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The Fear Survey Schedule for Children-Revised (FSSC-HI): Ethnocultural Variations in Children's Fearfulness

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Abstract—A revised Fear Survey Schedule for Children was used to examine the structure and developmental pattern of fearfulness in an ethnoculturally diverse sample of 385 Hawaii schoolchildren aged 7 to 16 years. The instrument's psychometric properties compared favorably with previous versions of the FSSC, and a 7-factor solution provided the best conceptual fit for the data. Six factors were similar to those described in previous versions of the FSSC, whereas the seventh was unique, reflecting children's social conformity fears. Between-group comparisons revealed significantly less fearfulness in children of Caucasian than of Asian, Filipino, and Hawaiian ethnocultural backgrounds. Gender and age differences were similar to previous reports in finding greater fearfulness in girls than boys, and in younger than older children on most factors. Results corroborate previous reports concerning gender and age trajectories of fearfulness and indicate that culture may mediate the expression of fears in culturally diverse populations. © 1998 Elsevier Science Ltd

Fears are defined as normal reactions to genuine threats, are adaptive, and often have survival value. Although relatively well-defined and studied in adults, children's fears have only recently become the focus of systematic empirical investigations, particularly with regard to effects of development and gender on expression of fears. The importance of expanding the body of normative information on children's fears is underscored by emerging evidence from studies suggesting that excessive fearfulness during childhood may place children at risk for the development of anxiety disorders in adolescence (Biederman et al., 1993; Hoehn-Saric, Hazlett, & McLeod, 1993). Knowledge of

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normal development informs clinical decisions regarding the nature of interventions to implement (Shapiro, 1995) and moderates evaluations of intervention outcomes (Weisz, Weiss, Han, Granger, & Morton, 1995).

Investigations have typically employed cross-sectional designs using measures of self-reported fears or parental reports of fearful behaviors to examine four aspects of children's fears—content, prevalence or frequency, intensity, and structure—and contributory factors such as age, gender, geographic location, and socioeconomic status. One consistently reported result of early cross-sectional studies is the change with age in the *content* of children's fears (Morris & Kratochwill, 1983). However, recent studies employing objective self-report measures have reported more prominent age differences in the *prevalence*[1] and *intensity*[2] rather than in the content of fears, with younger children reporting more fears and fears of greater intensity than older children (Gullone & King, 1992; Ollendick, King, & Frary, 1989). The results of recent 1- and 2-year longitudinal studies (Dong, Xia, Lin, Yang, & Ollendick, 1995; Spence & McCathie, 1993) support these findings, suggesting a clear declining trend in the number and intensity of fears among children as a function of increasing age.

Objective self-report inventories have also been instrumental in examining the *structure* of children's fears through factor analytic procedures (Gullone & King, 1992; McCathie & Spence, 1991; Miller, Barrett, Hampe, & Noble, 1972; Neal, Lilly & Zakis, 1993; Ollendick, 1983; Ollendick et al., 1989; Ollendick, Yule, & Ollier, 1991; Scherer & Nakamura, 1968). Reported solutions range from three to eight factors, including social fears, medical fears, animal fears, fears of death and danger, and fears of the unknown (Gullone & King, 1992; Miller et al., 1972; Neal et al., 1993; Ollendick et al., 1989; Ollendick et al., 1991; Scherer & Nakamura, 1968). The majority of these studies used exploratory procedures that analyze total variance and assume independence of factors, whereas only one study employed procedures that examined common variance and allowed factors to correlate. For the latter, an eight-factor solution emerged from the analysis (Scherer & Nakamura, 1968). Thus, use of principal components analysis with orthogonal rotation versus common factors analysis with oblique rotation may have influenced both the number and item content of previously reported solutions.

A particularly robust finding appears to be the increased number and intensity of fears reported by girls as compared to boys between 7 and 18 years of age (Bamber, 1974; Croake, 1969; Davidson, White, Smith, & Poppen, 1989; Dong, Yang, & Ollendick, 1994; Lapouse & Monk, 1959; Ollendick, Matson, & Helsel, 1985; Scherer & Nakamura, 1968; Spence & McCathie, 1993). Studies examining differences in the number and intensity of fears in

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[1] Prevalence is defined as the number of items receiving the maximum rating of 3 (i.e., *a lot*).
[2] Intensity is the total score of a multiple-item fear inventory.

children residing in rural versus urban locations have produced conflicting results, suggesting that location is not a universal predictor of the frequency and intensity of children's fears (Davidson et al., 1989; King et al., 1989). Socioeconomic status (SES) of the child's family, however, appears to affect the expression of fear, with studies reporting greater frequency and intensity of fears among children of lower SES (Angelino, Dollins, & Mech, 1956; Croake, 1969).

In recent years, investigators have begun to examine the nature of children's fears across different cultures, both within and external to the United States. Such efforts are essential for clarifying the role of cultural variables in the expression of childhood fears (Dong et al., 1994; King et al., 1989; Ollendick et al., 1991; Tikalsky & Wallace, 1988), and necessitate the use of measures with established psychometric properties and sensitivity to various ethnocultural groups.

One of the most widely used self-report instruments in the study of children's fears is the Fear Survey Schedule for Children-Revised (FSSC-R; Ollendick, 1983). The FSSC-R contains the original 80 items of the Fear Survey Schedule for Children (FSSC; Scherer & Nakamura, 1968) with a reduced 3-point item response scale ranging from *none* to *a lot* (allowing for a downward extension of valid administration from age 9 to age 7) and has acceptable internal consistency and 1-week test-retest reliability. A second revision (FSSC-II), published in 1992, updated the item content of the FSSC-R, which had not changed since the original scale was developed. The FSSC-II extended the age range for valid administration upwards from 16 to 18 years, and its reported psychometric properties compare favorably with those of its predecessors (Gullone & King, 1992).

The FSSC-R has been used in cross-cultural studies of children's fears. Samples of children residing in Australia (King et al., 1989), Great Britain (Ollendick et al., 1991), China (Dong et al., 1994), and Nigeria (Ollendick, Yang, King, Dong, & Akande, 1996) have been compared with children residing in the United States. Although many similarities were reported (particularly for the Australian and British samples), the developmental trend of the total fear score for Chinese children aged 7 to 17 years was found to peak at 11 to 13 years. This finding differs markedly from that of published reports for predominantly Caucasian children in the United States which have consistently found total fear scores to decline linearly with increasing age. Moreover, while studies of Caucasian American children have consistently reported a five-factor structure, a three-factor solution was recently reported for African American children (Neal et al., 1993). Although investigators have interpreted these findings as indicative of greater similarities than differences among the cultures studied, findings also imply that results of studies conducted with Caucasian children may not necessarily be similar for children of other ethnocultural groups.

The purpose of the present study was to undertake a third revision of the FSSC for use with children residing in Hawaii, a population of considerably more ethnocultural variation than those previously studied, yet sharing a common environment. Assignment of items to subscales representing fear factors was based on results of procedures that analyze total variance with independent factors (principal components analysis with orthogonal rotation). Initial comparisons with solutions emerging from analysis of common variance with correlated factors (common factors analysis with oblique rotation) revealed no substantive differences in numbers of factors and item content of scales. Although the revised scale incorporates items sensitive to Asian and Pacific Island cultures, it also reflects the current concerns of children (as does the FSSC-II). Attempts were made to avoid significantly diminishing the revised scale's comparability with its predecessors as reported in prior studies. The reliability, validity, and factor structure of the instrument, the FSSC-HI (for Hawaii revision) were examined and compared with that of the FSSC-R and the FSSC-II prior to its use in exploring developmental and ethnocultural differences in children's self-reports of fears.

METHOD

Participants

Three hundred eighty-five children aged 7 to 16 years (198 girls and 187 boys) were recruited from public (three) and private (one) schools on Oahu, where approximately 75% of the State's population resides (State of Hawaii Department of Business, Economic Development and Tourism, 1994). All participating schools were approached in an attempt to approximate the diversity of Hawaii's population in ethnic background and SES. One of the three public schools is affiliated with the University of Hawaii's College of Education and selects children for admission based on ethnicity, gender, marital status of head of household, SES, location of residence, and academic achievement level to approximate the State's census for research purposes. The remaining two public schools are located in Central Oahu in middle class and lower to lower-middle class communities. A private school was selected for participation to obtain a sample reflecting the approximately 15.8% of children in Hawaii who attend private schools (State of Hawaii Department of Business, Economic Development and Tourism, 1994).

An informational letter and consent form was mailed to parents of children attending the public and private schools, detailing the project's purpose and soliciting their consent for children's participation in the project. Parental consent was obtained for 100% of the children attending the university-affiliated public school (participation is a required condition of admission to this research arm of the College of Education), 41% of the children attending the remaining public schools (24% and 69% from the schools in the middle class and

lower-middle class communities, respectively), and 54% of the children attending the private school. The obtained consent rate of 65% for the total sample compares favorably with that reported in previous studies (e.g., Spence & McCathie, 1993).

Along with consent, parents were asked to provide sociodemographic information used for ethnic group classification (bloodline trace back over three generations, beginning with the index child) and estimation of SES (parents' occupations). Children were classified into one of five ethnic groups. Thirty-three percent (125) were Asian American, 21% (79) were part-Hawaiian, 12% (47) were Filipino, 8% (32) were Caucasian, and 26% (99) were Mixed (i.e., of any ethnic group or between-group mix not included in the other categories). Children of Filipino ancestry were coded separately because 68% of them were recruited from the public school located in a lower-middle class community, and the majority of them were offspring of immigrants. Parents' occupations were used to estimate SES using the Duncan Socioeconomic Index (Duncan, 1961).

Instruments

Participants were administered the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) and the FSSC-HI. Administration of both scales was planned a priori to provide estimates of convergent and divergent validity.

The RCMAS is a 37-item forced-choice (yes/no) inventory designed to assess the presence of anxiety-related symptoms in children. It yields three anxiety factors (physiological, worry-oversensitivity, concentration), a total anxiety score, and two "lie" scale scores. Its psychometric properties, including test-retest reliability, are well established (Reynolds & Richmond, 1978).

The FSSC-HI is an 84-item revision of the FSSC-R (Ollendick, 1983). The original inventory (FSSC-R) consists of 80 items which are endorsed using a 3-point response format (*none, some, a lot*). The inventory's psychometric properties are well established and detailed by Ollendick (1983).

Procedure

Scale revision—Pilot phase. Seventeen adults and 81 children participated in the pilot phase of the study, in which existing items of the FSSC-R were evaluated for their potential relevance for assessing fearfulness in Hawaii schoolchildren. Additional items, not contained in the FSSC-R, were generated as described below.

The adult group consisted of 11 graduate and 6 undergraduate psychology students whose ethnic backgrounds mirrored the seven largest ethnic groups reported for the 1990 State census (State of Hawaii Department of Business, Economic Development and Tourism, 1994). Adults were asked to review the

FSSC-R and nominate scale items that were relevant or potentially irrelevant for assessing fearfulness in Hawaii schoolchildren. They were also asked to nominate additional fear items not already contained in the FSSC-R, based on their ethnocultural perspectives and recollection of personal experiences between the ages of 7 and 16 years. Children participating in the pilot phase of the project ranged in age from 6 to 15 years, and were representative of various Asian and Pacific Islander cultural backgrounds. Children were asked to name five common fears of children their own age.

FSSC-HI items are listed in Table 1. A total of 102 additional items were nominated by the adults, of which 10 items (coded "N" in Table 1) were added to the revised scale (support for the addition of 6 was found in prior studies). Twenty-nine items (coded "R" in Table 1) were used in combination with new or existing items, either by rewording existing items or by parenthetically clarifying items as examples. Support for two of the reworded FSSC-R items was found in Gullone and King's (1992) revision (coded "GK" in Table 1). Sixty-three items did not meet criteria for inclusion in the revised scale. Children nominated 50 items not contained in the FSSC-R. The majority of these items duplicated items nominated by the adults. Four of the items (coded "N" in Table 1) were added to the revised scale, two of which were included in prior studies.

Revised scale item pool. Fifty nominated items were conceptually similar or identical to existing FSSC-R items, so the original items were retained. To avoid substantially increasing the total number of items in the revised scale, 14 nominated items were selected for inclusion using the following guidelines: (a) endorsement by 5% or more of the 98 pilot phase participants (identical to the 5% criterion employed by Gullone & King, 1992), or (b) citation as one of the top 10 fears in previous studies employing the FSSC-R or the FSSC-II (Gullone & King, 1992; King et al., 1989). Eleven of the 14 new items were endorsed by 5% or more of the participants, 5 of which were cited previously by Gullone and King (1992) in their revision of the FSSC for use with Australian children. Of the new items, 6 were endorsed by 5% or more of the pilot sample and include: "being home alone," "shaming my family or being embarrassed by my family," "being raped," "being chased or followed," "gangs," and "hurricanes, tidal waves, or floods." The remaining 3 new items included in the revision were endorsed by fewer than 5% of participants but were cited among the top 10 fears of children in previous studies (Gullone & King, 1992; King et al., 1989).

Items included in the FSSC-R (Ollendick, 1983) but deemed irrelevant for use in Hawaii were deleted from the FSSC-HI if they were: (a) endorsed by less than 3 adults and no children and (b) never cited as one of the top 10 fears in previous studies of fearfulness in children. A total of nine FSSC-R items were deleted: "riding in the car," "talking on the telephone," "cats," "ants or beetles," "getting car sick," "having to stay after school," "Russia," "riding on

TABLE 1
ROTATED FACTOR LOADINGS FOR THE FSCC-HI (N = 383)

Item	Factors						
	I	*II*	*III*	*IV*	*V*	*VI*	*VII*
Factor 1: Fear of Danger & Death							
N15 Being kidnapped	*.75*	−.02	.11	−.00	.10	.09	.04
45 Being hit by a car or truck	*.73*	.12	.23	.06	.08	.14	.03
17 Bombing attacks—being invaded	*.72*	−.04	.15	.11	.04	−.03	−.02
N6 Being killed or murdered	*.68*	.13	.03	.06	.08	−.01	−.03
32 Fire—getting burned	*.66*	.08	.17	−.00	.19	.14	.15
50 Earthquakes	*.66*	.09	.31	.00	.05	.08	.01
N61 Myself dying	*.66*	.15	−.03	−.16	−.02	.03	.17
53 A burglar breaking into our house	*.66*	.17	.07	.07	.17	.06	−.03
N57 AIDS	*.64*	−.02	−.15	.17	.01	.02	.14
38 Falling from high places	*.64*	.26	.11	.10	−.08	.21	−.09
N76 Drugs	*.63*	.27	.18	.09	−.00	.14	.05
35 Not being able to breathe	*.62*	.16	.08	−.01	.04	.15	.10
39 Getting lost in a strange place	*.61*	.26	.09	.13	.10	.04	.13
24 Getting a shock from electricity	*.60*	.09	.14	−.06	.15	.14	.06
N75 Being raped	*.60*	.05	−.22	.15	.09	.05	.21
12 Guns	*.57*	.12	.23	.02	.20	.08	−.07
N71 Nuclear war	*.56*	.07	.03	.16	−.19	.04	−.01
N25 Hurricanes, tidal waves, or floods	*.55*	.20	.36	−.01	.06	−.01	−.02
R21 Drowning	*.53*	.08	.13	−.03	.04	.13	.08
N58 Being chased or followed	*.53*	.11	−.14	.17	.11	.05	.24
N68 Sharks	*.52*	.11	.16	.18	.23	.16	−.08
8 Germs or getting a serious illness	*.49*	−.02	.13	.02	.08	.18	.17
28 Snakes	*.47*	.09	.14	.05	.41	.14	−.02
70 Death or dead people	*.47*	.33	.06	−.08	.20	.08	.12
R40 Strangers or strange looking people	*.43*	.25	.33	.14	.29	.05	.10
N33 Family member dying	*.42*	.15	−.17	−.01	.02	.18	.07
52 Having to go to the hospital	*.42*	.17	.34	.11	.17	.17	.10
83 Being in a fight	*.42*	.15	.25	.04	.23	.10	.25
R4 Big, wild animals (e.g., bears, wolves, wild pigs, horses)	*.41*	−.07	.28	.12	.37	.07	.01
N1 Gangs	*.37*	.02	−.02	.32	.09	.00	.04
R81 Looking foolish (e.g., being seen without clothes, clothes don't match)	*.34*	.18	−.05	.14	.18	.18	.33
Factor 2: Fear of the Unknown							
43 Dark places	.15	*.77*	.08	.08	.06	.06	.02
74 Dark rooms or closets	.11	*.74*	.08	.09	.10	.09	.02
42 Going to bed in the dark	−.07	*.72*	.10	−.01	.04	.00	.05
29 Nightmares	.23	*.53*	.17	.03	.07	.16	.06
R72 Ghosts or spooky things (e.g., witches, obake, nightmarchers, lady in white, fireball)	.31	*.52*	.03	.04	.30	.12	.03
N82 Being home alone	.24	*.52*	.22	.12	.15	−.05	.16
R9 Spooky places (e.g., cemeteries, haunted houses, heiaus)	.33	*.51*	.10	.14	.22	.16	−.02

(continued)

TABLE 1—Continued

Item	Factors						
	I	*II*	III	IV	V	VI	VII
46 Being alone	.19	*.48*	.03	.15	.12	.08	.32
R2 Mystery movie or scary movie	.16	*.44*	.18	−.02	.24	.05	.17
79 High places	.22	*.36*	.14	.32	−.07	.18	−.16
R67 Sharp objects (e.g., knives)	.35	*.36*	.32	.04	.12	−.01	.10
R47 Closed places (e.g., elevators, small rooms)	.16	*.31*	.24	.16	.16	.08	.04
R13 Loud noises (e.g., sirens, screams, animals at night)	.11	*.26*	.20	.18	.24	.15	−.04
Factor 3: Worries							
11 Getting sick at school	.13	.12	*.55*	−.03	.02	.27	.19
16 Getting a bee sting	.17	.24	*.52*	−.04	.22	.17	.05
6 Being in a big crowd	.25	.16	*.48*	.24	.06	−.08	.11
R73 Thunderstorms or lightning	.14	.39	*.45*	.14	.25	.04	−.00
44 Having to eat foods I don't like	.15	.05	*.45*	.12	.12	.08	.11
63 Having to go to school	−.21	−.00	*.41*	.31	−.01	.15	−.01
26 Bats or birds	.23	.19	*.41*	.14	.39	.02	.10
84 Playing rough games	.30	.27	*.39*	.14	.21	.07	.22
51 Being left at home with a sitter	.03	.24	*.37*	−.01	.06	.05	.21
19 The sight of blood	.24	.22	*.30*	−.01	.28	.17	.07
Factor 4: Anticipatory Social Fears							
77 Getting a report card	−.10	−.01	−.09	*.59*	.11	.34	.08
14 Taking a test	−.12	−.09	.00	*.52*	.09	.19	.18
R69 Having to put on a recital (i.e., give a solo performance)	.19	.04	−.07	*.51*	.03	.06	.10
GK65 Having to talk in front of my class	.14	.06	.05	*.50*	.02	.00	.20
62 Meeting someone for the first time	.19	.03	.18	*.46*	−.04	−.13	.39
34 Going to the doctor	−.03	.08	.16	*.45*	.20	.05	.15
5 Being called on by the teacher	.03	.11	.15	*.44*	.11	.12	.14
22 Going to the dentist	.01	.10	.14	*.44*	.10	.13	−.06
18 Roller coaster or carnival rides	.02	.33	−.05	*.39*	−.01	.00	.01
55 Doing something new	.13	.06	.19	*.35*	.03	−.06	.27
66 Flying a plane	.12	.21	.16	*.28*	.03	−.05	.01
Factor 5: Animal Fears							
59 Worms or snails	.09	.14	.13	.07	*.63*	.05	.07
R30 Rats, mice, or mongoose	.17	.10	.18	.15	*.63*	.09	.07
R48 Lizards (e.g., geckos)	.00	.11	.10	.02	*.60*	.12	.04
R54 Spiders or cockroaches	.03	.27	−.14	.15	*.59*	.08	.15
R37 Strange or mean-looking dogs (e.g., pit bulls)	.31	.15	.13	.17	*.47*	.03	.04
Factor 6: Aversive Social Fears							
64 Getting punished by mom	.19	.12	.15	.02	.04	*.62*	.17
20 Failing a test	.13	.00	−.03	.36	.13	*.55*	.08
49 Getting punished by my father	.21	.11	.24	.12	.06	*.55*	.07
27 Getting poor grades	.19	.03	−.03	.31	.13	*.53*	.11

(continued)

TABLE 1—Continued

Item	Factors						
	I	*II*	*III*	*IV*	V	*VI*	VII
R56 My parents criticizing me (e.g., being called ugly, stupid, or a failure)	.27	.14	.14	−.15	.03	*.45*	.41
23 Being sent to the principal	.32	.08	.14	.21	.19	*.44*	−.02
78 Having my parents argue	.36	.16	.08	.01	.11	*.44*	.24
GK36 Getting an injection from a nurse or doctor	.19	.29	.20	.25	.12	*.41*	.04
Factor 7: Social Conformity Fears							
31 Having to wear clothes different from others	.06	−.01	.11	.21	.00	−.00	*.61*
R41 Being teased (e.g., about my name, how I look)	.04	.07	.11	.14	.22	.22	*.57*
N80 Shaming my family or being embarrassed by my family	.28	.14	.11	.15	−.01	.17	*.50*
7 Making mistakes	−.10	.03	.04	.31	.01	.11	*.48*
10 Being criticized by others	.16	.11	.20	.20	.16	.23	*.44*
3 Getting a cut or injury	.12	.06	.12	.10	.16	.21	*.21*

Note. N = new item; R = reworded item; GK = reworded as in Gullone and King (1992).

the train," and "getting a haircut." The latter two items were among six that produced no variance with respect to age, gender, and nationality in American and Australian samples (Ollendick et al., 1989). "Closed places" and "elevators" were combined due to similarity of factor loadings in previous studies (Ollendick, 1983; Ollendick et al., 1989).

Scale evaluation. The FSSC-HI was individually administered to younger children in Grades 2 through 5 to reduce the possibility of error due to reading ability (Reynolds & Richmond, 1978). Prior to administration, children participated in an "anchoring" exercise using standardized instructions. Children were asked to "name something that you're not afraid of," then to point to the written word "none" on a response board or say the word aloud; "name something that you're really afraid of," then point to or say the words "a lot"; "name something that you're somewhat afraid of," then point to or say the word "some" (i.e., using an identical 3-point response format as earlier versions). Children responded accordingly as each FSSC-HI item was read aloud by an examiner. Approximately 20% of children were re-administered the FSSC-HI one week following the initial administration to evaluate test-retest reliability. Items that participants did not understand were scored "none" without explanation or elaboration to avoid introducing bias in children's responses.

Children in Grades 6 through 9 were administered the FSSC-HI in their respective classrooms. Standardized instructions, including a demonstration of

the anchoring procedure, was orally presented to children in each grade level classroom. Children completed the FSSC-HI and RCMAS independently at their seats.

RESULTS

Completed FSSC-HI inventories were subjected to a five-tier level of analysis to address the objectives of the study. Obtained data were initially analyzed to examine the factor structure of the instrument and to develop subscales based on factor loadings. A second set of analyses was undertaken to examine the scale's psychometric properties. The potential effects of gender, age, SES, and ethnicity on total scores and fear prevalence were subsequently examined using univariate procedures. The ensuing level of analysis consisted of multivariate examinations of the effects of the four demographic variables on scale scores, followed by a qualitative examination of children's 10 most common fears.

Factor Structure

Two of the 385 FSSC-HI inventories contained four or more unendorsed items and were deleted from the analysis. A preliminary examination of the 19 inventories containing two or less unendorsed items found no consistent pattern in the missing data. These inventories were retained with item means developed from the remaining inventories substituted for the missing endorsements. Principal factors extraction was performed on the 383 FSSC-HI inventories using SPSS 6.1 for Windows, followed by oblique (direct quartimin) rotation owing to the expected correlations among fear factors (Scherer & Nakamura, 1968). Squared multiple correlations were used as initial communality estimates. Solutions ranging from three to eight factors were attempted based on total factor solutions reported in previous studies of the revised FSSC. A seven-factor solution provided the best conceptual fit for the data from the sample, accounting for 36.1% of the total variance.

A principal components analysis (PCA) specifying a seven-factor solution was subsequently performed on the 383 inventories followed by an orthogonal (varimax) rotation. The analysis was performed to determine whether the type of statistical procedure employed would influence the number and item content of factors. The resulting components were found to be conceptually similar to the results of the initial common factors analysis (CFA). Three of the seven factors were conceptually similar to those reported for the FSSC-R (Ollendick, 1983) and FSSC-II (Gullone & King, 1992). These included Fear of Danger and Death (item loadings ranged from .34 to .75), Fear of the Unknown (item loadings ranged from .31 to .77), and Animal Fears (item loadings ranged from .47 to .63). An additional three factors emerged concerning children's social fears. Examination of item content suggests that the first of

these centers on children's anticipation of feared social consequences (Anticipatory Social Fears; item loadings ranged from .35 to .59), whereas the remaining two factors converge on fears involving aversive consequences (Aversive Social Fears; item loadings ranged from .41 to .62), and being different or standing out from others (Social Conformity Fears; item loadings ranged from .44 to .61). The seventh factor contained items that reflect common worries as opposed to fearfulness expressed by children (Worries; item loadings ranged from .30 to .55). The rotated factor structure is depicted in Table 1.

Correlations of PCA factor loadings with the structure-matrix coefficients derived from the CFA ranged from .896 to .996, whereas correlations with the pattern-matrix coefficients ranged from .974 to .995. Due to the high correlation between solutions, subscales were developed from the results of the PCA with orthogonal rotation to enhance comparability with previous revisions of the FSSC (Gullone & King, 1992; Ollendick, 1983). All but 3 of the 84 items met the criterion of a minimum factor loading of .30 and were assigned to the appropriate subscale. The 3 items having factor loadings less than .30 (italicized in Table 1) were excluded from all subscales but included in the total score. Subscale rather than factor scores were used in subsequent analyses to enhance the clinical utility of the instrument. Despite orthogonal rotation in the PCA, the seven scales are moderately correlated. The intercorrelations among the seven scales ranged from .335, for the Fear of Danger and Death and Social Conformity Fear scales, to .555, for the Fear of the Unknown and Worry scales.

Psychometric Properties

Internal consistency reliability was assessed on the FSSC-HI total score and the seven subscale scores. The analysis yielded an alpha coefficient of .96 for the Total Score indicating high internal consistency. Internal consistency calculations for each of the seven subscales resulted in alpha coefficients of .94 (Fears of Danger and Death), .85 (Fear of the Unknown), .70 (Animal Fears), .78 (Worries), .73 (Anticipatory Social Fears), .79 (Aversive Social Fears), and .68 (Social Conformity Fears). Higher alpha coefficients were associated with subscales containing greater numbers of items, as expected.

Test-retest reliability for FSSC-HI total scores was examined for 77 (20%) of the participating children using the Spearman-Brown formula. The resulting correlation coefficient of .87 was comparable to estimates reported for previous versions of the FSSC (Gullone & King, 1992; Ollendick, 1983).

The RCMAS was administered to 317 (83%) of the participating children. An estimate of validity was derived by examining the relationships between FSSC-HI Total scores and the psychometrically related RCMAS Total Anxiety Scale scores. Results indicated a moderate relationship between FSSC-HI Total scores and RCMAS Total Anxiety Scale scores (Spearman $r = .31$, $p <$

.001). Recent studies have reported similar levels of concurrence between the RCMAS Total Anxiety Scale and the FSSC-R ($r = .38$; Dong et al., 1994). RCMAS Lie Scale scores were correlated with FSSC-HI Total scores to derive an estimate of divergent validity. The Lie Scale was expected to correlate weakly, if at all, with the FSSC-HI.[3] Previous studies have reported correlation coefficients ranging from −.28 to .00 between the RCMAS Total Anxiety and Lie Scales (Hagborg, 1991; Reynolds, 1982). A weak relationship was found between FSSC-HI Total scores and RCMAS Lie Scale Scores (Spearman $r = .14$, $p = .013$). Collectively, these correlations support the convergent and divergent validity of the FSSC-HI.

Total Fear and Prevalence Scores

Separate 2 (Gender) × 3 (Age) ANCOVAs with adjustment for SES (the covariate) were undertaken using children's total fear and fear prevalence scores to facilitate comparisons with previous findings. Three hundred eighty-three cases were submitted for analysis. Three cases were omitted owing to incomplete information concerning the age of participants. Total fear and fear prevalence scores obtained from 74% of the sample ($N = 283$) were subjected to separate 2 (Gender) × 4 (Ethnic Background) ANCOVAs with adjustments, first for SES then for age (the covariates), to explore the effects of gender and ethnic background on children's endorsement of fears. Data from all participants of mixed ethnicity were excluded from the analysis due to the heterogeneity of ethnic backgrounds represented in this category (i.e., other ethnic groups having small numbers of children in the sample, such as other Pacific Islanders, Latin Americans, African Americans, as well as between-ethnic group mixes). Exclusion of this group reduced the number of participants in two cells below the minimum required to include age as a third factor in the analysis, necessitating the use of age as a covariate in examining the effects of ethnic background on total fear and fear prevalence scores.

Effects of gender and age. A significant effect emerged for the covariate SES ($F_{1,373} = 5.97, p < .02$) for the Gender × Age ANCOVA performed on the total fear score. The finding indicates a gradual decline in total fear scores with increasing SES ($B = -.15$). However, the number of items endorsed as producing "a lot" of fear (i.e., fear prevalence scores) was unrelated to SES of the child ($F_{1,373} = 7.52, p < .01$). A significant main effect emerged for gender, with girls scoring higher than boys on both the total ($p < .001$) and prevalence ($p < .001$) scores. The main effect for age was also significant on both the total ($p <$

[3] The RCMAS Lie Scale is considered to be a measure of social desirability. As such, one would expect the Lie Scale to be inversely related or show no relationship to FSSC-HI scores because the presentation of oneself as fearful in social situations would not be deemed socially desirable.

TABLE 2
Total Fear and Fear Prevalence Scores by Age and Gender (N = 380)

	Total Score			Prevalence Score		
Group	*M*	*SD*	*F*	*M*	*SD*	*F*
7- to 9-year-olds (n = 112)	173.83[a,b]	22.54		30.33[a,b]	11.71	
Boys (n = 48)	166.96	25.16		26.33	12.19	
Girls (n = 64)	178.99	18.97		33.33	10.47	
10- to 12-year-olds (n = 162)	157.72[a]	26.47		21.65[a]	12.36	
Boys (n = 80)	151.49	26.99		18.98	12.06	
Girls (n = 82)	163.80	24.63		24.27	12.16	
13- to 16-year-olds (n = 106)	146.33	24.11		15.46	10.70	
Boys (n = 55)	142.22	24.07		14.47	11.10	
Girls (n = 51)	150.77	23.59		16.43	10.24	
Effect: Age × Gender			.23[c]			1.35[c]
Age			35.60[d]			46.22[d]
Gender			18.68[e]			15.75[e]
Boys (n = 183)	152.67	27.45		19.54	12.73	
Girls (n = 197)	165.36	25.01		25.21	12.83	
Total Sample (N = 380)	159.29	26.95		22.48	13.07	

[a] Different from 13- to 16-year-olds, $p < .05$.
[b] Different from 10- to 12-year-olds, $p < .05$.
[c] df = 2,273, ns.
[d] df = 2,273, $p < .001$.
[e] df = 1,373, $p < .001$.

.001) and prevalence ($p < .001$) scores. Follow-up Bonferroni multiple range tests with an alpha level of .05 indicated that 7- to 9-year-olds scored significantly higher than older children on both the total and prevalence scores. Children aged 10 to 12 years also scored significantly higher than 13- to 16-year-olds on both sets of scores. The interaction between gender and age was nonsignificant for both scores (see Table 2).

Effects of gender and ethnicity. The Gender × Ethnicity ANCOVA with SES as covariate performed on FSSC-HI *total scores* revealed significant main effects for gender ($p < .005$) and ethnicity ($p < .001$). Total fear scores were higher for girls than boys, and lower for Caucasian children compared with children from Asian, Filipino, and Hawaiian ethnic backgrounds. Neither the interaction nor the covariate were significant ($F_{\text{Gender} \times \text{Ethnicity}} = .61$, ns; $F_{\text{SES}} = .03$; ns).

An identical analysis was performed for FSSC-HI *fear prevalence scores.* The Gender × Ethnicity ANCOVA revealed significant main effects for gender ($p < .01$) and ethnicity ($p < .005$). Girls endorsed significantly more items as producing "a lot" of fear than boys, and Caucasian children endorsed fewer items than children from Asian, Filipino, and Hawaiian ethnic backgrounds.

TABLE 3
TOTAL AND FEAR PREVALENCE SCORES BY ETHNICITY AND GENDER ADJUSTED FOR AGE

	Total Score			Prevalence Score		
Group	*M*	*SD*	*F*	*M*	*SD*	*F*
Caucasians (n = 32)	139.61[a]	26.71		13.81[a]	10.75	
Boys (n = 21)	135.84	25.82		12.19	10.04	
Girls (n = 11)	146.79	28.13		16.91	11.85	
Asian Americans (n = 124)	164.92[b]	24.75		24.70	12.61	
Boys (n = 61)	161.89	24.74		23.59[b]	12.27	
Girls (n = 63)	167.26	24.75		25.43	13.00	
Filipinos (n = 45)	162.31[b]	26.76		23.96[b]	12.59	
Boys (n = 21)	157.40	30.65		202.05	13.43	
Girls (n = 24)	170.22	20.01		27.21	11.05	
Hawaiians (n = 79)	160.60[b]	27.45		23.72[b]	13.08	
Boys (n = 33)	153.30	29.28		19.85	12.42	
Girls (n = 46)	165.85	25.08		26.50	12.96	
Effect						
Ethnicity × gender			.37[c] ns			.68[c] ns
Ethnicity			8.20[c]***			7.12[c]***
Gender			8.14[d]**			6.69[d]*
Boys (n = 136)	155.09	27.45		20.68	12.73	
Girls (n = 144)	165.74	25.01		25.42	12.83	
Total sample (N = 280)	159.29	26.80		22.48	13.00	

Note. ns = not significant.
[a] Different from other groups, $p < .05$.
[b] Different from Caucasians, $p < .05$.
[c] df = 3,273.
[d] df = 1,273.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

The interaction term and covariate were nonsignificant ($F_{\text{Gender} \times \text{Ethnicity}} = .85$, ns; $F_{\text{SES}} = .06$; ns).

Due to its nonsignificant effects as a covariate, SES was excluded from the ANCOVAs performed on total fear and fear prevalence scores with children's age as a covariate. For the total fear scores, the significant main effects for gender ($p < .01$) and ethnicity ($p < .001$) remained. As expected, the effect of age, the covariate, was significant ($F = 66.21$, $p < .001$) and the interaction between the two factors was nonsignificant ($F_{\text{Gender} \times \text{Ethnicity}} = .37$, ns). For fear prevalence scores, the significant main effects for gender ($p < .05$) and ethnicity ($p < .001$) remained as well. The effect of age (the covariate) was significant ($F = 86.28$, $p < .001$) and the interaction between factors was nonsignificant ($F_{\text{Gender} \times \text{Ethnicity}} = .68$, ns) Results are summarized in Table 3.

TABLE 4
MEAN SCALE SCORES (AND STANDARD DEVIATIONS) BY GENDER AND AGE (N = 380)

		Gender		Age		
	Total	Boys	Girls	7–9	10–12	13–16
Danger and Death	72.13	68.49	75.35***	78.81[a]	71.72[b]	65.71
	(13.52)	(14.48)	(11.97)	(10.99)	(13.48)	(12.82)
Unknown	19.82	19.21	20.38*	22.77[a]	19.13	17.77
	(5.11)	(5.33)	(4.89)	(5.17)	(4.85)	(3.99)
Worries	14.83	14.39	15.27*	17.58[a]	14.38[b]	12.63
	(3.65)	(3.41)	(3.82)	(3.45)	(3.32)	(2.31)
Anticipatory Social	15.83	15.72	15.97	15.42	16.17	15.73
	(3.44)	(3.41)	(3.46)	(2.99)	(3.62)	(3.57)
Animals	7.82	7.17	8.41***	8.74[a]	7.45	7.40
	(2.27)	(1.82)	(2.48)	(2.26)	(2.10)	(2.26)
Aversive Social	15.82	15.11	16.48***	17.07[a]	15.75[b]	14.62
	(3.71)	(3.68)	(3.61)	(3.65)	(3.52)	(3.66)
Social Conformity	8.62	8.27	8.97**	8.85	8.68	8.31
	(2.19)	(2.09)	(2.26)	(1.89)	(2.32)	(2.28)
	(N = 380)	(n = 183)	(n = 197)	(n = 112)	(n = 162)	(n = 106)

[a] Different from both older groups, $p < .05$.
[b] Different from oldest group, $p < .05$.
* $p < .05$.
** $p < .005$.
*** $p < .001$.

Scale Scores

Effects of age and gender. The effects of gender and age, adjusted for SES, on the seven scale scores were initially examined by means of a 2 (Gender) × 3 (Age) multivariate analysis of covariance (MANCOVA) for 380 cases. The relationship between the set of seven subscale scores and SES was small (η^2 = .02) and nonsignificant (exact $F_{7, 367} = 1.27$, ns). Based on the unbalanced cell *n*s (see Table 1), Pillai's trace was selected as the test criterion for the MANCOVA, owing to its power and robustness (Tabachnick & Fidell, 1989). The interaction between age and gender was nonsignificant (approximate $F_{14, 736}$ = .99, ns). Significant relationships were found, however, between the combined DVs and IVs, age (approximate $F_{14, 736} = 12.86$, $p < .001$, $\eta^2 = .39$) and gender (exact $F_{7, 367} = 6.84$, $p < .001$; $\eta^2 = .12$). Results are summarized in Table 4.

The seven scale scores were subsequently examined using univariate analysis (after adjustment for SES) to identify which fear domains were significantly influenced by age and gender. For all statistical tests, an alpha level of .05 with Bonferroni correction was established due to the exploratory nature of the study. Gender exerted a significant main effect on five of the seven subscales (Fear of Danger and Death, Worries, Animal Fears, Aversive Social Fears,

TABLE 5
MEAN SCALE SCORES (AND STANDARD DEVIATIONS) BY GENDER AND ETHNIC GROUP ADJUSTED FOR AGE

		Gender		Ethnic Background			
	Total	Boys	Girls	Caucasian	Asian	Filipino	Hawaiian
Danger and Death	72.91	69.78**	75.87	64.91[a]	74.66[b]	72.41	73.71[b]
	(13.39)	(14.21)	(11.87)	(14.89)	(12.24)	(13.89)	(13.26)
Unknown	20.11	19.75	20.45	16.61[c]	21.12[b]	20.80[b]	19.56[b]
	(5.28)	(5.55)	(5.01)	(4.12)	(5.13)	(4.89)	(5.53)
Worries	15.02	14.57	15.45	12.50[c]	15.44[b]	15.10[b]	15.35[b]
	(3.76)	(3.50)	(3.95)	(2.77)	(3.75)	(3.55)	(3.90)
Anticipatory Social	15.76	15.73	15.78	13.94[d]	15.93[e]	17.64[e]	15.15[f]
	(3.42)	(3.51)	(3.34)	(3.17)	(3.36)	(3.47)	(3.06)
Animals	7.81	7.31**	8.28	6.66[a]	8.00[b]	7.91	7.93[b]
	(2.23)	(1.96)	(2.36)	(1.54)	(2.24)	(2.02)	(2.44)
Averse Social	15.90	15.29*	16.47	13.50[c]	16.31[b]	16.27[b]	16.00[b]
	(3.74)	(3.85)	(3.55)	(3.77)	(3.60)	(3.22)	(3.91)
Social Conformity	8.63	8.28*	8.97	7.46[c]	8.61[b]	9.42[b]	8.69[b]
	(2.16)	(2.06)	(2.20)	(2.21)	(2.11)	(2.11)	(2.06)
N	280	136	144	32	124	45	79

[a] Different from Asians and Hawaiians, $p < .05$.
[b] Different from Caucasians, $p < .05$.
[c] Different from all other groups, $p < .05$.
[d] Different from Asicans and Filipinos, $p < .05$.
[e] Different from Caucasians and Filipinos, $p < .05$.
[f] Different from Filipinos, $p < .05$.
* $p < .01$.
** $p < .001$.

and Social Conformity Fears), with girls scoring higher than boys ($F_{7, 367} = 6.84$, $p < .001$). Age exerted a significant main effect on five of the seven scales (Fear of Danger and Death, Fear of the Unknown, Worries, Animal Fears, and Aversive Social Fears), with younger children (7- to 9-year-olds) scoring higher than older (10- to 16-year-olds) children ($F_{14, 736} = 12.86$, $p < .001$).

Effects of ethnicity and gender. Scale scores were subsequently subjected to a 2 (Gender) × 4 (Ethnic Background) MANCOVA with adjustment for age for 280 cases. SES was dropped as a covariate owing to its nonsignificant effect in the previous analysis on the entire sample. As expected, the relationship between the set of seven subscale scores and age was significant (exact $F_{7, 265} = 24.83$, $p < .001$). The MANCOVA (using Pillai's trace) revealed a nonsignificant interaction between ethnicity and gender (approximate $F_{21, 801} = 0.94$, ns). Significant relationships were found, however, between the combined DVs and IVs, ethnicity (approximate $F_{21, 801} = 2.32$, $p < .005$) and gender (exact $F_{7, 265} = 2.59$, $p < .05$). Their relationships with the combined DVs, however, were small ($\eta^2_{\text{ethnicity}} = .16$; $\eta^2_{\text{sex}} = .06$). Results are summarized in Table 5.

The seven scale scores were examined using univariate analysis (adjusted for age) to identify which fear domains were significantly influenced by gender and ethnic background. Gender exerted a significant main effect on four of the seven subscales (Fear of Danger and Death, Animal Fears, Aversive Social Fears, and Social Conformity Fears), with girls scoring higher than boys. Ethnicity exerted a significant independent main effect, with Caucasians scoring lower than Asians, Filipinos, and Hawaiians on all seven scales. The differences between Filipinos and Caucasians were nonsignificant for the Fear of Danger and Death and Animal Fears scales, and the scores for Hawaiians and Caucasians did not differ significantly on the Anticipatory Social Fears scale. The scores for Asians, Filipinos, and Hawaiians did not differ significantly on any of the seven subscales, with the exception of the Anticipatory Social Fears scale, on which Filipinos scored significantly higher than all other groups (see Table 5).

Most Common Fears

The 10 fear items rated with the greatest intensity (i.e., as producing "a lot" of fear) were tabulated separately by gender, age, and ethnicity to examine children's most common fears. Eight of the top 10 fears were common to girls and boys with minimal differences in rank order. These included "being killed or murdered," "family member dying," "myself dying," "being kidnapped," "being hit by a car or truck," "AIDS," "not being able to breathe," and "falling from high places." The remaining items endorsed by girls were "being raped" and "a burglar breaking into our house," whereas boys endorsed "nuclear war" and "bombing attacks—being invaded." All 10 items for girls and for boys load on the "Fear of Danger and Death" factor.

Six of the top 10 fears were common to all three age groups (7- to 9-year-olds, 10- to 12-year-olds, 13- to 16-year-olds) and are included among the eight items common to both sexes listed above. All but one of the top 10 fears, across age groups, load on the "Fear of Danger and Death" factor. The sole exception ("getting poor grades") ranked seventh among the top 10 fears of 13- to 16-year-olds and loads on the Aversive Social Fears factor. Results are summarized in Table 6.

Data for Mixed group children were excluded from the analysis of the most common fears by ethnic background due to the heterogeneity of backgrounds represented in that category. Five of the top 10 fears were common to the remaining four ethnic groups, and are included among the eight top 10 fears common to both boys and girls listed above. All items, across ethnic groups, load on the "Fear of Danger and Death" factor. Results are summarized in Table 7.

DISCUSSION

Empirical investigations of children's self-reported fearfulness using the original and revised versions of the Fear Survey Schedule for Children (FSSC)

TABLE 6
COMMON FEARS ACROSS AGE

	7- to 9-Year-Olds		10- to 12-Year-Olds		13- to 16-Year-Olds	
Rank	Item No.	Description	Item No.	Description	Item No.	Description
1	6	Being killed or murdered	33	Family member dying	33	Family member dying
2	61	Myself dying	6	Being killed or murdered	6	Being killed or murdered
3	45	Being hit by a car or truck[a]	38	Falling from high places	57	AIDS[b]
4	35	Not being able to breathe	61	Myself dying	35	Not being able to breathe
5	76	Drugs[c]	15	Being kidnapped	61	Myself dying
6	15	Being kidnapped	17	Bombing attacks—being invaded[c]	75	Being raped[c]
7	33	Family member dying	71	Nuclear war[c]	27	Getting poor grades[c]
8	38	Falling from high places	57	AIDS[b]	15	Being kidnapped
9	32	Fire—getting burned[c]	45	Being hit by a car or truck[a]	38	Falling from high places
10	70	Death or dead people[c]	35	Not being able to breathe	53	A burglar breaking into our house[c]

[a] Not common to 13- to 16-year-olds.
[b] Not common to 7- to 9-year-olds.
[c] Unique to age group.

TABLE 7
COMMON FEARS ACROSS ETHNIC GROUPS

	Caucasian		Asian Americans		Filipinos		Hawaiians	
Rank	No.	Item Description	No.	Item Description	No.	Item Description	No.	Item Description
1	33	Family member dying	33	Family member dying	33	Family member dying	6	Being killed or murdered
2	6	Being killed or murdered	61	Myself dying	6	Being killed or murdered	33	Family member dying
3	61	Myself dying	6	Being killed or murdered	45	Being hit by a car or truck	15	Being kidnapped[a]
4	15	Being kidnapped[a]	35	Not being able to breathe[a]	15	Being kidnapped[a]	57	AIDS
5	35	Not being able to breathe[a]	38	Falling from high places	57	AIDS	17	Bombing attacks—being invaded[a]
6	17	Bombing attacks—being invaded[a]	70	Death or dead people[c]	61	Myself dying	61	Myself dying
7	57	AIDS	45	Being hit by a car or truck	38	Falling from high places	35	Not being able to breathe[a]
8	71	Nuclear war[b]	53	A burglar breaking into our house[c]	17	Bombing attacks—being invaded[a]	45	Being hit by a car or truck
9	38	Falling from high places	57	AIDS	75	Being raped[b]	38	Falling from high places
10	75	Being raped[b]	71	Nuclear war[b]	32	Fire—getting burned[c]	12	Guns[c]

[a] Common to three groups.
[b] Common to two groups.
[c] Unique to ethnic group.

intimate a multidimensional construct involving five factors, and a relatively stable developmental pattern that decreases with age for children of Caucasian ethnicity. Recent cross-national and cross-cultural studies, however, suggest that ethnocultural factors may influence the dimensional nature of the construct as well as the developmental pattern of children's fears (Neal et al., 1993; Ollendick et al., 1996). A revised FSSC was developed to empirically examine these issues in an ethnoculturally diverse population sharing a common environment.

The psychometric properties of the revised instrument were initially examined and found to compare favorably with previous versions of the FSSC. Comparison of factor analytic procedures (principal components analysis with orthogonal rotation vs. common factors analysis with oblique rotation) was subsequently undertaken to discern whether discrepancies in the factor structure reported in previous studies (i.e., three- vs. five-factor solution) may be related to the use of different statistical techniques. Results indicated no significant differences in factor item loadings, corroborating Burnham and Gullone's (1997) findings that the type of rotation (orthogonal vs. oblique) has negligible effect on the solution to the principal components analysis of the FSSC. Subscales representing fear factors derived from the principal components analysis were used for the development of age and gender norms and to enhance comparability with previous revisions of the FSSC (Gullone & King, 1992; Ollendick, 1983).

In contrast to previous studies of the FSSC, a seven-factor solution provided the best conceptual fit for the data. Three of the factors were identical or conceptually similar to those reported in previous studies (i.e., "fear of danger and death," "fear of the unknown," "animal fears"). A fourth factor derived from the analysis was comprised of nonspecific and diffuse items concerning everyday "worries" (e.g., getting sick at school, getting a bee sting, being in a crowd, thunderstorms). Items comprising the "worries" factor in previous solutions of the FSSC have varied in their association with several factors, and appear to reflect the instability of the items. The remaining three factors involved distinct types of social fear: anticipatory social fears, aversive social fears, and social conformity fears. Items loading on the anticipatory and aversive social fear factors were identical or conceptually similar to those loading on the "fear of failure and criticism" factor in previous studies of the FSSC-R. The item content of the third social fears factor included a combination of unique (e.g., "shaming my family or being embarrassed by my family"), reworded (e.g., "being teased about how I look"), and traditional items (e.g., "having to wear clothes different from others") that reflect children's concerns about social conformity. As such, it represents a dimension of fearfulness not previously reported in the FSSC literature, but is a widely discussed phenomenon in cross-cultural studies of social behaviors (Kitayama & Markus, 1994; Smith & Bond, 1993).

Several possibilities were examined to account for the differences in fear frequency, intensity, and factor scores among children of differing ethnocultural backgrounds. One possibility is that obtained differences represent artifacts resulting from the variation in sample sizes among the four ethnic groupings. The consistency of the direction of results, however, argues against this explanation. Caucasian children scored significantly lower than children of Asian, Filipino, and Hawaiian backgrounds in fear prevalence, intensity, and on all seven subscales, with no differences among the latter three groups.

A second possibility is that the number of years residing in Hawaii may account for differences between children of Caucasian and other ethnic backgrounds. For example, higher levels of fearfulness were reported for recent immigrants than for American adults (Myers, Croake, & Singh, 1987), whereas extended exposure to shared multicultural experiences within a common environment may be expected to minimize differences in attitudes and beliefs. An a posteriori analysis was conducted to examine this possibility (with child's age as a covariate) and revealed that both Caucasian and Filipino children had resided in the state for shorter periods of time than Asian and Hawaiian children (7.8 and 8.9 years vs. 9.6 and 9.7 years, respectively). Thus, years of residence cannot adequately account for the differences in fearfulness between children of Caucasian and contrasted ethnic backgrounds.

Ethnocultural differences in the frequency, intensity, and content of children's fears have been explicated in previous investigations using the FSSC. Dong et al. (1994) reported an atypical developmental pattern for self-reported fearfulness in Chinese children, wherein 11- to 13-year-old children reported higher levels of social-evaluative fears than younger (7- to 10-year-old) and older (14- to 17-year-old) children, who did not differ from one another. Both the intensity and total number of fears decreased significantly over a 1-year period, but was more pronounced for the 11–13 age group (Dong et al., 1995). The authors proposed a developmental-cultural hypothesis to account for the findings, reasoning that pressure to perform in social-evaluative situations is greater at the middle school age level owing to impending high school admittance criteria. A cross-cultural hypothesis was similarly invoked to explain the higher levels of social-evaluative and safety fears in children and adolescents from Nigeria and China compared to youths from America and Australia (Ollendick et al., 1996). That is, cultures that purportedly stress inhibition, emotional restraint, and obedience were hypothesized to increase levels of fearfulness in youth.

Ethnocultural differences have also been reported to affect the underlying structure of children's fearfulness. For example, Neal et al. (1993) reported a three- and five-factor solution for children of African-American and Caucasian ethnic backgrounds, respectively. Most notable was the absence of school-related fears and fears of embarrassment in the African-American children. The seven-factor solution reported herein with a predominantly non-Caucasian sample of children, coupled with differences in fear frequency, intensity, and factor scores between Caucasian children and those of Asian, Filipino, and Hawaiian ethnicity, corroborate the Neal et al. (1993) findings that

the underlying dimensions of children's fearfulness may be affected by ethnocultural factors.

The above findings suggest that a more parsimonious explanation for the observed pattern of results is that beliefs and attitudes concerning socialization and conformity differ among particular ethnocultural groups and are conveyed to children by their parents by means of specific child-rearing practices. Support for this relationship has been evidenced in recent studies. For example, a greater emphasis on control continues to characterize Taiwanese parents who have immigrated to the United States compared to Caucasian American parents (Kelley & Tseng, 1992; Lin & Fu, 1990). Collectively, cultures that value conformity are frequently associated with higher levels of parental control, whereas those that value self-reliance and autonomy are associated with less overall discipline and less severe discipline practices (Ellis & Petersen, 1992). Higher levels of parental control, in turn, has been linked with greater anxiety and fearfulness in children (Siqueland, Kendall, & Steinberg, 1996). In Hawaii, nonimmigrant residents of Asian, Pacific Island, and Filipino ancestry tend to be well assimilated in Western culture, but maintain strong cultural identification and practices. Parental control coupled with continued traditions emphasizing social conformity are reasonable explanations for the higher levels of fearfulness or worries in general, and the identification of social conformity fears in particular.

Results of the present study corroborate gender and age differences in fear frequency, intensity, and factor scores reported in previous investigations. Age related decreases in fears of personal safety, the dark, imaginary creatures, and animals in particular have been hypothesized to reflect children's cognitive development (Morris & Kratochwill, 1983), whereas gender differences have been attributed to socialization differences between males and females (Gullone & King, 1992). Age and gender differences were not found for anticipatory social and social conformity fears, whereas fears concerning aversive social situations declined with age regardless of gender. These findings are at odds with previous studies reporting increases in social worries with increasing age (e.g., Angelino et al., 1956). The lack of gender and age differences in anticipatory social and social conformity fears found in the present study suggests that social-evaluative concerns are ubiquitous among Hawaii school children and may reflect lifestyle changes and increased exposure to realistic depiction of social situations in the media over the past several decades. Fear content, however, was found to be similar to previous reports describing children's most common fears, indicating that their most troubling fears are invariant across age, gender, and cultural background.

As with any structured fear survey, it is unknown to what degree one is measuring veridical differences in fear parameters or a willingness to endorse fear stimuli provided by an adult examiner. For example, Henker, Whalen, and O'Neil (1995) found that the number and breadth of children's worries increased with age using open-ended questioning. This method bears some resemblance to that employed by Angelino et al. (1956), who similarly reported

increases in worries concerning social situations as a function of increasing age. Developmental changes in cognitive (e.g., recall) and/or socioemotional (e.g., perspective-taking) abilities coupled with increasing exposure to worldly issues may influence children's spontaneous verbal reports and render direct comparisons of differing methodologies an important issue for future investigations.

In summary, the derivation of multiple social fears is not without precedent, as evidenced in studies of adult fearfulness (Phillips, Fulker, & Rose, 1987). The broader range of social fears found in the present study, and particularly those involving social conformity, is most likely attributable to the multiethnic sample rather than the multicultural environment. FSSC-HI self-ratings of social fearfulness (on all three factors) were similar among children of Asian, Filipino, and Hawaiian ethnicity but significantly higher than those for Caucasian children. This suggests that, despite residing in a common, multiethnic environment, different concerns are modeled and emphasized by parents of Caucasian ethnicity compared to their peers.

Generalization of these results to similar populations require additional validation and replication with larger samples. Replication of the seven-factor solution is a requisite first step, owing to the five-factor structure reported in previous studies (e.g., Gullone & King, 1992; Ollendick et al., 1989) and the low ratio of participants to items (4.5:1). These caveats aside, the FSSC-HI appears to be a valid and reliable instrument for the assessment of fears in Hawaii children and adolescents. Its sensitivity to cultural differences and revised item content render it a promising instrument for assessing fearfulness and current concerns of children and adolescents.

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