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Stressful Life Events and their Relationship to Psychological and Medical Functioning in Children and Adolescents with HIV Infection

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Abstract

Objectives—To assess the relationship between number and type of stressful life events (SLEs) and psychological and medical functioning in HIV-infected children.

Methods—For this cross-sectional study, caregivers of 55 vertically-infected children ages 8–17 years completed a measure assessing SLEs occurring in the past 6 months. Children and caregivers both completed a questionnaire assessing the child's levels of depression and anxiety. Concurrent demographic and medical data were gathered from chart review.

Results—School-related SLEs were the most common type of event and predicted child-reported depressive symptoms. Children who had disclosed their diagnosis in the past six months were rated as more anxious by their caregivers than non-disclosers. Also, disclosers had lower CD4 percentages and absolute counts and higher viral load levels, and were more likely to have been hospitalized recently. The total number of loss-related SLEs predicted viral load levels. Finally, children who experienced at least one financially-related SLE had lower CD4 counts and were more likely to have been hospitalized than those experiencing no financial SLEs. Overall, children and caregivers reported non-significant levels of child depression and anxiety.

Conclusions—Both the total number and type of SLEs experienced have important implications for psychological and medical functioning in HIV-infected youth.

Keywords

Stressful life events; psychological functioning; HIV disease; children

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In the last decade, the advent of highly active antiretroviral therapy (HAART) has served to slow the progression of HIV to AIDS¹. Despite these treatment advances, HIV-infected children often experience a myriad of stressful life events (SLEs). Common psychosocial SLEs

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faced by children with HIV infection include discrimination and worries about disclosure to others. Further, many experience the loss of a parent and are cared for by an extended family member or placed into foster care. Illness-related SLEs include fear of disease progression or death and symptoms of opportunistic infections. In addition, these children often must adhere to complex treatment regimens that can have adverse side effects. The impact of SLEs is not clearly understood at present, although recent research has suggested that negative events places HIV-positive children at greater risk of behavior problems and symptom distress².

Categories of Stressful Life Events

Most studies that have assessed SLEs have considered the total number of events or individual events in relation to outcome measures. However, some studies have separated SLEs into categories, and determined that certain types of events (i.e., family relationship problems, bereavement) impact psychological or medical functioning more, or differently, than others. For example, among healthy children ages 8 to 16 years, Goodyer et al³ found that life events categorized as “disappointments” were predictive of persistent major depression. Results of another child study indicated that family-related conflict events were an important factor in the link between fathers’ alcoholism and children’s substance abuse⁴. There were no published studies found that examined different categories of events relevant to HIV disease in children.

Psychological Functioning of Individuals with HIV Infection

Several studies from both the pre-HAART and HAART eras have suggested that youth with HIV infection may experience higher levels of depression and/or anxiety compared with uninfected peers^{5, 6}. Recent estimates of caregiver and child self-reports of internalizing disorders have ranged from 13 to 17%^{7, 8}, and anxiety and depression are among the most common diagnoses and/or symptoms reported^{7–10}.

Stressful Life Events and Psychological Functioning in Children

Stressful life events have been examined as possible precursors to depression and anxiety with multiple populations. Two pre-HAART studies of HIV-positive youth found associations between the occurrence of SLEs and levels of anxiety and depression^{11, 12}. No studies were identified that examined the relationship between SLEs and psychological functioning among HIV-positive children in the HAART era. Since HAART has had such a positive impact on the health of HIV-positive individuals, results from pre-HAART studies cannot necessarily be generalized to cohorts of patients on HAART. Additionally, most past studies of individuals with HIV disease did not use measures of SLEs that included events specifically relevant to the HIV population. Thus, it will be important for researchers to determine the nature of the relationship between SLEs, including HIV-related SLEs, and psychological functioning among children taking HAART.

Stressful Life Events and Medical Functioning in HIV Disease

Several studies have examined the relationship between SLEs and medical functioning among HIV-positive individuals. Evans et al.¹³ followed 93 HIV-positive homosexual men for up to 42 months. At six month intervals, participants indicated the number of SLEs that occurred in the past six months. Results indicated that for every severely negative event experienced, the risk of disease progression doubled. Follow-up studies found that SLEs continued to increase the risk of disease progression and AIDS-defining conditions for up to nine years^{14–16}. These findings suggest that the presence and severity of SLEs are related to medical functioning in adults with HIV disease.

Only two published studies were identified that investigated the relationship between SLEs and medical functioning among children with HIV disease. First, among 618 vertically-infected

children on unspecified treatment regimens, the risk of immune suppression increased with each SLE reported over the course of the 12-month study¹⁷. By contrast, Moss et al¹¹ found no relationship between stressful events and CD4+ percentage decline in 24 children primarily with transfusion-acquired HIV infection on pre-HAART regimens. Studies of the relationship between SLEs and medical functioning among HIV-infected children taking HAART regimens are needed.

Study Objectives

A clear understanding of how SLEs relate to psychological and medical functioning would enable clinicians to intervene as early as possible, and perhaps prevent the psychological and medical difficulties that may result from the SLEs. The primary aim of this cross-sectional study was to examine the relationship between SLEs and both psychological and medical functioning in HIV-positive youth. It was hypothesized that a higher number of SLEs would be associated with higher levels of depression and anxiety, as well as worse medical functioning (as indicated by a higher viral load, lower CD4+ percentage, and more recent hospitalizations). Exploratory analyses were conducted to assess the relationship between different categories of events with the child's psychological and medical functioning.

Methods

Participants

Eligible participants included vertically-infected HIV-positive children between the ages of 8 and 18 years who were enrolled in an antiretroviral (ARV) treatment protocol at a medical research facility between 2001 and 2005. These children were referred from across the United States. As part of the treatment protocols, children participated in a comprehensive neuropsychological evaluation that included the SLE and psychological measures used in the current study.

Measures

Stressful Life Events—Caregivers of the child participants completed a 25-item Life Events Checklist (LEC), a list of potentially stressful life events modified from previously existing scales by adding items specific to HIV disease¹¹. Caregivers indicate which events their child experienced in the six months prior to the evaluation.

Psychological Functioning—The Behavioral Assessment Scale for Children (BASC)¹⁸ is an inventory that assesses aspects of emotional functioning including depression and anxiety. Multiple studies have attested to the reliability and validity of this instrument^{19, 20}. Raw scores are converted to T-scores (mean = 50, standard deviation = 10). Scores between 60 and 69 fall in the “at risk” ranges, and scores of 70 or higher fall in the “clinically significant” range, with one exception: on the child self-report Anxiety subscale, the “clinically significant” range begins at a T-score of 65. Items on the Parent Rating Scale utilize a 4-point Likert scale with anchors of “never occurs” and “almost always occurs.” Items on the child (ages 8 to 11 years) and adolescent (ages 12 to 18 years) self-report versions are presented in a true/false format. While the two forms are somewhat different in item content to reflect developmental changes, the child and adolescent versions are structured the same and can be interpreted in the same way¹⁸.

Demographic Variables—Data on age, gender, race, and mode of HIV acquisition were obtained for each child through medical chart review. The nature of the child's relationship to his or her primary caregiver (biological parent or other type of caregiver) also was noted.

Medical Functioning—Measures of health status were obtained during the same visit in which the other measures were completed. Immune status was assessed via CD4+ percentages and absolute counts. Virologic functioning was assessed through levels of HIV-1 RNA PCR (“viral load”), with an undetectable viral load defined as less than 50 copies/mL. Clinical status, as reported by caregivers and confirmed through chart review, was indicated by the number of times the child was hospitalized in the past six months.

Procedure

The center’s Institutional Review Board approved all ARV treatment studies, and the children’s legal guardian gave informed consent prior to enrollment. Children received neuropsychological assessments (including the BASC and LEC) at initial enrollment and at regular intervals throughout the duration of the study. All data were collected during routine outpatient clinic appointments, and were taken from the first visit in which all of the aforementioned measures were completed. A psychologist or advanced research assistant was available to assist children and caregivers who had reading difficulty.

To establish SLE categories from the LEC, two of the authors independently generated categories based on the items, and their categories were identical to each other. The proposed categories were: Family, School, Loss, Interpersonal, and Financial. A list of the SLEs, along with these categories, was then sent to ten Ph.D. level psychologists who placed each event into the category to which they felt it best belonged. Three items with less than 80% agreement were eliminated from the categorical analyses, but were included in the analysis of the total number of SLEs. The Interpersonal category contained only two items, so this category was dropped. However, one item in this category (“disclosure of diagnosis to others”) was endorsed by six caregivers. Because disclosing one’s HIV status to others can lead to discrimination and social isolation²¹, this event was analyzed as an individual item. Due to overlap in the content of the three items in the Financial category (for example, of the ten caregivers who endorsed receiving financial assistance, eight of them also noted having financial difficulties), children were categorized according to whether they had experienced any or none of the three financial events. These procedures yielded the final subscales of Family (7 items), School (6 items), Loss (4 items), Disclosure (1 item), and Financial (3 items). A total subscale score was calculated for the Family, School, and Loss categories by summing the number of items checked in each one, while the Disclosure and Financial scales were scored as yes/no.

Statistical Analyses

During preliminary analyses, it was found that 46 (84%) of the 55 children experienced no hospitalizations in the past six months. For this reason, this item was analyzed categorically (no hospitalizations, ≥ 1 hospitalizations) as a measure of clinical status. Descriptive statistics were computed for demographic and medical variables. Levels of viral load were subjected to a \log_{10} transformation to normalize the distribution of data.

To assess for systematic differences in BASC or LEC scores according to demographic variables, t-tests or analyses of variance (ANOVAs) were computed for categorical variables and correlations were computed for the continuous variable of age. Pearson correlations were conducted to assess the relationship between SLEs and both psychological and medical functioning. Based on the pattern of significant findings in the correlation matrix, bivariate regression analyses were conducted to determine the ability of SLEs to predict scores on the measures of psychological and medical functioning. ANOVAs were computed to assess for significant differences in medical variables based on demographic and SLE variables. ANOVAs or chi square tests of independence were performed to examine the relationships between SLEs (total number and categories) and hospitalization. The relationship between hospitalization and loss-related SLEs was assessed by categorizing whether the child

experienced any loss-related events in the past six months (yes or no) and performing a chi square test. Follow-up exploratory analyses were conducted using Pearson correlations to assess the relationship between caregiver and child mean scores on the Depression and Anxiety subscales of the BASC, and paired t-tests were conducted to assess for systematic differences between caregiver and child scores. Post-hoc Scheffe tests were conducted to correct for multiple comparisons where appropriate. Also, we opted to maintain an alpha level of .05 since many of our analyses (specifically, those involving categories of events) were exploratory.

Results

Demographic Variables

As shown in Table 1, the total sample ($N = 55$) consisted of 30 boys (55%) and 25 girls (45%) with a mean age of 12.9 years (range = 8 – 17 years). The majority of participants were African American (45.5%) or Caucasian (43.6%), with four children of Hispanic and two children of Native American heritage (the latter two categories were combined into an “other” category for analysis due to the small number of children in each group). Twenty-five (45%) of the children lived with a biological parent, while 30 (55%) lived with an adoptive or foster parent or an extended family member. The parent questionnaires were completed by mothers (56%), fathers (20%), and extended family members (24%). All children were aware of their HIV status. Most children were taking 3 (44%) or 4 (52%) ARV drugs; 4% were taking two ARV drugs. All regimens except one (2%) included a protease inhibitor (PI).

Gender, race, and age of the child were not related to any of the psychological or medical variables, to the total number of SLEs, or to any of the SLE categories (School, Family, Loss, Financial, Disclosure). Biological caregivers rated their children significantly higher on the BASC Depression subscale compared to non-biological caregivers ($t = 2.05, p < .05$), although neither group indicated that their children’s symptoms were in the At Risk or Clinically Significant range (mean T-scores = 47.2 and 43.1, respectively). Type of caregiver was not related to other measures of psychological functioning (i.e., child reports on the Anxiety and Depression subscales or caregiver reports on the Anxiety subscale), or to any measure of medical functioning or to total SLEs. Among SLE categories, more children living with biological caregivers experienced one or more financial SLEs than children who lived with non-biological caregivers ($X^2 = 7.73, p < .01$). There were no significant differences in BASC Depression or Anxiety mean scores between mothers, fathers, and extended family members (p 's $> .05$).

Medical Functioning

The mean CD4+ percentage of the total sample was 24.3 ($SD = 13.4$, range 0–52), which, according to CDC classification, is on the border between “no suppression” and “moderate suppression”²². The mean CD4+ absolute count was 612 ($SD = 454.9$, range 0 – 2312). Seventeen (31%) children had undetectable viral load levels (median = 9,054 copies/mL; mean = 103,500 \pm 182,570). The number of hospitalizations occurring in the past six months ranged from 0 to 3, with nine (16%) children experiencing at least one hospitalization.

Stressful Life Events—The total number of SLEs experienced by the children in our sample in the six months prior to their participation ranged from 0 to 8 ($M = 2.15, SD = 1.99$). Table 2 shows each category of SLEs, the items included in those categories, and the number and percentage of children who experienced each event. School-related SLEs were the most commonly reported type of SLE, with 44% of the children in our sample experiencing at least one (9% of the children experienced more than one). For example, 20% of the children had experienced a decrease in grades and 16% had noted behavioral problems in school in the past

six months. The least commonly experienced SLEs were related to loss (11%) and disclosure (11%).

Psychological Functioning

Depression—The mean T-scores on the Depression subscale of the BASC parent and child measures were within normal limits (49.2 ± 11.1 and 49.3 ± 8.3 , respectively). Out of 55 families, three (5%) caregivers and two (4%) children scored in the “clinically significant” range for depression (T-score equal to or greater than 70). Ratings of five (9%) caregivers and five (9%) children (not of the same five caregivers) scored in the “at risk” range (i.e., T-score between 60 and 69).

Anxiety—On the Anxiety subscale of the BASC parent and child measures, the mean T-scores were within normal limits (48.4 ± 10.8 and 46.1 ± 9.6 , respectively). Responses of two (4%) caregivers and two (4%) children placed the child in the Clinically Significant range for anxiety, while six (11%) caregivers and four (7%) children rated the child in the At Risk range.

Relationship between SLEs and Psychological Functioning

The total number of SLEs was not significantly correlated with mean caregiver or child scores on the BASC Anxiety or Depression subscales (see Table 3). Among categories of events, the number of school-related SLEs a child experienced was positively related to the child’s mean score on the BASC Depression subscale ($r = .28, p < .05$) and significantly predicted their self-report of depression ($F[1, 53] = 4.39, p < .05$), accounting for 8% of the variance in scores.

Children who had disclosed their illness in the past six months were rated significantly higher by their caregivers on the Anxiety subscale ($F[1, 53] = 6.67, p < .05$) than children who did not disclose. There were no significant differences between disclosers and non-disclosers with respect to mean scores on the child self-report Anxiety subscale, or the child or parent Depression subscales. SLEs experienced in the Family, Loss, and Financial categories were unrelated to mean scores on the child and parent Anxiety and Depression subscales ($ps > .05$).

Relationship between SLEs and Medical Functioning

Children who were hospitalized at least once in the past six months had experienced a higher total number of SLEs than those who were not hospitalized ($F[1, 53] = 12.72, p < .001$). Moreover, children who experienced loss SLEs were significantly more likely to have been hospitalized than those who had experienced no loss SLEs ($X^2 = 5.57, p < .05$). The total number of loss-related SLEs were positively related to viral load ($r = .29, p < .05$) and significantly predicted viral load levels ($F[1, 53] = 4.72, p < .05, R^2 = .082$). Children who experienced at least one financially-related SLE had a lower mean absolute CD4+ count than children who did not ($F[1, 53] = 4.15, p < .05$; mean CD4+ count = 437.9 and 696.8, respectively). Children who disclosed their diagnosis in the past six months had significantly lower CD4+ percentages ($F[1, 53] = 6.38, p < .05$) and absolute CD4+ counts ($F[1, 53] = 4.71, p < .05$), and significantly higher viral load levels ($F[1, 53] = 7.30, p < .01$) compared with children who had not disclosed their diagnosis. Children who disclosed their illness as well as those who experienced one or more financial SLEs were significantly more likely to have been hospitalized ($X^2 = 5.57, p < .05; X^2 = 9.92, p < .01$, respectively).

Discussion

To our knowledge, this study is the first to examine the relationship between SLEs and both psychological and medical functioning among HIV-positive children in the HAART era. It also is the first to systematically analyze SLEs according to distinct categories of events in this population.

Stressful Life Events

Seventy-six percent ($n = 42$) of the children in our study had experienced at least one SLE in the past six months. School-related SLEs were the most common and included academic and behavior problems. It is noteworthy, but not completely surprising, that such a substantial percentage of children in our sample were having academic difficulties. Although recent research indicates that significant cognitive impairments are less common today than in past years^{23, 24}, children remain vulnerable to the effects of HIV on the central nervous system^{25, 26}. However, it should be noted that no conclusions should be drawn regarding the etiology of these children's school problems (that is, how much is attributable to cognitive impairment versus environment or social-emotional functioning).

Psychological Functioning

Overall, neither the children nor their caregivers reported that the children had significant problems with depression or anxiety. Less than 5% of children and caregivers indicated levels of depression or anxiety in the clinical range. These results are in keeping with one earlier study of HIV-positive children⁶ but are different from other studies discussed previously that reported higher estimates of dysfunction⁷⁻¹⁰. One possible reason for the discrepant findings is that the children in several of the contradictory studies had hemophilia in addition to HIV disease. Thus, the samples are somewhat different. Additional studies with larger samples of HIV-positive populations are warranted. Also, the studies by Mellins et al⁸ and New et al⁷ both used the Child Behavior Checklist (CBCL)²⁷ to assess symptomatology, while our study used the BASC questionnaire. Several reports in the literature have shown differences in rates of behavior problems across these two measures, most commonly with regard to ADHD symptoms^{28, 29}. One recent study compared these two measures on internalizing symptoms among children with epilepsy³⁰, and noted a significantly higher prevalence of internalizing problems on the CBCL. Thus, the differing rates of dysfunction across studies may reflect fundamental differences in these measures.

Relationship between SLEs and Psychological Functioning

Contrary to our hypotheses, the total number of SLEs the children experienced was not significantly related to child or caregiver perceptions of the child's psychological functioning. The lack of a significant relationship is in contrast to several studies that included only adolescents and found significant links between negative or stressful life events and depression symptoms³¹ or a depressive disorder³². However, the present findings were consistent with several other studies that included both children and adolescents^{3, 33}. The variability in the samples' ages may be one reason for the differential findings across studies. With respect to the current study, there are several possible reasons for the lack of a significant relationship between total SLEs and psychological functioning. First, the vast majority of children and caregivers in our study reported normal levels of depression and anxiety in the children. It is not known how the variables of interest would relate to each other in a sample with a higher prevalence of clinically significant symptoms. Also, given the significant relationships found between psychological functioning and SLEs in certain categories (i.e., school-related, disclosure), it is possible that analyzing the total number of SLEs obscures these relationships.

Within event categories, school-related SLEs predicted children's self-reported depression levels. Also, children who disclosed their illness had higher levels of anxiety according to caregiver reports. These are important events for mental health professionals to monitor for their potential impact on the child's psychological health.

Relationship Between SLEs and Medical Functioning

As hypothesized, the occurrence of recent SLEs was associated with negative medical functioning. Specifically, children who had experienced more total SLEs were more likely to have been hospitalized in the past six months. Children who had disclosed their diagnosis had lower CD4+ percentages and absolute counts, higher viral load levels, and a greater likelihood of having been hospitalized compared with non-disclosers. The relationships between disclosure and medical functioning may be due to children disclosing their diagnosis to others more frequently as their illness gets worse. For example, a child who is hospitalized may disclose his or her illness to extended family or friends in order to explain the hospitalization. Additionally, caregivers of children who are experiencing poor medical functioning may disclose the illness to the child's school to explain the increasing number of absences or changes in the child's physical appearance or behavior (e.g., weight loss, increased fatigue).

Children who had experienced one or more financial SLEs had lower CD4+ absolute counts and were more likely to have been hospitalized than children who had not experienced recent financial SLEs. Also, more loss SLEs predicted higher viral load levels, and hospitalizations were more common in children who had experienced at least one loss-related event. It is possible that the relationships between these SLE variables and medical functioning may be mediated by the child's adherence to their medication regimen. When a family experiences a loss or significant financial stress, the home environment may become more chaotic, during which time caregivers may be less vigilant about the child's adherence. Alternatively, psychological factors, such as depression, may mediate the relationship between loss and medical functioning. Regarding potential biological mechanisms, stress can lead to alterations in immune activity³⁴ and cortisol levels³⁵, but the role that these factors play in HIV disease remains unclear. Authors of a longitudinal study on adults with HIV disease found that patients who reported more SLEs had faster progression to AIDS¹⁶. However, a model whereby lymphocytes and/or cortisol mediated the relationship between SLEs and disease progression was not supported. More research is needed to discern the interrelationships among these variables in HIV-positive individuals, including children.

Relationship Between Child and Caregiver Reports of Psychological Functioning

It is interesting to note that child reports of depression, but not caregiver reports, were predicted by school-related SLEs, and caregiver reports of the child's anxiety, but not child reports, were higher among children who had disclosed their illness in the past six months. To investigate these differences further, we performed follow-up analyses on the relationship between child and caregiver scores on the BASC Depression and Anxiety subscales. Child and caregiver mean scores on the Depression subscale were positively correlated ($r = .28, p < .05$) and not significantly different from each other ($t = .09, p > .05$). No significant association was revealed between child and caregiver mean scores on the Anxiety subscale ($r = .21, p > .05$), and no difference was evident across respondents ($t = 1.3, p > .05$). Moreover, there were no significant differences found between boys and girls in terms of the level of agreement with caregivers on the Depression ($t = -1.90, p > .05$) or Anxiety ($t = -.19, p > .05$) subscales. A number of studies have found the level of agreement between child and caregiver reports of child psychological status to be low among community samples^{36, 37}. However, this has not been examined previously in children with HIV infection. More research is needed on this topic in the pediatric HIV population before definitive conclusions can be drawn.

Study Limitations

A potential limitation of the current study is that the measure of SLEs was completed by the child's caregiver and not the child. While the caregiver may provide a more accurate account of events, one cannot be certain that the child would have responded the same way. Also, the caregivers were asked to identify SLEs occurring up to six months prior to the point of data

collection. This time frame may have been too long to capture the more immediate changes in psychological or medical functioning that may result from SLEs. A longitudinal study that involves repeated assessments of SLEs that correspond more closely to the time that medical and psychological variables are evaluated may yield more detailed findings regarding the relationship between these factors. Another important point to consider is that CD4+ values (particularly absolute counts) and viral load are variable and are easily affected by adherence. Furthermore, psychological factors such as depression may result from certain SLEs (e.g., loss), and may in turn impact medical markers^{16, 38}. Thus, future studies may benefit from investigating the possible mediating effects of these variables.

Some of the analyses involved comparing groups with a small number of participants in one cell. For example, only 6 of the 55 children had disclosed their diagnosis to someone in the past six months. In these cases, a conservative interpretation is warranted. Finally, we conducted a relatively large number of analyses, and several of our significant findings were modest and would not have remained significant had a more stringent alpha level been chosen. As stated previously, we maintained alpha at .05 since many of our analyses were exploratory and meant to be hypothesis-generating for future studies. While results should be viewed as preliminary at present, this study's findings can be used as a basis for further explanation using independent samples of patients with HIV disease and other illness groups.

Conclusions

The current study is believed to be the first to investigate the relationship between SLEs and both the medical and the psychological functioning of HIV-positive children in the HAART era. Results indicate that health-care professionals should pay special attention not only to the number of SLEs a child experiences but also the type of events when considering the potential impact on psychological and medical functioning. School-related SLEs were the most common type experienced by the children in our sample, and were predictive of the child's report of depression. Children who had disclosed their diagnoses recently were viewed as more anxious by their caregivers than those who had not disclosed. In children who experience significant life events, particularly those involving personal loss, financial stress, or disclosure of diagnosis, medical functioning is likely to be worse. Additional research is needed to further explore the effects of different categories of SLEs rather than just the total number of SLEs. Finally, future research on these topics should include an assessment of adherence rates as a potential mediator in the relationship between SLEs and medical markers.

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Table 1Demographic Information for Child Participants ($N = 55$)

Patient Characteristic	Frequency	Percent of Sample
Sex		
Male	30	55
Female	25	45
Race		
African American	25	46
Caucasian, Non-Hispanic	24	44
Hispanic or American Indian	6	11*
Relationship to Caregiver		
Biological	25	45
Non-biological	35	55

* Total percentage for race categories greater than 100 due to rounding.

Table 2Stressful Life Events (SLEs) Experienced by Child Participants (*N*=55) in the Past Six Months

SLE Categories and Items	n (%)
Family	13 (24)
Birth of a sibling	3 (5)
Remarriage of a parent	0 (0)
Divorce of parents	0 (0)
Marital separation of parents	1 (2)
Hospitalization of a parent	5 (9)
Discovery of a family member's serious illness	6 (11)
Family member problems with drugs or alcohol	0 (0)
School	24 (44)
Repeated a grade	2 (4)
Suspension from school	2 (4)
Decline in school grades	12 (22)
Problem with school administration	3 (5)
Teacher reports behavior problems	9 (16)
Move to a new school	7 (13)
Loss	6 (11)
Death of a Grandparent	3 (5)
Death of a Parent	2 (4)
Death of a Sibling	1 (2)
Death of a peer	2 (4)
Financial*	18 (33)
Parent loss of job	3 (5)
Difficulty paying bills	16 (29)
Family gets financial assistance	10 (18)
Disclosure of HIV diagnosis to others[†]	6 (11)

* Financial SLEs analyzed categorically for whether a child had experienced any financial-related SLEs in the past six months.

[†] Disclosure analyzed categorically as a single item.

Table 3Correlations Between Stressful Life Events (SLEs) and Psychological and Medical Variables ($N=55$)

	Total SLEs	Family	School	Loss
Psychological Variables				
Depression – caregiver report	-.13	.04	-.001	.002
Depression – child report	.21	.07	.28*	-.02
Anxiety – caregiver report	.22	.14	.01	.09
Anxiety – child report	-.10	.004	.05	-.11
Medical Variables				
CD4+ percentage	-.19	.18	-.16	-.15
CD4+ absolute count	-.12	.10	.06	-.17
Viral load log	.21	.03	-.02	.29*
Number of hospitalizations	.44 [†]	.15	.02	.38 [†]

*
p<.05.[†]
p<.01.