Reliability and Validity of the Early Trauma Inventory Self Report-Short Form among Korean Adolescents

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Objectives: Experiencing early childhood trauma is related to multiple psychiatric problems in adolescents and adulthood. This study aimed to examine the reliability and validity of the Korean version of the Early Trauma Inventory Self Report-Short Form (ETISR-SF) among Korean adolescents.

Methods: A total of 86 adolescents aged 12–17 years (mean age 14.50±1.35 years, range 12–17) were assessed using the ETISR-SF. Other instruments, including the Children’s Depression Inventory (CDI), the revised Children’s Manifest Anxiety Scale (RCMAS), and the List of Threatening Experiences Questionnaire (LTE-Q), were used to assess clinical symptoms. After 2 months, 51 of the 86 participants were evaluated using the ETISR-SF to assess test-retest reliability.

Results: The Cronbach’s coefficient alpha for the ETISR-SF was high (0.803). Adolescents with depressive disorder showed higher ETISR-SF scores compared to healthy controls. The ETISR-SF scores were correlated higher with the scores on the LTE-Q (r=0.485) than with the scores on the CDI or RCMAS (r=0.165 and 0.347, respectively).

Conclusion: The ETISR-SF was temporally stable, showing acceptable reliability (r=0.776). These findings suggest that the Korean version of the ETISR-SF appears to be a reliable and valid instrument for the measurement of reported childhood trauma.

Key Words: Early trauma; Trauma inventory; Adolescent; Korea.

INTRODUCTION

Childhood trauma is defined as an adverse childhood experience, including physical, emotional, and sexual abuse and general traumatic experiences.1) Significant associations between childhood trauma and impaired mental health in adolescence2-7) and adulthood8-14) have been documented in numerous studies. Early life experiences of trauma may affect children’s ability to modulate physiological arousal, and the subsequent loss of self-regulation is related to both emotional problems such as depression and anxiety and behavioral problems such as self-destructive behavior and substance abuse.15) Post-traumatic stress disorder (PTSD), anxiety, depression, eating disorders, sleep disorders, suicide attempts, conduct disorder, substance abuse, and internet addiction are among the psychiatric problems found to be associated with childhood trauma in previous studies.2-7,16-19) There has also been a growing literature indicating that poly-victimization (exposure to more than one type of trauma) increases the risk of several psychiatric disorders and symptoms, such as anxiety, depression, PTSD, and suicide attempts.12-14,16-20,21)

Despite the significance of trauma, recalling trauma without specific questionnaires could limit the range of traumatic events. Therefore, a structured and comprehensive instrument to measure traumatic events is needed in both the clinical and research settings. There are numbers of instruments that assess developmental trauma in children and adolescents, and each of these instruments measure somewhat different dimensions of the childhood trauma.22) However, there have been no studies validating these instruments with the Korean adolescent samples.

The Early Trauma Inventory Self Report-Short Form (ETISR-SF), one of instruments that measure the childhood trauma, is a 27-item self-report questionnaire, which assesses the four domains of physical, emotional, sexual abuse, and general trauma.23) It was validated among the Korean adult samples,24) but not among the Korean adolescent samples. Therefore, this study examined the reliability and validity of the Korean version of the ETISR-SF among Korean adolescent samples.
METHODS

Participants and procedure
Forty adolescents aged 12–17 years with a primary diagnosis of depressive disorder based on the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision were enrolled in this study. These psychiatric diagnoses were confirmed by the Korean Kiddie Schedule for Affective Disorders and Schizophrenia-Present and Lifetime version (K-SADS-PL).25 Forty-six healthy adolescents aged 12–17 years were also recruited from a middle school and a high school near our research center. All of them were screened for depression and other psychiatric disorders using the Korean version of the K-SADS-PL. To assess the test-retest reliability, the ETISR-SF was administered to participants two times (i.e., baseline and 2 months after baseline). This study was approved by the Institutional Review Board for human subjects (No. 2014-34). Informed consent was obtained from all participants.

Measures

The Early Trauma Inventory Self-Report-Short Form
The ETISR-SF is a 27-item questionnaire used for the assessment of the four domains of physical (5 items), emotional (5 items), and sexual (6 items) abuse, as well as general traumatic experiences (11 items). It categorically assesses the existence of traumatic events that occurred before the age of 18.26 Each traumatic experience was scored dichotomously (yes=1/no=0). The sum of scores of each domain and the total scores were calculated. The measure has been shown to have excellent validity and internal consistency among Korean adult population (Cronbach’s α=0.869, test-retest reliability=0.844).26

Exposure to life-threatening experiences
A modified version of the List of Threatening Experiences questionnaire (LTE-Q)27 was used to assess exposure to life-threatening experiences. The LTE-Q is a 12-item instrument to measure common life events that tend to be threatening. The items that were not appropriate for adolescent age (e.g., unemployment, subjects sacked from job) were modified to developmentally appropriate items for adolescents. The 12 items used in this study were: serious illness or injury to subject, serious illness or injury to a close relative, death of a parent, death of a close relative, broke off a steady relationship, serious problem with a close friend or relative, subjects suspended or expelled from school, subjects bullied, change of residence, major financial crisis, problem with police and court appearance, and something valuable lost or stolen. Each life event was scored dichotomously (yes=1/no=0). The total score ranges from 0 to 12.

Children's Depression Inventory
The Children’s Depression Inventory (CDI) is a self-rated, symptom-oriented scale that is suitable for youth aged 7 to 17. There are 27 items quantifying symptoms such as depressed mood, hedonic capacity, vegetative functions, self-evaluation, and interpersonal behaviors. Each CDI item consists of three statements that are rated on a scale that ranges from 0—2. The total score ranges from 0 to 54. A score of 25 or greater was regarded as a clinically significant degree of depression.27

The revised Children’s Manifest Anxiety Scale
The revised Children’s Manifest Anxiety Scale (RCMAS) is a 37-item, self-report instrument that assesses the severity and nature of anxiety. A response of “Yes” indicates that the item describes the subject’s feelings or actions, while a response of “No” indicates that the symptom is not present. The total anxiety score was computed based on 28 items, with a score of 19 or greater suggesting a clinically significant degree of anxiety.28

Statistical analyses
Cronbach’s alphas were calculated to explore the internal consistency of the ETISR-SF. Pearson correlation analysis was used to determine test-retest reliability of the ETISR-SF. Independent t-test was used to examine the group differences in the ETISR-SF. To examine the convergent and divergent validity of the ETISR-SF, Pearson correlations were calculated with several measures, including the CDI, RCMAS, and LTE-Q. SPSS version 21.0 (IBM Corp., Armonk, NY, USA) was used to perform all statistical analyses. A p-value less than 0.05 was considered significant.

RESULTS

Table 1 presents the frequency of each traumatic event, item-total correlation, and Cronbach’s alphas (minus item). The most common traumatic events to which the subjects were exposed were ‘being hit with a thrown object,’ ‘punched or kicked,’ and ‘slapped in the face.’ The coefficient alpha for the entire scale (0.803) was high.

Table 2 shows the group differences in each domain and total scores of the ETISR-SF. Compared with healthy adolescents, adolescents with depressive disorder scored higher on the ETISR-SF total scale (t=-2.05, p=0.044) and physical abuse subscale (t=-2.03, p=0.046).

Table 3 shows Pearson correlations among the subscales
of the ETISR-SF. The correlations between the ETISR-SF total and its subscales were moderate to high. The ETISR-SF total and its subscales demonstrated high test-retest reliabilities over a 2-month period. All subscales were temporarily stable.

Table 4 shows Pearson correlations of the ETISR-SF with several measures, including the CDI, RCMAS, and LTE-Q. The ETISR-SF total and its subscale scores were correlated higher with the scores on the LTE-Q than with the scores on the CDI or RCMAS.

**DISCUSSION**

Our findings indicate that the Korean version of the ETISR-SF is a reliable and a valid instrument for the assessment of

| Item | Frequency, % | Item-total correlation | α (minus item) |
|------|--------------|------------------------|---------------|
| T1. Natural disaster | 4.7 | 0.089 | 0.804 |
| T2. Serious accident | 8.1 | 0.060 | 0.806 |
| T3. Serious personal injury | 14.0 | 0.370 | 0.794 |
| T4. Serious injury/illness of parent | 8.1 | 0.363 | 0.795 |
| T5. Separation of parents | 27.9 | 0.387 | 0.794 |
| T6. Serious illness/illness of sibling | 2.3 | 0.077 | 0.807 |
| T7. Serious injury of friend | 10.5 | 0.277 | 0.799 |
| T8. Witnessing violence | 24.4 | 0.568 | 0.783 |
| T9. Family mental illness | 4.7 | 0.135 | 0.803 |
| T10. Alcoholic parents | 3.5 | 0.284 | 0.799 |
| T11. Seeing someone murdered | 1.2 | 0.140 | 0.803 |

| Item | Frequency, % | Item-total correlation | α (minus item) |
|------|--------------|------------------------|---------------|
| P1. Slapped in the face | 45.3 | 0.531 | 0.784 |
| P2. Burned with cigarette | 30.2 | 0.312 | 0.798 |
| P3. Punched or kicked | 46.4 | 0.445 | 0.790 |
| P4. Hit with thrown object | 50.0 | 0.532 | 0.784 |
| P5. Pushed or shoved | 40.7 | 0.537 | 0.784 |

| Item | Frequency, % | Item-total correlation | α (minus item) |
|------|--------------|------------------------|---------------|
| E1. Often put down or ridiculed | 15.1 | 0.252 | 0.800 |
| E2. Often ignored or made to feel you didn’t count | 34.9 | 0.369 | 0.795 |
| E3. Often told you are no good | 17.4 | 0.541 | 0.785 |
| E4. Most of the time treated in cold or uncaring way | 10.5 | 0.377 | 0.794 |
| E5. Parents fail to understand your needs | 17.4 | 0.328 | 0.797 |

| Item | Frequency, % | Item-total correlation | α (minus item) |
|------|--------------|------------------------|---------------|
| S1. Touched in intimate parts in way that was uncomfortable | 10.5 | 0.478 | 0.790 |
| S2. Someone rubbing genitals against you | 3.5 | 0.213 | 0.801 |
| S3. Forced to touch intimate parts | 1.2 | 0.352 | 0.800 |
| S4. Someone had genital sex against your will | 1.2 | 0.110 | 0.803 |
| S5. Forced to perform oral sex | 0 | 0.000 | 0.804 |
| S6. Forced to kiss someone in sexual way | 1.2 | 0.200 | 0.802 |

| Adolescents with depression (n=40) | Healthy controls (n=46) | t | p |
|----------------------------------|-------------------------|---|---|
| Mean (SD)                        | Mean (SD)               |   |   |
| Total                            | 5.25 (3.57)             | 3.65 (3.65) | 2.05 | 0.044 |
| General trauma                   | 1.25 (1.77)             | 0.96 (1.32) | 0.88 | 0.381 |
| Physical abuse                   | 2.60 (1.69)             | 1.79 (2.00) | 2.03 | 0.046 |
| Emotional abuse                  | 1.23 (1.40)             | 0.74 (1.08) | 1.78 | 0.080 |
| Sexual abuse                     | 0.18 (0.47)             | 0.17 (0.57) | 0.01 | 0.992 |

SD: standard deviation
Table 3. Inter-subscale correlations and test-retest reliability of the Early Trauma Inventory Self Report-Short Form

|                      | General trauma | Physical abuse | Emotional abuse | Sexual abuse | Test-retest reliability |
|----------------------|----------------|---------------|----------------|-------------|------------------------|
| Total score          | 0.679 (<0.001) | 0.765 (<0.001) | 0.709 (<0.001) | 0.567 (<0.001) | 0.776 (<0.001)         |
| General trauma       |                | 0.221 (0.041) | 0.269 (0.012) | 0.396 (<0.001) | 0.836 (<0.001)         |
| Physical abuse       |                |               | 0.372 (<0.001) | 0.212 (0.050) | 0.666 (<0.001)         |
| Emotional abuse      |                |               |                | 0.446 (<0.001) | 0.681 (<0.001)         |

Pearson’s R (p) was presented.

Table 4. Convergent and divergent validity

| ETISR-SF | LTE-Q | CDI | RCMAS |
|----------|-------|-----|-------|
| Total score | 0.485 (<0.001) | 0.165 (0.138) | 0.347 (0.004) |
| General trauma | 0.368 (0.003) | 0.160 (0.150) | 0.349 (0.004) |
| Physical abuse | 0.351 (0.004) | 0.065 (0.560) | 0.168 (0.170) |
| Emotional abuse | 0.283 (0.022) | 0.177 (0.111) | 0.275 (0.023) |
| Sexual abuse | 0.259 (0.037) | 0.029 (0.795) | 0.069 (0.575) |

Pearson’s R (p) was presented. CDI: Children’s Depression Inventory, ETISR-SF: Early Trauma Inventory Self Report-Short Form, LTE-Q: List of Threatening Experiences Questionnaire, RCMAS: the revised Children’s Manifest Anxiety Scale.

childhood trauma among adolescents. The ETISR-SF showed high levels of internal consistency (Cronbach’s alphas=0.803), which was comparable to that reported in the previous study in Korean adult sample (Cronbach’s alphas=0.806). The test-retest reliability (range: 0.666 to 0.836) was slightly lower than that reported in the previous study in Korean adult sample (Cronbach’s alphas=0.806). The ETISR-SF has shown relatively lower correlations with the measurement of depression and anxiety than with the measurement of life-threatening experiences, which suggests that the instrument measures traumatic experiences, rather than assessing the clinical symptoms. However, the correlations of the ETISR-SF total, general trauma, and emotional abuse scores with anxiety were still significant. The observed association between childhood trauma and clinical anxiety symptoms is consistent with previous studies.

Contrary to the well-known association between sexual abuse and the risk of psychiatric problems, in this study, the relationship of sexual abuse and clinical symptom measures was weaker than that for other types of trauma with clinical symptom measures. This may be due to a very low frequency of reports of sexual abuse in our sample.

The limitation of this study is the relatively small sample size. Moreover, the design of this study was cross-sectional, making identification of a causal relationship between childhood trauma and current clinical symptoms impossible. Lastly, because the subjects had to recall trauma that they had experienced in the past, the respondents’ reports of trauma may be prone to inaccuracies, although this is less likely in an adolescent sample than in an adult population. In addition, recall of early trauma might be influenced by affective symptoms as well as memory.
CONCLUSION

The results of this study indicate the Korean version of the ETISR-SF appears to be a reliable and valid instrument for the measurement of reported childhood trauma among adolescent. Future prospective studies with a larger sample are needed to measure the accurate traumatic events and to clarify the causal relationships between childhood trauma and clinical symptoms.

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Conflicts of Interest

The author has no financial conflicts of interest.

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