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Assessment of Major Life Events for Hong Kong Adolescents: The Chinese Adolescent Life Event Scale¹

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Previous Chinese research on adolescent life stress adopted life event scales that were directly translated from Western measures. To address the methodological and cultural issues overlooked by the "import" approach, the present research aimed at constructing a life event scale for Hong Kong adolescents. Study 1 was conducted to congregate items for the Chinese Adolescent Life Event Scale (CALES). The CALES contains 44 items derived from 618 Hong Kong adolescents. Study 2 revealed adequate test-retest reliability and criterion-related validity for the CALES. Moreover, the CALES yielded stronger relationships with depression than did the translated life event measures. Results suggest that the CALES is appropriate for assessing life events for Hong Kong adolescents. Both unique features of the CALES and life events found only in the translated measures are examined. Implications for Chinese research on life stress are discussed.

KEY WORDS: adolescent life stress; Hong Kong adolescents; Chinese Adolescent Life Event Scale.

Previous research examining the impact of life stress on Chinese adolescents has received scant attention. It is not until recently that research interests in life stress have been extended to the adolescent population. Similar to Western findings, recent Chinese research also revealed that

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stressful life events were related to physical and psychological symptoms for Chinese adolescents (e.g., Boys' and Girls' Clubs Association of Hong Kong, 1992; Chen, Luo, & Lin, 1993; Choy, Lam, & Ngai, 1990; Liang, Zhao, & Zheng, 1992). In previous Chinese research on adolescent life stress, American life event measures were translated and the Chinese versions were adopted. Although a Chinese hassles scale is available and well validated in Chinese adolescents (Wu & Lam, 1993), no studies to date have evaluated the adequacy of using translated life event scales in assessing major life events for Chinese adolescents.

Evaluation of scale adequacy is especially important for life event research that relies heavily on quantitative questionnaires in data collection. In this respect, two methodological issues concerning Chinese life event measures should be noted: First, in previous life stress research on Chinese adolescents, life event measures were translated from well-established ones. Validation indices obtained in Western research do not imply that these measures are equally valid for the Chinese population. Second, although items deemed relevant to Chinese adolescents were added to the translated versions and inappropriate items were omitted, such decisions appending and deleting items were made solely by adult professionals rather than by research targets (i.e., Chinese adolescents) themselves.

Moreover, the appropriateness of employing American life event measures for examining stressful experience of Chinese adolescents should be noted. The approach of "direct import" foreign scales assumes minimal differences between Chinese and Western cultures. However, culture does influence individuals' conceptualization of the self (Markus & Kitayama, 1991; Yang, 1981). Characterized by an individual orientation, American society emphasizes the importance of independence and self-actualization. Obstacles that hinder the attainment of personal goals or inhibit the full expression of oneself may exert a stronger adverse impact on the Americans, and may be perceived as especially undesirable. Characterized by a social orientation, Chinese society emphasizes the importance of interdependence and harmonious relational ties. Interpersonal rejection or conflicts tend to threaten the self-esteem of the Chinese (Bond & Hwang, 1986), and may be perceived as especially undesirable. In this respect, people from different cultural background with distinct self-conceptualizations may have unique perception of the stressfulness of life events. Moreover, recent research (e.g., Cheng, in press; Liang & Bogat, 1994) revealed considerable differences in coping behaviors towards stressful events between Chinese and American participants. Taken together, the types and influence of stressful life events may be very different for people of different cultures. Using translated American life event scales in the Chinese context may

miss certain cultural-specific aspects of life stress experienced by the Chinese.

To address these issues, the present research aimed at developing a life event scale for Hong Kong adolescents. In this research, two studies were conducted: Study I sought to construct a life event scale for Hong Kong adolescents. In this study, participants were instructed to report life events they had experienced, and their reported events were compiled to establish the Chinese Adolescent Life Event Scale (CALES). In Study 2, major psychometric properties, namely, test-retest reliability and criterion-related validity, of this newly established scale were examined. Also, two translated adolescent life event measures were included, and their relationships to depression and anxiety were compared with those of the CALES.

STUDY 1

Event items are core ingredients of life event measures. As the initial step of scale construction, this study aimed at congregating items for a new life event scale. For measures to be deemed adequate, their item content should be relevant to the population being studied (Compas, 1987; Monroe, 1982). In regard of the considerable differences between the self-perception between the Chinese and the Americans (Markus & Kitayama, 1991; Yang, 1981), a life event scale with items generated by Chinese adolescents may be more representative of the experience of Chinese adolescents than a translated life event scale with items generated by adolescents of another culture.

Method

Research Participants

Participants were 618 Chinese students (Grade 7 to Grade 12) recruited from two urban and two suburban schools in Hong Kong. Selection of these schools was based on characteristics of these schools (e.g., school level, geographical area) and characteristics of students in these schools (e.g., family socioeconomic status, academic or other achievements), aiming to cover a wide range of school and student characteristics for a representative sample of Hong Kong adolescents. Participation was voluntary and required both parental and student consent.

The sample comprised 391 females and 227 males. The mean age of the respondents was 15.43 ($SD = 1.82$, range = 12–18). Family incomes covered a wide range, ranging from less than \$7,500 (lower class) to more than \$67,500 (upper middle class to upper class). The educational level of mothers ranged from junior high school (14%) to postgraduate education (3%); the educational level of fathers ranged from junior high school (11%) to postgraduate education (5%). Family socioeconomic status (SES) based on parents' education and occupation was as follows: 2% Level I (unskilled laborer), 12% Level II (semiskilled worker); 33% Level III (skilled worker/clerical worker); 41% Level IV (medium business/semiprofessional); 12% Level V (major business/professional). Demographic characteristics of this sample were similar to those reported in the Hong Kong 1996 by-census (Hong Kong Census and Statistics Department, 1996).

Materials

A self-report open-ended list was employed to compile items for the new life event scale. Instructions oriented participants to list experienced events that had a large effect on their lives or led to changes in how they felt about themselves, their relationships with others, and their well-being. These instructions were similar to those adopted by Compas, Davis, Forsythe, and Wagner (1987). To avoid obtaining negative events only, participants were reminded to report experienced events that had positive or negative effects on them. Fifteen blank spaces were provided for the participants to fill in their responses.

Procedure

Open-ended questionnaires were distributed to participants during a regular class by a research assistant. Participants could use as much time as needed.

Results

On average, participants reported about five experienced life events in the open-ended list. To keep the life event measure concise, events of different wordings but similar nature were grouped under a single category. For instance, items such as "having a new sibling," "birth of a sister," and "a brother adopted" were deemed similar in nature and merged to become the item "sister/brother born or adopted." Items such as "mother is staying

in Canada," "father has to work overseas," and "both parents went abroad for several years" were merged to become the item "parent worked overseas and stayed away from home."

Moreover, to avoid the problem of conceptual overlap between life stress and symptom measures, events overlapping with items of symptom measures were omitted (e.g., the event "suicidal thoughts" overlaps with items of depression measures; the event "anxious about examinations" overlaps with items of anxiety measures). The resultant life event scale consists of 44 nonredundant event items. Wording (in Chinese) of each item was simplified to ensure that even participants with Grade 4 reading level understood the content. No events were reported specifically by junior and senior high schoolers, indicating these two groups of students may encounter more or less the same types of stressful life events. Although junior and senior high schoolers may experience similar types of stressful events, the frequency and subjective appraisals of experienced stressful events may be different for these two groups.

The CALES items and endorsement percentages of each item reported by female and male participants are shown in Table I. Female participants reported more instances of undesirable events related to social relationships (e.g., "more arguments with parents," "broke up with boyfriend"), whereas male participants reported more instances of having poorer academic performance than their peers. These results were consistent with those of previous Chinese adolescent research (e.g., Cheng, Bond, & Chan, 1995; Chu, 1980) that Chinese female adolescents placed more emphasis on social relationships but Chinese male adolescents placed more emphasis on personal achievement.

Discussion

Results reveal two types of life events that are uniquely found in the CALES, namely, migration and evaluation of academic performance. First, migration involving one's own or others' family is frequently experienced and perceived to be stressful by Hong Kong adolescents. Although items such as "moving house" or "moving to another community" are reported to be stressful by American adolescents, items related to migration are rarely found in American adolescent life event measures. However, migration to another country is popular among Hong Kong families. Hong Kong adolescents are more likely to experience certain migration-related stressful events such as one's family will migrate to a foreign country soon, relatives or close friends migrated to another country, as well as parents needed to work overseas and stayed away from

Table I. Items of the CALES and Their Endorsed Percentages by a Sample of Hong Kong Adolescents

Item	Male (<i>n</i> = 227)	Female (<i>n</i> = 391)
1. Received academic honors/prizes	1	3
2. Failure in tests/exams	6	3
3. Poorer academic performance than peers ^{a,b}	13	6
4. Outstanding academic achievement	1	4
5. Isolated by peers	2	4
6. Family will migrate soon ^a	7	5
7. Close friend migrated ^a	5	10
8. Relatives or friends migrated ^a	18	15
9. Parent worked overseas and stayed away from home ^a	3	8
10. More arguments with parents ^b	8	17
11. Less arguments with parents	4	1
12. More arguments among family members ^b	9	21
13. Less arguments among family members	6	5
14. Conflict with sister/brother ^b	8	18
15. Trouble with teacher	3	1
16. Sister/brother born or adopted	2	4
17. Changed to a new school	6	9
18. Mother began to work	13	10
19. Parent in serious financial trouble	2	2
20. Became a member of church	4	7
21. Suspended from school	2	0
22. Broke up with girlfriend/boyfriend ^b	3	9
23. Broke up with close friend	1	4
24. Made new friend	7	10
25. Began to date	9	6
26. Parent lost job	4	6
27. Got sick/injured	2	1
28. Parent got sick/injured	3	1
29. Sister/brother got sick/injured	0	2
30. Sister/brother left household	2	5
31. Grandparent/stepparent joined household	4	7
32. Family member became a victim of crime	1	0
33. Parent getting into trouble with law	1	1
34. Favorite pet died	0	1
35. Family moved house	3	3
36. Accepted into important extracurricular activities	16	20
37. Not accepted into important extracurricular activities	7	5
38. Started wearing glasses or braces	13	8
39. Parents separated or divorced	4	9
40. Parent remarried	3	6
41. Parent died	3	1
42. Grandparent/relative died ^b	7	13
43. Sister/brother died	1	1
44. Close friend died	0	1

^aItem unique to the CALES.

^bSignificant gender differences were found (*ps* < .05).

home for a long time. These unique items reflect two major aspects concerning the stressful experience of Chinese adolescents: (a) the cultural-specific phenomenon of migration is commonly encountered due to the uncertainty of political dynamics in Hong Kong after 1997, (b) Hong Kong adolescents are brought up in a relationship-oriented culture that emphasizes interdependency and tightly knitted relational ties (Dien, 1983), and so migration involving separation from friends or relatives as well as establishment of an entirely new social network in another country may be especially stressful for them.

Second, academic failure is commonly perceived as stressful by both American and Hong Kong adolescents. In the American adolescent life event measures, events relating to academic performance include "failing an examination" and "poor grade on report card." In the present study, Hong Kong adolescents also reported similar events but events like "couldn't catch up with the class progress" or "did poorer than friends in exams" were found as well. These responses concerning comparison with peers were merged to form the item "poorer academic performance than peers." Although these two types of events are related to the domain of academic performance, the nature of these two types of events is very different. Events involving a poor grade and poor examination results are related to *undesirable outcome* (i.e., poor academic performance). However, events such as "couldn't catch up with the class progress" and "did poorer than friends in exams" may not necessarily refer to poor outcome. Rather, these events are related to *social comparison* (i.e., poorer academic performance than peers).

These results may reflect that American adolescents tend to evaluate themselves with an absolute standard, that is, how well they themselves have done. However, Hong Kong adolescents also tend to evaluate themselves with a relative standard, that is, how well they have done in relation to peers. Such a cultural difference in self-evaluation may be attributable to distinct conceptualization of the self for the Americans and the Chinese. Specifically, American adolescents may perceive themselves as separate from others, and thus tend to evaluate their own performance independent of those of others. Hong Kong adolescents may perceive themselves to be embedded in relationships with social others, and thus tend to evaluate their own performance in relation to their peers' performance.

To summarize, apart from events similarly reported by American adolescents, the present study reveals that migration-related events and social comparison in academic performance are uniquely reported by Hong Kong adolescents.

STUDY 2

This study aimed at examining the appropriateness of using the CALES in Hong Kong adolescents. Psychometric properties of the CALES, namely, test-retest reliability and criterion-related validity, were examined. For adequate assessment of test-retest reliability, the time interval between the two test sessions should not be so short that participants can remember their previous responses. However, the two test sessions should not be too far apart because additional events can possibly occur within the time lag (Williams & Uchiyama, 1989), making it difficult to distinguish genuine occurrence of events from random recall errors. Prior research (e.g., Brand & Johnson, 1982; Compas et al., 1987) revealed adequate test-retest reliability over a 2-week period, and thus this study constituted two separate testings of the CALES 2 weeks apart.

Apart from examining test-retest reliability, criterion-related validity was also examined. Self-report measures of depression and trait anxiety were employed as validation measures. Relationships between the number of life events experienced and psychological symptoms were scrutinized. Furthermore, the appropriateness of the CALES was also evaluated by comparing the stress-symptom relationships of the CALES with those of two translated adolescent life event measures.

In the assessment of stressful life events, a simple count of the number of life events experienced is a popular method. However, this method may underestimate the effects of life events because both traumatic and less traumatic events are classified into the same category (Brown, 1974, 1981; Dohrenwend, 1974). Failure to distinguish between unique disturbances may undermine the explanatory and predictive power of life event measures. Therefore, subjective appraisals of life events were employed in this study in examining the relationship between life events and psychological symptoms. Participants were instructed to rate each experienced life event along two dimensions:

The first dimension is *perceived desirability*. Life events are not necessarily undesirable in nature. Desirable events such as marriage and job promotion also demand a person to make considerable adjustment, and are also considered as life events. Desirability of a life event should be differentiated because undesirable life events are more distressing than are desirable life events (e.g., Mueller, Edwards, & Yarvis, 1977; Thoits, 1983). The second dimension is *perceived impact*. Perceived impact of experienced life events should be distinguished because individuals with specific previous experience may have unique perception regarding the impact of the same life event. Therefore, both desirability ratings and impact ratings were

employed to assess participants' subjective appraisals of the experienced life events.

In summary, psychometric properties, namely, test-retest reliability and criterion-related validity, of the CALES were examined in this study. For criterion-related validity, relationships between subjective ratings of experienced life events and psychological symptoms were examined. Also, the stress-symptom relationships of the CALES were compared with those of two translated adolescent life event scales.

Method

Research Participants

Participants were 483 Chinese students (Grade 7 to Grade 12) recruited from two urban and two suburban schools in Hong Kong. Criteria for selecting these schools were identical to those employed in Study 1. All the participants and schools selected for this study did not overlap with those of Study 1. Participation was voluntary and required both student and parental consent.

This sample consisted of 284 females and 199 males. The mean age of the respondents was 15.28 ($SD = 1.41$; range = 12-18). Family incomes covered a wide range, ranging from less than \$7,500 (lower class) to more than \$67,500 (upper middle class to upper class). The educational level of mothers ranged from junior high school (14%) to postgraduate education (4%); the educational level of fathers ranged from junior high school (13%) to postgraduate education (4%). Family SES based on parents' education and occupation was as follows: 1% Level I (unskilled laborer); 12% Level II (semiskilled worker); 39% Level III (skilled worker/clerical worker); 44% Level IV (medium business/semiprofessional); 12% Level V (major business/professional). Demographic characteristics of this sample were similar to those reported by the sample of Study 1 and the Hong Kong 1996 by-census (Hong Kong Census and Statistics Department, 1996).

Materials

The Chinese Adolescent Life Event Scale. In the CALES, participants were instructed to indicate whether they had experienced the listed events during the past 6 months. Participants gave subjective ratings on a 7-point scale for two appraisal scales, namely, perceived impact and perceived desirability. A rating of 7 indicates that the event is appraised as extremely desirable or having an extremely great impact, whereas a rating of 1 indi-

cates that the event is appraised as extremely undesirable or having an extremely small impact. The midpoint of the scale (i.e., 4) is marked "neutral."

Criterion Measures. The Chinese version of the Beck Depression inventory (BDI; Chan & Tsoi, 1984) was adopted in this study for measuring depression. The BDI was employed because it was well validated in the Chinese culture (Chan & Tsoi, 1984), and was appropriate for Hong Kong early adolescents as well (see Shek, 1990, 1991). The BDI consists of 21 items. Respondents chose 1 of 4 alternative statements that best described how they felt for the past week. The Chinese version of the BDI was shown to have adequate reliability (Shek, 1990) and criterion-related validity (Shek, 1991) in Hong Kong adolescents. Higher BDI scores indicate a higher level of depression. The Chinese version of the State-Trait Anxiety Inventory T-Anxiety scale (STAI Form Y-2; Ye, 1990) was used to assess general feelings of tension, apprehension, and nervousness. The T-Anxiety scale comprises 20 statements, 11 of which are anxiety-present items and 9 are anxiety-absent items. Respondents gave 4-point ratings to each statement. The Chinese version of the STAI was found to be both reliable and valid in Hong Kong adolescents (Shek, 1988). Higher STAI scores indicate a higher level of trait anxiety.

Translated Life Event Measures. The translated version of the Coddington Life Events Record (CLER; Coddington, 1972) was employed in this study. The CLER consists of 42 life event items. Similar to the CALES, participants were instructed to indicate whether they had experienced the listed events during the past 6 months. Participants rated the extent of perceived impact and perceived desirability of experienced life events along a 7-point scale. Twenty-eight items (67%) of the CLER overlap with the CALES items. The translated version of the Life Events Checklist (LEC; Johnson & McCutcheon, 1980) was adopted. The LEC comprises 46 life event items. Similar to the CALES and the CLER, participants were instructed to endorse the events they had experienced during the past 6 months. They also gave impact ratings and desirability ratings to experienced life events along a 7-point scale. Twenty-five items (54%) of the LEC overlap with the CALES items.

Procedure

Data were obtained through group administration of a packet of questionnaires in class. A trained research assistant oriented the participants with instructions. The survey took about 45 minutes to complete but participants could take as much time as needed to complete the question-

naires. None of them reported any difficulties while filling in the questionnaires.

To examine the test-retest reliability of the CALES, the CALES was readministered to the same participants after a 2-week interval. Participants were instructed to report events experienced during the same 6-month period as assessed in the previous session.

Results

Descriptive Statistics

Multivariate analysis of variance (MANOVA) was employed to examine overall between-participant effects of sex, age, grade, family SES, and school levels on all major variables. Results of MANOVA revealed significant main effects for sex, $F(1, 476) = 53.27, p < .001$. No significant main effects were found for other variables, nor any interaction effects among the variables. Table II presents means and standard deviations of the major variables by sex. In comparison to male participants, female participants generally experienced more stressful life events as well as higher depression and anxiety levels. Moreover, similar to the results of Study 1, female participants generally reported more stressful events related to social relationships and male participants generally reported more stressful events related to academic performance.

Table II. Means and Standard Deviations of Major Variables for Female and Male Adolescents

Variable	Male (<i>n</i> = 199)		Female (<i>n</i> = 284)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
No. of CALES events experienced ^a	4.84	2.91	5.77	3.01
Desirability ratings of CALES	15.12	12.33	16.41	14.23
Impact ratings of CALES ^a	13.33	9.97	16.53	10.34
No. of CLER events experienced ^a	3.28	2.14	4.49	2.86
Desirability ratings of CLER	10.06	6.58	10.92	6.47
Impact ratings of CLER ^a	9.73	7.14	12.83	9.62
No. of LEC events experienced ^a	2.70	1.48	3.87	2.14
Desirability ratings of LEC	8.72	5.46	9.04	6.08
Impact ratings of LEC ^a	8.06	5.81	11.59	8.73
Depression (BDI) scores ^a	9.13	6.25	11.51	6.73
Anxiety (STAI) scores ^a	46.61	10.33	49.60	9.50

^aSignificant gender differences were found ($ps < .05$).

Analyses on internal consistency using Cronbach's alphas revealed that the Chinese version of the BDI ($\alpha = .87$) and the T-Anxiety scale of the STAI ($\alpha = .90$) were reliable. These results were similar to those obtained in previous Hong Kong studies (e.g., Chan & Tsoi, 1984; Shek, 1988, 1990).

For the CALES, weighted kappa (see Cohen, 1968) was employed to examine the extent of consistency in item endorsement for the initial and subsequent tests. Similar to the reliability indices of well-established scales such as the Adolescent Perceived Events Scale (Compas et al., 1987) and the Life Events Checklist (Johnson & McCutcheon, 1980), the CALES displayed adequate test-retest reliability over a 2-week period ($\kappa_w = .86, p < .001$).

For criterion-related validation, Pearson product-moment correlations among the CALES, translated measures (i.e., CLER and LEC), and criterion measures (i.e., BDI and STAI) were examined. As shown in Table III, desirability ratings were inversely related to depression and anxiety scores, whereas impact ratings were positively related to depression and anxiety scores. These results indicated that perceiving the experienced life events as more undesirable and as having greater impact were associated with higher levels of depression and anxiety. These results were consistent with those of previous life event research (e.g., McCubbin, Needle, & Wilson, 1985; Swearingen & Cohen, 1985a, 1985b).

Comparing the stress-symptom relationships among the three adolescent life event measures, the relationships between the CALES and symptom measures were generally stronger than those between the translated life event measures and symptom measures. Differences in the magnitude of correlation coefficients between the CALES and translated measures were examined by using Fisher's Z transformations of r . Results revealed that magnitude of the correlation coefficients of the CALES was significantly stronger than those of the translated life event measures ($Z_s > 2.38$,

Table III. Zero-Order Correlations Between Various Life Event Measures and Symptom Measures

Life event measures	BDI	STAI
Impact ratings of CALES	.37 ^b	.20 ^b
Desirability ratings of CALES	-.28 ^b	-.16 ^b
Impact ratings of CLER	.24 ^b	.18 ^b
Desirability ratings of CLER	-.19 ^b	-.12 ^a
Impact ratings of LEC	.23 ^b	.16 ^b
Desirability ratings of LEC	-.17 ^b	-.10

^a $p < .01$, two-tailed.

^b $p < .001$, two-tailed.

$ps < .05$).³ However, such significant differences were confined to stress-depression relationships rather than to stress-anxiety relationships.

Discussion

Results from this study show that the CALES displayed adequate test-retest reliability and criterion-related validity. Moreover, in comparison to the translated measures, the CALES yielded a modestly stronger relationship with depression.

As discussed in Study 1, migration-related events are commonly experienced by Hong Kong adolescents. Moreover, social comparison in academic performance is also uniquely reported by Hong Kong adolescents. Apart from these unique features of the CALES, a closer comparison between the CALES and the translated life event measures further reveals that certain items are found in the translated measures only. Examining the content of the CALES and the translated measures, all these measures similarly tap five broad categories of life events:⁴ *personal achievement* (e.g., "received academic honors/prizes," "failed to make an athletic team"); *personal trauma* (e.g., "hospitalization of yourself," "got into trouble with the police"); *family members* (e.g., "parents separated," "increased in number of arguments with parents"); *network members* such as close friends, classmates and other significant others (e.g., "broke up with girlfriend/boyfriend," "made new friends"); and *others* (e.g., "changed to a new school," "got your own car"). The respective percentages of items tapping the categories of personal achievement, family members, and network members are quite similar between the CALES and the translated measures. However, it is noteworthy that the CALES comprises far fewer items for personal trauma (2%) than do the translated measures (19% for the CLER and 15% for the LEC).

As reflected in the CALES, Hong Kong adolescents reported hospitalization of themselves and starting to wear glasses or braces as traumatic events relating to themselves. In the translated measures, however, personal traumatic events include problems such as unwed pregnancy, abortion, involvement with drugs or alcohol, and acquisition of visible deformity. Endorsement percentages of these items were either extremely low or zero in Hong Kong adolescents, indicating that these problems may be less prevalent among Hong Kong adolescents than among American adoles-

³The CALES yielded more variance (i.e., 4-6%) in accounting for depression than did the translated measures. A closer examination of individual items revealed that "poorer academic performance than peers," "family will migrate soon," and "parent worked overseas and stayed away from home" did account for this variance.

⁴Items of the CALES and translated measures were categorized and discussed by the author and two independent judges.

cents. (The endorsement data for the CALES and translated measures can be obtained from the author upon request.)

The low endorsement level of these personal traumatic events in Hong Kong adolescents may reflect their social-oriented characters (see Yang, 1981, and Bond & Hwang, 1986 for a detailed description). Specifically, Hong Kong adolescents are socialized to conform to social norms and expectations of significant others in order to maintain an integral part in the social network. Being an outstanding member in a group or deviate member of the society is regarded as highly undesirable, and thus Hong Kong adolescents may have a higher degree of restraint towards these kinds of aberrant behaviors in comparison to American adolescents.

GENERAL DISCUSSION

The present research aimed at developing an adolescent life event scale in the Chinese context. The CALES contains 44 items derived from a large sample of Hong Kong adolescents. Similar to prior Western research on criterion-related validation of life event measures (e.g., Johnson & McCutcheon, 1980; Swearingen & Cohen, 1985b), the present results reveal that the desirability ratings and impact ratings of experienced life events are significantly related to depression and anxiety. The CALES differs from the translated life event measures in that it comprises a number of stressors, namely, migration and social comparison in academic performance, that are specifically relevant to Hong Kong adolescents. Additionally, personal traumatic events commonly included in American life event measures, such as unwed pregnancy and drugs or alcohol problems, are seldom reported by Hong Kong adolescents.

Implications for Chinese Research on Life Stress

This research sheds light on three issues concerning the development of a Chinese life event scale: First, the present research reveals items uniquely reported by Hong Kong adolescents, and certain items commonly found in Western life event measures are less prevalent among Hong Kong adolescents. In this respect, item representativeness and face validity of the scale may be augmented by recruiting Chinese participants to generate the item pool for Chinese life event measures. Second, subjective appraisal scales are recommended to be included in life event measures. Participants' appraisals of experienced life events may provide richer and more meaningful information to researchers. Third, the sudden increase in the number

of migration families since the year 1984 (due to the "1997" issue) may indicate the possible influence of cohort effects on life events. Researchers should be sensitive to the emergence of cohorts and, if necessary, update the life event measures accordingly. Including several blank spaces for participants to fill in any experienced life events that do not appear in the event measure may be one possible way to detect the emergence of cohort-related events.

Cautionary Notes and Research Directions

Several cautionary notes should be addressed: The major aim of this research is to develop a life event measure for Hong Kong adolescents. Hence, results yielded in this research can only be regarded as tentative. Also, this research adopted a cross-sectional design. Although significant relationships were found between life events and psychological symptoms, the cross-sectional nature of this research provides no conclusion regarding the direction of influence between experienced life events and psychological symptoms. In these respects, further extensive studies of the CALES are needed, preferably with a prospective or longitudinal design.

Additionally, it should be noted that the CALES is derived from a non-clinical sample of adolescents. More specifically, the depression and anxiety scores of the present sample are within the nonclinical range, indicating that these adolescents do not have serious behavioral and emotional problems. Caution should be taken when using the CALES in adolescents with severe behavioral problems, emotional maladjustment, or both. Moreover, the CALES was developed from and validated with a large sample. Although significant relationships were found between the CALES items and psychological symptoms, caution should be taken when attempting to generalize the present results to the individual level for diagnoses or predictions.

Finally, the CALES is a measure tapping major life events. Daily hassles are not included in this scale. Therefore, merely employing the CALES is incomplete in examining the stress levels of Hong Kong adolescents. Since a Chinese hassles scale (see Wu & Lam, 1993) is available and well validated in Hong Kong adolescents, researchers should adopt both the CALES and the Chinese hassles scale in examining life stress of Hong Kong adolescents.

REFERENCES

- Bond, M. H., & Hwang, K. K. (1986). The social psychology of Chinese people. In M. H. Bond (Ed.), *The psychology of the Chinese people* (pp. 213-266). New York: Oxford University Press.

- Boys' and Girls' Clubs Association of Hong Kong (1992). *Report on the study of adolescent depression*. Hong Kong: Author.
- Brand, A. H., & Johnson, J. H. (1982). Note on reliability of the Life Events Checklist. *Psychological Reports, 50*, 1274.
- Brown, G. W. (1974). Meaning, measurement, and stressful life events. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events: Their nature and effects* (pp. 217-243). New York: Wiley.
- Brown, G. W. (1981). Life events, psychiatric disorder and physical illness. *Journal of Psychosomatic Research, 25*, 461-473.
- Chan, C. M., & Tsoi, M. M. (1984). The BDI and stimulus determinants of cognitive-related depression among Chinese college students. *Cognitive Therapy and Research, 8*, 501-508.
- Chen, Y., Luo, S., & Lin, J. (1993). Family life events and childhood psychoses. *Chinese Mental Health Journal, 7*, 203-205.
- Cheng, C. (in press). Role of perceived social support on depression of Chinese adolescents: A prospective study examining the buffering model. *Journal of Applied Social Psychology*.
- Cheng, C., Bond, M. H., & Chan, S. C. (1995). The perception of ideal best friends by Chinese adolescents. *International Journal of Psychology, 30*, 91-108.
- Choy, B. K., Lam, C. M., & Ngai, S. Y. (1990). *Stress and social support among young people*. Hong Kong: Scout Association of Hong Kong.
- Chu, K. S. (1980). *The psychology of sex differences*. Taipei: Taiwan Commercial Press.
- Coddington, R. D. (1972). The significance of life events as etiologic factors in the diseases of children—II. A study of a normal population. *Journal of Psychosomatic Research, 16*, 205-213.
- Cohen, J. (1968). Weighted kappa: Nominal scale agreement with provision for scaled disagreement or partial credit. *Psychological Bulletin, 70*, 213-220.
- Compas, B. E. (1987). Stress and life events during childhood and adolescence. *Clinical Psychology Review, 7*, 275-302.
- Compas, B. E., Davis, G. E., Forsythe, C. J., & Wagner, B. M. (1987). Assessment of major and daily stressful events during adolescence: The Adolescent Perceived Events Scale. *Journal of Consulting and Clinical Psychology, 55*, 534-541.
- Dien, D. S. (1983). Big me and little me: A Chinese perspective on self. *Psychiatry, 46*, 281-286.
- Dohrenwend, B. P. (1974). Problems in defining and sampling the relevant population of stressful life events. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events: Their nature and effects* (pp. 275-310). New York: Wiley.
- Hong Kong Census and Statistics Department (1996). *1996 By-Census*. Hong Kong: Author.
- Hudgens, R. W. (1974). Personal catastrophe and depression: A consideration of the subject with respect to medically ill adolescents, and a requiem for retrospective life event studies. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events: Their nature and effects* (pp. 119-134). New York: Wiley.
- Johnson, J. H., & McCutcheon, S. (1980). Assessing events in older children and adolescents: Preliminary findings with the life events checklist. In I. G. Sarason & C. D. Spielberger (Eds.), *Stress and anxiety* (Vol. 7, pp. 111-125). Washington, DC: Hemisphere.
- Liang, B., & Bogat, G. A. (1994). Culture, control, and coping: New perspectives on social support. *American Journal of Community Psychology, 22*, 123-147.
- Liang, W., Zhao, J., & Zheng, Y. (1992). A survey on mental health level of 1,088 middle school students. *Chinese Mental Health Journal, 6*, 100-102.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.
- McCubbin, H. I., Needle, R. H., & Wilson, M. (1985). Adolescent health risk behaviors: Family stress and adolescent coping as critical factors. *Family Relations, 34*, 22-36.
- Monroe, S. M. (1982). Life events assessment: Current practices, emerging trends. *Clinical Psychology Review, 2*, 435-453.
- Mueller, D. P., Edwards, D. W., & Yarvis, R. M. (1977). Stressful life events and psychiatric symptomatology: Change or undesirability. *Journal of Health and Social Behavior, 18*, 307-316.

- Shek, D. T. L. (1988). Reliability and factorial structure of the Chinese version of the State-Trait Anxiety Inventory. *Journal of Psychopathology and Behavioral Assessment, 10*, 303-317.
- Shek, D. T. L. (1990). Reliability and factorial structure of the Chinese version of the Beck Depression Inventory. *Journal of Clinical Psychology, 46*, 35-42.
- Shek, D. T. L. (1991). What does the Chinese version of the Beck Depression Inventory measure in Chinese students—General psychopathology or depression? *Journal of Clinical Psychology, 47*, 381-390.
- Swearingen, E. M., & Cohen, L. H. (1985a). Life events and psychological distress: A prospective study of young adolescents. *Developmental Psychology, 21*, 1045-1054.
- Swearingen, E. M., & Cohen, L. H. (1985b). Measurement of adolescents' life events: The Junior High School Life Experiences Survey. *American Journal of Community Psychology, 13*, 69-85.
- Thoits, P. A. (1983). Dimensions of life stress that influence psychological distress: An evaluation and synthesis of the literature. In H. R. Kaplan (Ed.), *Psychosocial stress: Trends in theory and research* (pp. 33-103). New York: Academic Press.
- Williams, C. L., & Uchiyama, C. (1989). Assessment of life events during adolescence: The use of self-report inventories. *Adolescence, 24*, 95-118.
- Wu, K. K., & Lam, D. J. (1993). The relationship between daily stress and health: Replicating and extending previous findings. *Psychology and Health, 8*, 329-344.
- Yang, K. S. (1981). Social orientation and individual modernity among Chinese students in Taiwan. *Journal of Social Psychology, 113*, 159-170.
- Ye, R. (1990). *Manual for the State-Trait Anxiety Inventory (Form Y)*. Shanghai, China: Educational Research Institute, Shanghai Teachers University.