and his colleagues (2008) examined the psychological health needs of children with chronic physical illness. They suggested the need to develop pediatric liaison services to mitigate the impact of chronic physical illness on the development of psychological problems in children and the family burden in caregivers. It has also been observed that the frequent prevalence of psychological distress, estimating about 2-30%, is found among physically sick children (Knapp & Harris, 1998). Economic hardship in the family itself prior to illness of sick child are more likely to put children at risk of having psychological adjustment problems: Disadvantaged children with low socioeconomic status in the current study, who should do various types of work regardless of their opinion, may perceive a significant family burden due to their poor physical condition. In accordance with the previous research, the current study also found that children with poor health are more likely to show emotional disorder symptoms. Poor health negatively influences the psychological adjustment of physically ill child.

It was interesting to find that children with religious affiliations were less likely to show behavior disorder symptoms than those with no religious affiliations. This may be important for health care professionals who recognize the importance of providing positive and ethical guidance as well as other practical resources to the poorest children in disadvantaged families, where they are at increased risk for emotional and behavior problems. They might be able to help to meet the needs of children in the realm of both personal and religious needs in pursuit of tackling the existing problems among children.

Furthermore the mean level of children's emotional, behavior, and comorbidity disorder symptoms reported by the parents in the present study was significantly higher in children with problematic peer relationships than that of children who had good peer relationships. This finding is consistent with other research that positive peer relationships can play an important role in coping with psychosocial distress, helping the child to mitigate a difficult temperament leading to behavior problems in the procedure of socialization (Boxer *et al.*, 2005; Bronfenbrenner, 2004; Prinstein *et al.*, 2005; Weyers *et al.*, 2008). Research findings confirmed those of Jain *et al.* (2006) and Cerdá, Sánchez, Galea, Tracy and Buka (2008), who reported that children with behavior comorbidity reported more heightened emotional disorder symptoms than those with no comorbidity and positive peer relations further influenced emotional disorder symptoms, predicting the influences of both variables are in the same direction. Again, once socio-demographic variables were statistically controlled, both emotional comorbidity and peer relationships added to the

prediction of behavior disorder symptoms.

In the context of poverty, the current study indicated that child's work status was more closely related behavior disorder and comorbidity symptoms for children, while little is known about the link between child labor and behavior development. The findings suggest that child labor itself provides children with a difficult context where those physical difficulties enhance psychological distress easily. Exposure to social environments in the context of adult labor market may affect child's behavior styles negatively. Therefore developing health care service to address the psychological and physical health needs of these children would help the process of adjustment among disadvantaged children, in addition to prohibit caregivers let their children get involved in any kind of child labors.

The findings of the current research make it clear that helping widowed-families, enhancing child's health conditions and peer relationships can reduce emotional well-being, and further helping children enjoy right to participate in religious institutions as well as prohibiting child labor improve behavior problems and comorbidity symptoms among children. The analysis results have implications for child and family health care policy in relation to the assessment and support and for practitioners in direct social services. The findings of this study indicate that psychological distress and behavior problems in disadvantaged children with poor health and involved in child labor require the development of health care services that would address those problems and appropriate intervention and prevention programs targeting children in low-income and widowed-families. Other efforts should be given to educate caregivers not let their children engage in labors but enjoy in other extracurricular activities like religious participations, conducting proper parenting roles. These efforts would help children develop functional emotions and behaviors.

It will be also important for direct practitioners to assess parental functioning and the child's health, when once a child was found to have emotional or behavior problems. Findings from the current study support the assumption that familial environment and child's health can account for this association. In addition, results from the regression analysis further suggest that religious affiliation and peer problems are also important predictors of emotional, behavioral disorder, or comorbidity symptoms and should be considered when a child exhibit emotional or behavior disorder symptoms. Thus, direct practitioners need to address these possible and specific predisposed factors in their interventions.

One possible limitation is its generalizability. Because the study sample was representative of disadvantaged families and their children in Vietnam, the findings may have special implications for low-income children in rural Vietnam. Future research need to examine the proposed model in international populations. International comparisons would likely provide socio-demographically appropriate characteristics of emotional and behavior problems and would offer the intervention and prevention strategies fit well for the country.

Another limitation is the use of indirect-report data by parents. Reports about their child's behavior that parents feel may be embarrassing which leads to non-accurate information response such as a positive estimation of their child's behaviors. Thus, careful consideration should be given to understand the results of this study. Despite limitations, the current research found associated factors with implications for intervention with low-SES children with emotional, behavior, or comorbidity disorder symptoms.

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