ELSEVIER

Anxiety Disorders
20 (2006) 740–759

JOURNAL OF Anxiety Disorders

The factor structure of the Fear Survey Schedule for Children—II in Trinidadian children and adolescents

April Bryington Fisher [a,*], Barbara A. Schaefer [a], Marley W. Watkins [a], Frank C. Worrell [b], Tracey E. Hall [c]

[a] *Department of Educational and School Psychology and Special Education, The Pennsylvania State University, 226 CEDAR Building, University Park, PA 16802, USA*
[b] *Cognition and Development, The University of California, Berkeley, USA*
[c] *Center for Applied Special Technology, USA*

Received 8 July 2005; received in revised form 21 September 2005; accepted 3 November 2005

Abstract

Part of understanding normal and abnormal fear in children and adolescents is having knowledge of how they acquire fears and of how fears change across development. One way to examine the relative contributions of heredity and environment to the experience of fear is to study fear across cultures. The Fear Survey Schedule for Children—II [FSSC-II; Gullone, E., & King, N. J. (1992). Psychometric evaluation of a revised fear survey schedule for children and adolescents. *Journal of Child Psychology and Psychiatry, 33*, 987–998] is one measure that has some evidence for cross-cultural validity. The present analysis examined the factor structure of the FSSC-II scores of 884 Trinidadian children and adolescents. Factor consistency across age, sex, and nationality (Trinidadian and American) was examined by calculating the coefficients of congruence for each pair of conceptually similar factors. Results indicated a five-factor structure for the overall sample. Although the solution was conceptually similar to those reported in other studies that used versions of the FSSC, the obtained structure was not congruent across age, sex, or nationality.

Keywords: Fear; Psychometric data; Factor analysis; Self-reports; Children; Adolescents

* Corresponding author. Fax: +1 814 865 7066.
E-mail address: aab177@psu.edu (A.B. Fisher).

0887-6185/$ – see front matter © 2005 Elsevier Ltd. All rights reserved.
doi:10.1016/j.janxdis.2005.11.003

Normal fear is an adaptive response to a real or imagined threat. Fear is adaptive because it warns a person of danger and motivates either escape or avoidance of what is feared (Gullone, 1999). While a certain degree of fear is healthy, sometimes fear may become excessively intense or unreasonable and begin to interfere with daily functioning. One study on the seriousness of childhood fears suggested that while in the majority of cases children's fears were just a part of their normal development, in a substantial minority of children (22.8%), fears met the criteria for an anxiety disorder, including criteria for either a specific phobia, generalized anxiety disorder, or separation anxiety disorder (Muris, Merckelbach, Mayer, & Prins, 2000). Similar results based on parent reports of the severity of their children's fear symptoms were obtained; 17.6% of children met full criteria for a specific phobia (Muris & Merckelbach, 2000).

Research on fear has demonstrated a predictable developmental pattern in the content of fear (Finch & McIntosh, 1990; Gullone, 1999). Along with age-related changes in the content of fear, the number and intensity of fears tend to decrease linearly with age (Burnham & Gullone, 1997) and females tend to report higher numbers and intensity levels of fears than males (Burnham & Gullone; Ollendick, 1983). By applying cluster analysis techniques to the fear survey scores of a sample of 556 Americans between the ages of 7 and 19, Schaefer, Watkins, and Burnham (2003) found that females were significantly more likely than males to display a profile consisting of high levels of fear across different fear types (e.g., animal fears, fears of death and danger), whereas males were significantly more likely to display a profile consisting of low levels of fear across each fear type. In addition, they found that adolescents were more likely to fit into a profile consisting of low levels of fears across fear types than children, who were more likely to fall into a profile marked by high levels of all types of fears.

Through cross-cultural research, however, researchers have found that this course of fear expression is not universal. For example, in a study comparing the fears of 7- to 17-year-old American, Australian, Chinese, and Nigerian children, boys and girls from Nigeria reported similar numbers and levels of fears, whereas girls from America, Australia, and China reported higher numbers and intensity levels of fears than boys from those countries. In addition, 11- to 13-year-old children from China reported higher numbers and levels of fears than 7- to 10-year-olds and 14- to 17-year-olds, unlike children from America and Australia whose numbers and levels of fear decreased linearly across age, and unlike children from Nigeria who reported similar numbers and levels of fear regardless of their ages. The content of fear also varied across countries (Ollendick, Yang, King, Dong, & Akande, 1996).

Another group of researchers examined the fears of children from a non-western culture (Bedouin Israelis) and a western-oriented culture (Jewish Israelis). They found that while the Jewish Israeli children reported a pattern of fears similar to that of Australian and American children, Bedouin Israeli children reported higher levels of fear and were fearful of a wider range of stimuli than the

Jewish Israelis (Elbedour, Shulman, & Kedem, 1997). These findings suggest a cultural component to the development of the fears of children.

Of course, in order to study the cultural component of fear development, it is necessary to have reliable and valid tools that measure similar constructs across varying countries, cultures, and languages (Fonseca, Yule, & Erol, 1994). Self-report fear survey schedules are the most commonly used technique for assessing fears (Burnham & Gullone, 1997). One example of a survey that has some initial cross-cultural validity evidence is the Fear Survey Schedule—III (FSS-III; Wolpe & Lang, 1964). Arrindell et al. (2003) conducted an investigation of the appropriateness of using the FSS-III across varying cultures with a sample of 5491 college students from 11 different countries. They found evidence of high internal consistency reliability. Additionally, they found that the same five-factor structure was appropriate across all countries. Although the FSS-III has evidence as a useful survey for measuring fear in adults across different countries, the collection of psychometric data for a fear survey that can be used to measure fear in children from different countries is still needed. Currently, the most promising measure for this purpose is the Fear Survey Schedule for Children—II (Burnham & Gullone, 1997). The original version of this scale was developed in 1968 by Scherer and Nakamura who took items from adult fear scales. They designed the measure to assess the fears of children between the ages of 9 and 12. The scale included 80 items from seven different fear categories including school, home, social, physical, animal, travel, classical phobias, and miscellaneous. In 1983, Ollendick revised the Fear Survey Schedule for Children (FSSC-R) by changing the 5-point rating scale to a 3-point rating scale so that the scale was better suited for young children as well as children in clinical populations.

The revised scale (Ollendick, 1983) demonstrated good internal consistency and test–retest reliability. Additionally, FSSC-R scores correlated as expected with scores from measures of anxiety, self-concept, and locus of control. To further support the validity of the FSSC-R, Ollendick completed a common factor analysis (FA) of the scale ($N = 217$) using principal factors extraction and varimax rotation. Ollendick retained a five-factor solution, which accounted for 77% of the variance. The five factors were labeled as follows: Fear of Failure and Criticism (e.g., ''Being teased,'' ''Failing a test''), Fear of the Unknown (e.g., ''Closed places,'' ''Dark rooms or closets,''), Fear of Injury or Small Animals (e.g., ''Lizards,'' ''Guns''), Fear of Danger and Death (e.g., ''Earthquakes,'' ''Not being able to breathe''), and Medical Fears (e.g., ''Getting a shot from the doctor,'' ''Going to the dentist'').

In 1992, Gullone and King suggested that because the FSSC items had remained unchanged since 1968, the content validity of the FSSC-R was questionable. Consequently, they revised the FSSC (FSSC-II) by adding more contemporary fears such as ''AIDS'' and ''nuclear war'' and by changing the wording of the 3-point scale. They gathered evidence for the psychometric properties of their new scale with a large sample of children and adolescents from Australia. Reliability estimates were similar to those obtained by Scherer and

Nakamura (1968) and Ollendick (1983) with earlier versions of the FSSC. After gathering evidence for convergent and discriminant validity, the researchers conducted a principal components factor analysis (PCA) with varimax rotation on 828 of the surveys. Gullone and King stated that they retained a five-factor solution due to both conceptual considerations and because Ollendick retained five factors. The factors accounted for 72.5% of the variance. The researchers labeled the five factors as follows: Fear of Death and Danger, Fear of the Unknown, Fear of Failure and Criticism, Animal Fears, and Psychic Stress-Medical Fears.

In addition to the PCA on the overall sample, Gullone and King (1992) conducted a PCA with varimax rotation for males and females, and for the 7- to 12- and 13- to 18-year-old age groups separately. They reported that some items loaded on different factors for the different sexes and age groups. For example, while ''My parents arguing'' loaded on the Fear of Death and Danger factor for 7- to 12-year-olds, it loaded on the Fear of Failure and Criticism factor for 13- to 18-year-olds. They concluded, however, that the factor structure was relatively unaffected by age and sex, and that they had provided evidence for the construct validity of the scale because the FSSC-II was so different from the FSSC-R, yet still had a similar factor structure.

Gullone and King (1992) designed the FSSC-II to be appropriate for an Australian sample, so it was unclear how useful the new scale would be in assessing the fears of children in the United States. Burnham and Gullone (1997) acknowledged and remedied this by adapting the FSSC-II to fit an American context, and by collecting psychometric evidence for the scale. After rewording 13 items, they piloted the American version of the FSSC-II with 239 American children between the ages of 10 and 18. As a result of this pilot study, they reworded two more items. Burnham and Gullone then administered this version to 720 American children between the ages of 7 and 18 and conducted a PCA with both varimax and oblique rotations to determine the factor structure of the FSSC-II scores of an American sample. They determined that a five-factor solution was the most meaningful and found that regardless of whether they used an oblique or orthogonal rotation method, the solutions were almost identical. Consequently, they chose to report and interpret their orthogonal solution. They named their factors Fear of Death and Danger, Fear of the Unknown, Animal Fears, School/Medical Fears, and Fear of Failure and Criticism. The factors obtained with the American sample were very similar to those obtained with the Australian sample. One difference, however, was that the factors emerged in different orders, and therefore the variance explained by each factor differed (Burnham & Gullone).

Researchers have reported a limited number of additional factor analyses on versions of the FSSC. Shore and Rapport (1998) became interested in how the factor structure obtained with Caucasian American children would compare to the factor structure in a more ethnoculturally diverse population. They revised the FSSC-R to be more suitable for use in Hawaii and then administered the new scale, the Fear Survey Schedule for Children—Hawaii (FSSC-HI; Shore &

Rapport), to 385 children between the ages of 7 and 16 from Oahu, Hawaii. The participants represented five different ethnic groups including Asian American (33%), part-Hawaiian (21%), Filipino (12%), Caucasian (8%), and Mixed ethnicity (26%). Using FA, the researchers looked at solutions ranging from three to eight factors. They considered the seven-factor solution, which accounted for 36.1% of the variance, to be the best conceptual fit for the data. Shore and Rapport reported that three of their factors were very similar to factors from previous versions of the FSSC, including a Fear of Danger and Death, Fear of the Unknown, and Animal Fears. Three of their other factors included items representing a fear of anticipated social consequences, a fear of aversive social consequences, and a fear of being different and standing out. Finally, they found a factor representing common worries of children. Shore and Rapport suggested that their worries factor had been associated with several different factors in previous research, which reflected the instability of the items loading on this factor. All but three of the items met the minimum factor loading criterion of .30 (Shore & Rapport).

Muris and Ollendick (2002) provided additional information about the psychometric properties of the FSSC-HI when they administered the scale to a sample of 551 children and adolescents between the ages of 12 and 19 from Belgium. They conducted a PCA with direct oblimin rotation. They retained both a five- and seven-factor solution. They pointed out that the five-factor solution was conceptually similar to the solution reported for the FSSC-R and that the seven-factor solution was similar to that reported by Shore and Rapport (1998). Five of the factors were very similar (Fear of Danger and Death, Fear of the Unknown, Fear of Animals, Aversive Social Fears, and Anticipatory Social Fears), but two of the factors were conceptually different. These included Medical and Situational Fears and School Performance Fears.

Muris and Ollendick (2002) went a step further than previous research by conducting a confirmatory factor analysis (CFA) to help determine the number of factors that best fit the data. They tested one-factor, five-factor, and seven-factor models and determined that while the one-factor model did not meet their fit criteria, the five- and seven-factor models fit the data equally well. They also conducted a CFA of the model suggested by Shore and Rapport (1998) but found that the model did not have a satisfactory fit to their data (Muris & Ollendick). The researchers concluded that the five- and seven-factor models differed primarily in reference to the Fear of Failure and Criticism factor. In the seven-factor solution, this was split into three different factors that represented different aspects of social anxiety. They pointed out, however, that if researchers or clinicians are interested in the various aspects of a child's social fears and anxiety, a measure designed specifically to measure that construct would be more appropriate, and thus a five-factor solution is a more parsimonious way to identify fear sensitivities in children. In addition, they suggested that the five-factor solution is more comparable to results of previous studies, and therefore better suited to conducting cross-cultural research (Muris & Ollendick).

1. The present study

Given that researchers have gathered some promising evidence for the psychometric properties of FSSC-II scores in two separate countries, it would be useful to gather further evidence for its utility in other countries. Currently, no studies regarding the appropriateness of using a fear survey schedule to measure fear in children and adolescents from the Republic of Trinidad and Tobago exist. Given the goal of studying the existence of fear in children cross-culturally, it would be important to have normative data on the expression of fear in children from many countries, including those from the Republic of Trinidad and Tobago. According to the results of previous studies, a version of the FSSC may be the most appropriate fear survey to use in the collection of this data. Of course, in order to use this instrument with Trinidadians, psychometric data for the scores of this population require examination. In addition, in order to make meaningful comparisons across groups on factor scores, factor invariance across groups must be established (Floyd & Widaman, 1995).

The purpose of this study was to provide initial evidence for the psychometric properties of the FSSC-II scores of a Trinidadian sample of children and adolescents. Four questions were addressed: (a) what is the factor structure for FSSC-II scores using a sample of Trinidadian children and adolescents, (b) is the factor structure obtained with a sample of Trinidadian children and adolescents congruent with the factor structure obtained with an American sample, (c) is the factor structure obtained for Trinidadian males congruent with the structure obtained for Trinidadian females, and (d) is the factor structure obtained for 11- to 14-year-old Trinidadians congruent with the factor structure obtained for 15- to 18-year-old Trinidadians? Given the consistency of the results reported in previous studies that used versions of the FSSC, the researchers hypothesized that the factor structure obtained in the present study would yield factors that were conceptually similar to those reported in other studies. Additionally, the researchers hypothesized that the factor structure would be congruent across sex, age, and nationality.

2. Method

2.1. Participants

The final sample for this study included the FSSC-II scores of 884 students in Forms 1 through 5 from the Republic of Trinidad and Tobago. The grade levels in Trinidadian secondary schools are referred to as forms, with Forms 1 through 5 being generally comparable to Grades 7 through 11 in the United States (Trinidad and Tobago Ministry of Education, 1998). Students ranged in age from 11 to 18 years (M = 14.24, S.D. = 1.474). Of the 878 students who reported their sex, 392 were male (45%) and 486 were female (55%). The self-reported ethnic

background of this sample was 21.9% of African descent, 42.5% of East Indian descent, 32.2% of Mixed descent, and 2.4% Other. Approximately .9% of the participants (eight cases) did not report their ethnic decent.

2.2. Procedure

The sample for this study was stratified by educational division. The Educational Planning Division of the Ministry of Education compiled a list of all secondary schools in the Republic of Trinidad and Tobago. The list was then used to identify a representative sample of secondary students from Trinidad and Tobago. Not all schools had all grade levels; therefore, the selection of schools occurred by form level. For example, to choose the participants from Form 1, all schools that had Form 1 were identified and then six of those schools were selected at random. If a single sex school was randomly selected, then a school that served only students of the opposite sex at the same form level was randomly selected next in order to ensure a relatively equal number of participants of each sex. This process was repeated for Forms 2 through 5.

After the schools were selected for each form level, the classrooms within the schools were selected. Guidance Officers obtained lists of classrooms for each selected school. If a school only had one classroom for its assigned form level, that classroom was automatically included in the sample. If there was more than one classroom for the assigned form level, Guidance Officers used a table of random numbers to randomly select one classroom to include in the sample. Of the 30 classrooms selected, data could only be collected from 27 classrooms, which comprised the final sample. Because data could not be obtained from three of the selected classrooms, students from St. Andrews/St. David and Tobago, the two smallest educational regions, were not represented. However, the obtained sample appeared to be relatively proportionate to the target population across the other six educational divisions. A comparison of the target population and sample proportions across the eight educational divisions indicated that the sample-population proportions did not differ by more than 4% across regions.

Prior to the administration of the FSSC-II, the measure was examined by Trinidadian Guidance Officers to see if any changes in the wording of items were needed in order to better suit the culture and language of adolescents in Trinidad. They changed two of the original FSSC-II items. ‘‘Cyclones’’ was changed to ‘‘Tornadoes/hurricanes’’ and ‘‘Dingoes’’ was changed to ‘‘Dogs.’’ All participating Guidance Officers received training on how to administer and score the FSSC-II. They then administered the FSSC-II to students in the randomly selected classrooms, in groups, in a single session. The FSSC-II was part of a packet that included three additional self-report measures compiled before test administration. The order of the four measures was randomized and student responses were anonymous. The data were collected in January and February of 2000.

The initial sample included 897 participants. However, upon checking the FSSC-II responses, it was noted that only 654 students responded to all of the 80 items. Cases with more than four missing values, or greater than 5% of the survey, were omitted from further analyses. This resulted in the omission of 13 cases (1.4% of the total sample), leaving the final sample of 884. For cases with between one and four items left blank, regression imputation was used to estimate the missing values. To ensure that imputing the missing data did not influence the outcomes, the results of factor analyses conducted with ($N = 884$) and without cases with imputed data ($N = 654$) were compared. A total of 378 missing values, or approximately .5% of the data used for the study, were estimated with regression imputation.

2.3. Measure

All participants completed the FSSC-II. The FSSC-II is a self-report measure that can be administered individually or in groups to children and adolescents. It consists of 80 fear stimulus items. Respondents were asked to rate how scared they were of each item. Their three choices were *Not Scared* (scored as 1), *Scared* (scored as 2), and *Very Scared* (scored as 3). The scale was labeled ''Self-Rating Questionnaire'' and directions printed at the top of the participants' copies of the scale indicated that the scale was a list of things and situations that make some people scared, that they should mark the words that best described how scared they were of each item, and that there were no right or wrong answers.

2.4. Data analysis

Exploratory factor analyses were conducted based on guidelines recommended in Fabrigar, Wegener, MacCallum, and Strahan (1999), Floyd and Widaman (1995), Gorsuch (1997), Thompson and Daniel (1996), and others. Both principal component analysis (PCA) and common factor analysis (FA) were conducted. The goal of the present study was to find the underlying latent constructs which accounted for relationships between observed variables, a goal most appropriately met through common factor analysis (Fabrigar et al.; Floyd & Widaman; Tabachnick & Fidell, 2001). However, previous studies with the FSSC-II have predominately reported results of PCA. Therefore, to allow for comparison of factor structures, PCA was also conducted. Principal factors extraction was used for the FA in this analysis. Squared multiple correlations on the diagonal served as initial estimates of communality.

Because no decision rule for determining the number of factors to retain is completely accurate, the use of multiple decision rules is desirable (Thompson & Daniel, 1996). The screen test (Cattell, 1966), parallel analysis criterion (Horn, 1965), and considerations from previous research were used to determine the number of factors to retain. Additionally, the residual matrix was examined after factors were extracted. Multiple solutions were examined to determine which

number of factors best balanced the need for simplicity with the need for adequate representation of the data.

Although most previous factor analyses of versions of the FSSC have used orthogonal rotation methods, Burnham and Gullone (1997) pointed out that there has not been any empirical support for the assumption that fears are uncorrelated. In fact, they found that several of their factors were correlated with each other when they conducted a factor analysis of the FSSC-II scores of an American sample. In the present study, varimax rotation was used for the PCA in order to facilitate comparison with the factor structure reported for an American sample (Burnham & Gullone). For the FA, oblique rotation (specifically promax with $\kappa = 4$) was chosen. To test whether the factor structure replicated across different rotation techniques, orthogonally rotated solutions (specifically varimax and equamax) were also examined.

When interpreting the factors, salience was defined as having a loading greater than or equal to .32 on a factor. To be meaningful, a factor had to have a minimum of three salient, non-complex loadings. Comrey and Lee (1992) suggested that when complex variables are included in a factor analysis, they should not be used to define a factor. Additionally, Gorsuch (1997) described a trivial factor as one that lacked salient variables due to either few items loading on the factor or by most of its items having higher loadings on other factors. Therefore, complex loadings were not used to define factors.

Finally, to determine whether the FSSC-II was measuring similar constructs in Trinidad and the United States, coefficients of congruence (Tucker, 1951; Wrigley & Neuhaus, 1955) between the factors obtained through PCA with varimax rotation in the present sample of scores, and those reported by Burnham and Gullone (1997) were reported. In addition, to determine whether the factor structure was invariant across sex and age in the present sample, the coefficient of congruence between the factor structure derived for males and the structure derived for females was calculated, as was the coefficient of congruence between the factor structure derived for 11- to 14-year-olds and the structure derived for 15- to 18-year olds (these factor structures were derived through the procedures specified previously for the common factor analysis of the overall sample). These coefficients can be interpreted like a correlation coefficient (Broadbooks & Elmore, 1987). Congruence coefficients equal to or greater than .90 were considered to be indicative of a high degree of factor similarity.

3. Results

Before examining the factor structure of the FSSC-II, the data were analyzed to determine appropriateness for factor analysis. Using the initial communality estimates, it was determined that all values were well below one, indicating the absence of multicollinearity and singularity. The factorability of the correlation matrix was examined by calculating the Kaiser–Meyer–Olkin Test of Sampling

Table 1
Coefficient of congruence values comparing the FSSC-II factors obtained for the present sample with the FSSC-II factors obtained for an American sample

Trinidadian factors	American factors	Coefficients of congruence
I (Death and danger)	I (Death and danger)	.98
II (School/failure and criticism)	V (Failure and criticism)	.83
III (Unknown)	II (Unknown)	.93
IV (Medical)	IV (School/medical)	.62
V (Animal)	III (Animal)	.87

Adequacy (Kaiser, 1970, 1974), which yielded a value of .95. This value exceeded Tabachnick and Fidell's (2001) suggested cutoff of .60. Additionally, several values in the correlation matrix were greater than .30, and an inspection of the anti-image correlation matrix indicated that there were mostly small values in the off-diagonals. These results were all indicative of a factorable correlation matrix.

The five-factor structure obtained using principal components analysis with varimax rotation was compared with that obtained for an American sample (Burnham & Gullone, 1997). The coefficients of congruence comparing the pairs of factors that were most conceptually similar were calculated and are reported in Table 1. Only the congruence coefficient comparing the similarity of the first factor in each study and the congruence coefficient comparing the similarity of the Trinidadian sample's third factor with the American sample's second factor met the a priori criterion of .90. This finding suggests that there is a more appropriate factor structure for the FSSC-II scores of Trinidadian children and adolescents than the one reported for an American sample.

3.1. Factor analyses

In order to determine an appropriate factor structure for the FSSC-II scores of Trinidadian children and adolescents, a principal axis factor extraction with promax rotation ($\kappa = 4$) was conducted on the 80 items of the FSSC-II. A scree test indicated that approximately eight factors should be retained. Results of the parallel analysis criterion also suggested that eight factors be retained. Previous factor analyses of versions of the FSSC have yielded between three and eight factors, with most researchers finding a five-factor solution. Based on these results, nine-factor through three-factor solutions were examined. The adequacy of each of the solutions was compared by considering the salience and complexity of the item loadings, whether the factors were meaningful, and theoretical convergence. The results of the different extractions are summarized in Table 2.

Solutions with between nine and six factors retained included trivial factors (i.e., factors that did not have at least three non-complex item loadings). Additionally, these solutions resulted in a high number of complex loadings and many items that did not have salient loadings on any factor. Consequently, these solutions were rejected.

Table 2
Characteristics of factor solutions using principal axis extraction and promax rotation[a]

Number of factors extracted	Total percentage of variance explained	Percentage of residuals >.05	Number of complex items[b]	Number of non-salient items[c]
Nine	38.54	5	5	13
Eight	37.38	7	7	16
Seven	36.13	8	6	16
Six	34.84	10	4	15
Five	33.37	12	1	15
Four	31.74	14	1	7
Three	29.43	17	1	8

[a] $\kappa = 4$.
[b] Complex items are defined as those with pattern coefficients $\geq .32$ on two or more factors.
[c] Non-salient items are defined as having loadings $<.32$ on all factors extracted.

With the five-factor solution, 15 items did not load onto any factor. However, only one item was complex. An examination of the factors indicated that all five met the a priori criteria for a defined factor. The five-factor solution explained 33.37% of the variance. As a measure of internal consistency reliability, the coefficient alphas based on the items that loaded saliently on each of the five factors were calculated. They were found to be .93, .87, .86, .73, and .76 for factors I through V, respectively. Across the nine-factor through six-factor solutions, five meaningful factors had consistently emerged. The pattern of item loadings for those five factors was generally the same across solutions. The results of the five-factor solution were comparable to the five meaningful factors found throughout the nine-factor through six-factor solutions. One difference, however, was that in the five-factor solution, those five factors emerged in a different order. What had been the second factor in previous solutions emerged as the third factor in the five-factor solution, the third factor in previous solutions emerged as the second factor in the five-factor solution, and what had been the fourth and fifth factors in previous solutions became the fifth and fourth factors in the five-factor solution, respectively. The pattern loadings for the five-factor solution are reported in Table 3. Correlations between the factors are reported in Table 4.

To examine the stability of the five-factor solution across different rotation techniques the results of five-factor extractions with varimax rotation and equamax rotation were also examined. Results of these analyses were very similar to those using promax rotation, with the exception of differences in the items that either did not load or were complex. Overall, the same five conceptual factors emerged across rotation methods. This was also the case for the results of the five-factor extraction with promax rotation for the cases that did not have any missing values ($N = 654$).

Due to the results of previous research, four- and three-factor extractions were also examined. In the four-factor solution, it was noted that the second factor was comprised of the items from the third and fourth factors of the five-factor solution as well as the additional items that did not load saliently in the five-factor solution.

Table 3
Pattern loadings for the five-factor solution with promax rotation[a]

Item	Factor I	Factor II	Factor III	Factor IV	Factor V
30. Being hit by a car or truck	**.86**	−.10	−.06	−.07	−.03
33. Being threatened with a gun	**.74**	.02	−.04	−.03	.00
28. Tornadoes/hurricanes	**.73**	−.19	.12	.03	−.12
20. Being kidnapped	**.71**	.08	−.03	−.11	.07
17. Murderers	**.64**	.07	.06	−.14	.13
21. Getting a serious illness	**.63**	.06	−.14	.02	−.00
12. Nuclear war	**.62**	−.03	−.01	−.14	.02
35. Not being able to breathe	**.62**	.06	−.16	.07	−.03
29. Myself dying	**.61**	−.03	−.06	−.01	−.05
10. Our country being invaded	**.61**	−.01	.09	−.16	.01
41. Getting an electric shock	**.58**	.00	−.01	.11	−.01
53. Earthquakes	**.58**	−.09	.10	.08	−.06
13. Taking dangerous/bad drugs	**.58**	.12	−.15	−.06	−.01
23. Fire	**.57**	.05	.03	.07	.03
48. A burglar breaking into our house	**.57**	.12	.14	−.11	.06
75. Sharks	**.54**	−.16	.01	.20	.11
24. Having an operation	**.50**	.11	−.11	.24	−.01
61. AIDS	**.50**	.06	−.18	.04	−.01
74. Falling from high places	**.47**	−.06	.00	.26	−.04
63. Tigers	**.46**	−.19	.20	.11	.13
42. Someone in my family having an accident	**.44**	.30	−.10	−.04	.09
34. Forest fires or bush fires	**.43**	.02	.14	−.01	−.04
65. Getting lost in a strange place	**.43**	.04	.26	.10	−.07
25. Someone in my family dying	**.35**	.24	−.04	−.03	.03
37. Failing a test	.17	**.61**	−.20	.07	−.03
58. Getting my school report	−.10	**.60**	−.09	.20	.03
9. Getting bad marks at school	.14	**.58**	−.18	.07	.05
44. Having no friends	−.02	**.52**	.02	−.17	.11
26. Making mistakes	−.03	**.50**	.06	.15	−.01
18. My parents criticizing/putting me down	.14	**.48**	.04	−.04	−.07
56. Sitting for a test	−.15	**.48**	−.02	**.38**	.00
6. Losing my friends	.07	**.46**	.02	−.23	.20
4. Being put down/criticized by others	−.04	**.46**	.25	−.01	−.05
36. Getting punished by my father	.22	**.41**	−.07	−.01	−.08
70. Looking foolish	−.09	**.41**	−.06	.15	.04
40. My parents separating/getting divorced	.28	**.40**	−.01	−.13	−.06
1. Being teased	−.19	**.36**	.28	−.04	−.04
27. My parents arguing	.17	**.34**	.18	−.08	−.08
52. Going to a new school	−.10	**.34**	.08	.21	.09
47. Getting punished by my mother	.16	**.34**	.11	.00	−.07
22. Meeting someone for the first time	−.20	**.33**	.09	.19	.01
57. Being bullied	.11	**.33**	.27	.07	−.08
19. Being in a fight	.20	**.33**	.21	−.01	−.08
50. Being alone at home	−.17	.05	**.72**	−.06	.00
11. Darkness	−.18	.04	**.71**	−.06	.07
32. Ghosts or spooky things	.01	−.07	**.68**	−.09	.10
3. Being alone	−.15	.16	**.66**	−.13	−.02
67. Cemeteries/graveyards	.08	−.02	**.64**	−.09	−.00

Table 3 (*Continued*)

Item	Factor I	Factor II	Factor III	Factor IV	Factor V
62. Haunted houses	.17	−.12	**.63**	−.04	.05
64. Dead people	.13	.02	**.47**	.00	.05
49. Having bad dreams	.03	.14	**.44**	.10	.01
7. Being in closed places	−.03	.03	**.44**	.04	.06
59. Thunder	−.11	−.12	**.36**	.28	.06
72. Strangers	.14	.14	**.35**	.14	−.10
66. Thunderstorms	.31	−.21	**.36**	.24	−.07
69. The sight of blood	−.01	.03	**.33**	.19	−.02
54. Getting an injection from a nurse/doctor	.00	.09	−.14	**.60**	.08
77. Going to the dentist	.01	.04	−.07	**.58**	.05
73. Having to go to hospital	.13	.09	−.05	**.50**	−.06
8. Going to the doctor	−.08	.07	.10	**.43**	.06
51. Rats	.03	.01	−.04	.02	**.85**
5. Mice	−.01	.05	.00	−.03	**.77**
16. Spiders	−.02	.02	.08	.10	**.48**
60. Lizards	−.11	.01	.17	.15	**.44**
39. Snakes	.30	−.05	.16	.10	**.32**
2. Roller coaster or carnival rides	.06	−.04	.30	.14	−.02
14. Having to talk in front of my class	−.17	.28	.09	.25	.04
15. Violence on television	.11	.06	.30	−.01	−.02
31. Being sent to the principal	.20	.31	.10	.07	.02
38. Drunk people	.21	.24	.21	.02	−.01
43. Getting lost in a crowd	.26	.15	.31	.06	−.06
45. Someone in my family getting sick	.29	.30	−.03	−.01	.06
46. Strange looking people	.05	.12	.30	.12	.05
55. Bees	.23	−.04	.06	.26	.28
68. Dogs	.01	−.08	.19	.31	.07
71. Flying in a plane	.07	−.07	.29	.31	−.11
76. Riding in a car or bus	−.08	.04	.25	.10	−.02
78. Having to go to school	−.31	.20	.10	.23	−.02
79. Gangs	.27	.22	.18	−.01	−.04
80. Deep water or the ocean	.14	−.01	.17	.24	−.07
Percentage variance accounted for	22.43	3.96	3.20	2.25	1.54

Note. Bold indicates a salient (≥.32) loading.

[a] $\kappa = 4$.

Table 4
Factor correlation matrix for the five-factor solution with promax rotation[a]

Factor	I	II	III	IV	V
I	1.00				
II	.49	1.00			
III	.65	.50	1.00		
IV	.42	.35	.58	1.00	
V	.28	.17	.29	.29	1.00

Note. Factor I—Fear of Death and Danger; Factor II—School Fears/Fear of Failure and Criticism; Factor III—Fear of the Unknown; Factor IV—Medical Fears; and Factor V—Animal Fears.

[a] $\kappa = 4$.

Table 5
Coefficients of congruence comparing the corresponding factors obtained for younger versus older Trinidadian youth

11- to 14-year-olds	15- to 18-year-olds	Coefficient of congruence
I	I	.93
II	III	.74
II	IV	.59
III	II	.77
IV	II	.72
V	V	.83

Note. $N_{11–14\ years} = 479$, $N_{15–18\ years} = 400$.

In the three-factor solution, items from the fourth factor in the four-factor solution loaded saliently on the second factor. Although these solutions resulted in meaningful factors and accounted for more of the items than previous solutions, they were rejected in favor of the five-factor solution because of the change in the composition of the factors. Five factors had been consistently emerging in previous solutions, and those five factors were conceptually similar to factors reported in previous studies.

In interpreting the five-factor structure, an attempt was made to identify the underlying construct that unified the items that loaded saliently on each factor. Factor I was labeled Fear of Death and Danger. Factor II was labeled School Fears/ Fear of Failure and Criticism. Factor III was labeled Fear of the Unknown. Factor IV was labeled Medical Fears. Finally, Factor V was labeled Animal Fears.

3.2. Comparison across age and sex

To compare the five-factor structure that was resolved for the overall sample across age (11- to 14-year-olds and 15- to 18-year-olds) and sex (males and females), principal axis extractions with promax rotations ($\kappa = 4$) were conducted for each group. A coefficient of congruence was calculated for each pair of conceptually similar factors. The coefficients for the comparisons across age and sex are reported in Tables 5 and 6, respectively. As evidenced in the tables, only

Table 6
Coefficients of congruence comparing the corresponding factors obtained for Trinidadian girls versus boys

Boys' factor	Girls' factor	Coefficient of congruence
I	I	.96
II	III	.82
III	II	.92
IV	IV	.55
IV	V	.62

Note. $N_{Girls} = 486$, $N_{Boys} = 392$.

the congruence coefficients for the first factors in each comparison and the female sample's second factor with the male sample's third factor met the a priori standard for acceptable similarity (.90). This suggests that the five-factor solution is not appropriate for use in making comparisons across age or sex in the Republic of Trinidad and Tobago.

4. Discussion

Studies using versions of the FSSC had generally found conceptually similar factor structures across samples. The FSSC appeared to be a promising measure for collecting information on the prevalence and experience of fear cross-culturally, given the results of previous research. This study attempted to gather more cross-cultural construct validity evidence for the FSSC-II by examining the factor structure of scores from a sample of Trinidadian children and adolescents, and by examining the congruence of the factors across age, sex, and nationality. It was hypothesized that the factor structure would consist of factors that were conceptually similar to those reported in other studies, and that the factors would be congruent across age, sex, and nationality. While the obtained results did yield five factors that were similar to those reported in other studies, the factors were not congruent across age, sex, or nationality.

Results of nine- through three-factor solutions were examined to determine which solution was most meaningful and best fit the data. Results of the nine- through six-factor extractions resulted in trivial factors and a high number of non-salient and complex items. However, across these solutions, five factors consistently emerged. These five factors emerged again in the five-factor solution. However, in the four- and three-factor solutions, items from meaningful factors that had consistently emerged in previous solutions began to load on other factors. Consequently, the five-factor solution was determined to be most meaningful, and therefore interpreted. The five-factor structure was robust across different rotation methods and accounted for 33.37% of the variance.

Although the five-factor solution was considered to be the most appropriate solution among those explored, it still had problems, the most apparent being a high number of items that did not meet a priori loading criteria for any of the five factors. This problem with non-salient loadings was noted across the various models. Many of the items that did not load saliently in the five-factor solution were items that had not loaded saliently in other solutions. Given that there was no item analysis conducted for the scale when it was being prepared for use in Trinidad and Tobago, it is possible that problems with these items may exist. For both the Australian (Gullone & King, 1992) and American (Burnham & Gullone, 1997) studies with the FSSC-II, pilot studies were conducted first to ensure that the items were appropriate and meaningful for their respective cultural contexts. Perhaps a pilot study with a sample from Trinidad would have resulted in changes to some of these problematic items.

By examining the congruence of the five-factor structure across nationality it was determined that, other than for two pairs of factors, the factors found in the present study were not congruent with those found in an American sample (Burnham & Gullone, 1997). This suggests that factor scores should not be compared across samples from Trinidad and the United States. Upon further consideration, the finding that the factor structure was not congruent across nationality was somewhat consistent with the results of previous research. A comparison of the factor structures resulting from other analyses of versions of the FSSC indicated that in all of the studies that interpreted a five-factor solution; the five factors emerged in a different order. For example, the factor representing a fear of failure and criticism emerged as the first factor in Ollendick's (1983) analysis, as the third factor in Gullone and King's (1992) analysis, as the fifth factor in Burnham and Gullone's (1997) analysis, and as the second factor in Muris and Ollendick's (2002) analysis as well as in the present analysis. Furthermore, several of the factors in these studies were not entirely consistent across analyses. For example, in Ollendick's analysis, the fifth factor (Medical Fears) consisted of medical fear items and two items that did not seem to have a readily apparent relationship to the construct (i.e., ''Riding in the car,'' and ''Talking on the telephone''). In Gullone and King's analysis, the fifth factor (Psychic Stress-Medical Fears) consisted not only of medical items, but also of social fear items (e.g., ''Having to talk in front of my class,'' ''Going to a new school,'' and ''Having no friends''). In Burnham and Gullone's analysis, the fourth factor (School/Medical Fears) consisted of medical fear items and school fear items. Muris and Ollendick's fifth factor (Medical and Situational Fears) consisted of medical items along with what they called situational fears (e.g., ''High places,'' ''Flying in a plane,'' and ''Closed places''). And in the present analysis, the fifth factor (Medical Fears) was composed only of medically related items.

Taken together, results of FSSC factor analyses lead to questions regarding why different factor structures have emerged across countries and why some factors are composed of items with no readily apparent relationship. Geisinger (2003) discussed several issues that may be of use in answering these questions. One of these is the issue of linguistic equivalence, which refers to whether the language used on a test is equivalent in each context within which it is used. Although the official language of Trinidad is English, it is unclear whether the meaning of the language used is the same in Trinidad and in the United States. Geisinger noted that one of the primary ways cultures differ is through language. Consequently, language could have had some effect on the results. Another issue described by Geisinger is functional equivalence, which refers to whether the domain of behaviors sampled on a test has the same purpose and meaning in different cultures. It is possible that the items themselves could have had different meanings or connotations for children and adolescents in Trinidad than they did for American youth. Furthermore, the items may be encountered differently by people within the two different cultural contexts (i.e., they may experience

different frequencies of either direct or indirect exposure to the items). Finally, Geisinger discussed instrument bias. He pointed out that cultures may differ on the tendency of their members to disclose personal issues about themselves. The FSSC-II is a self-report measure, so if differences in personal disclosure preferences exist between Americans and Trinidadians, it would most likely have had some effect on the results of the present analysis. Although possible reasons for the different factor structures and odd combinations of items can be identified, the results of FSSC factor analyses seriously call into question the appropriateness of using the factor solutions both within and across cultures.

Consistent with Burnham and Gullone's (1997) finding, the results of the oblique rotation indicated that the factors were moderately correlated with each other. The highest correlations were between Fear of Death and Danger and Fear of the Unknown ($r = .65$), and between Fear of the Unknown and Medical Fears ($r = .56$). Correlations were also relatively high between Fear of the Unknown and School Fears/Fear of Failure and Criticism ($r = .50$). This finding supports the use of oblique rotations, as well as Burnham and Gullone's argument that more research is needed on how different fear types relate to one another.

An unexpected finding was that the obtained factor structure was not consistent across age or sex. This suggests that an examination of pattern or mean level differences across age and sex on the basis of factor scores is not appropriate. Again, the finding calls into question the utility of the instrument for conducting research even within Trinidad. A further examination of the five-factor structure for boys and girls, as well as younger and older participants revealed differences in their structures. For both boys and girls, the first factor consisted of items related to death and danger, but the second and third factors were transposed. The boys' fourth factor was a combination of medical and animal fear items, and for girls it was made up of medical fear items. No items loaded purely on the boys' fifth factor, but for girls, animal fear items loaded on this factor.

When looking at the factor structures for age groups, the first factors were again similar. The second factor for the younger group consisted of items representing a fear of the unknown whereas for the older group, it consisted of school fear and fear of failure and criticism items. The third factor in the younger group consisted of fear of failure and criticism items, while the third factor in the older group represented fear of the unknown items. The younger group's fourth factor was made up of school fear items while the older group's fourth factor was made up of some medical items as well as other items that had no overtly logical relationship to one another (e.g., ''Thunder,'' ''Lizards,'' ''Dogs,'' ''Flying in a plane,'' and ''Having to go to school''). Gorsuch (1997) pointed out that items have lower reliabilities than scales. Consequently, item correlations are often lower than the correlations between scales, and a greater amount of their covariation is due to error. Perhaps this factor represents error rather than being a meaningful factor. Both groups' fifth factors consisted of animal fear items.

Only one other study on the factor structure of the FSSC-II specifically examined the differences in the factor structures across age and sex. Gullone and King (1992) found that their overall factor structure was relatively unaffected by examining scores of boys and girls, and younger (7- to 12-year-olds) and older (13- to 18-year-olds) children separately, with the exception of a few items loading differently. Other studies have simply looked at age and sex differences on the factor scores derived from overall samples. Most of these analyses have found age and sex differences on factor scores, with the pattern of differences varying across cultures (e.g., Burnham & Gullone, 1997; Elbedour et al., 1997; Ollendick, 1983; Ollendick et al., 1996).

Given that previous research has found differences in the reported experiences of fears across age and sex, it is possible that different factor structures may be appropriate for different age groups and for males and females. Different fear stimuli may be more relevant for different age groups, perhaps due to cognitive development as well as different issues being more salient during different developmental periods. Gender socialization experiences may contribute to the reporting of different fears by the two sexes. Because only one other study has explored the factor structure for specific ages and sex, it is unclear whether the age and sex differences in factor structure were specific to the present Trinidadian sample, or if different factor structures may be appropriate in other cultures as well. Further research is needed to address this issue.

The present study had several limitations. As noted, no piloting procedures were used. The preparation of this instrument for use in Trinidad and Tobago consisted of asking Guidance Officers to revise wording if necessary. Perhaps using a pilot sample to revise items would have resulted in fewer items that did not load saliently on a factor. Another limit to the present study was that two of the regions in Trinidad and Tobago were underrepresented in the current sample. Specifically, no participants from the St. Andrew/St. David or Tobago regions were included. Consequently, it is unclear how generalizable these results are to children and adolescents from those regions. A further problem with the sample is the age range of the participants. Whereas previous research had reported results for samples of children and adolescents between the ages of 7 and 18 years, the current sample only included children aged 11–18 years. This could be an especially relevant limitation given that the results were not congruent even over the shorter age span used in the present analysis. A final limitation of the study was the amount of variance explained by the accepted structure. Only 33.37% of the variance was accounted for by the five factors, and most of this (22.43%) was accounted for by the first factor. A great deal of the variance was left unexplained.

Future research focusing on the construct validity of the FSSC-II scores in different countries should attempt to include other methods beyond simple survey completion. Obtaining children's explanations of their experiences with and interpretation of the items may help determine why different factor structures

emerge across cultures and why unusual items tend to load together. Future research should also examine the factor structures that are most appropriate for males, females, and different age groups across and within cultures. This information will contribute to the knowledge base of normal and abnormal fear development in children and adolescents.

Acknowledgments

The data were collected as part of a project to obtain national normative data for assessment tools to be used in Trinidad and Tobago. Data collection was supported by a UNICEF grant (BARA/1999/0358). The first author would like to express her gratitude to James C. DiPerna for his guidance and helpful suggestions during completion of the project. A version of this paper was previously reported as the first author's Master's thesis.

References

Arrindell, W. A., Eisemann, M., Richter, J., Oei, T. P. S., Caballo, V. E., van der Ende, J., et al. (2003). Phobic anxiety in 11 nations part I: dimensional constancy of the five-factor model (electronic version). *Behaviour Research and Therapy, 41*, 461–479.

Broadbooks, W. J., & Elmore, P. B. (1987). A Monte Carlo study of the sampling distribution of the congruence coefficient. *Educational and Psychological Measurement, 47*, 1–11.

Burnham, J. J., & Gullone, E. (1997). The Fear Survey Schedule for Children—II: a psychometric investigation with American data. *Behaviour Research and Therapy, 35*, 165–173.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*, 245–276.

Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis* (2nd ed.). Hillsdale, NJ: Erlbaum.

Elbedour, S., Shulman, S., & Kedem, P. (1997). Children's fears: cultural and developmental perspectives. *Behaviour Research and Therapy, 35*, 491–496.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*, 272–299.

Finch, A. J., & McIntosh, J. A. (1990). Assessment of anxieties and fears in children. In: A. M. La Greca (Ed.), *Through the eyes of the child: obtaining self-reports from children and adolescents* (pp. 234–258). Boston: Allyn and Bacon.

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment, 7*, 286–299.

Fonseca, A. C., Yule, W., & Erol, N. (1994). Cross-cultural issues. In: T. H. Ollendick, N. J. King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents: issues in clinical child psychology* (pp. 67–84). New York: Plenum Press.

Geisinger, K. F. (2003). Testing and assessment in cross-cultural psychology. In: I. B. Weiner (Series Ed.), J. R. Graham, & J. A. Naglieri (Vol. Eds.), *Handbook of psychology: Vol. 10. Assessment psychology* (pp. 95–117). Hoboken, NJ: John Wiley & Sons.

Gorsuch, R. L. (1997). Exploratory factor analysis: its role in item analysis. *Journal of Personality Assessment, 68*, 532–560.

Gullone, E. (1999). The assessment of normal fear in children and adolescents. *Clinical Child and Family Psychology Review, 2*, 91–106.

Gullone, E., & King, N. J. (1992). Psychometric evaluation of a revised fear survey schedule for children and adolescents. *Journal of Child Psychology and Psychiatry, 33*, 987–998.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*, 179–185.

Kaiser, H. F. (1970). A second generation Little Jiffy. *Psychometrika, 35*, 401–415.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*, 31–36.

Muris, P., & Merckelbach, H. (2000). How serious are common childhood fears? II. The parent's point of view. *Behaviour Research and Therapy, 38*, 813–818.

Muris, P., Merckelbach, H., Mayer, B., & Prins, E. (2000). How serious are common childhood fears? *Behaviour Research and Therapy, 38*, 217–228.

Muris, P., & Ollendick, T. H. (2002). The assessment of contemporary fears in adolescents using a modified version of the Fear Survey Schedule for Children-Revised. *Journal of Anxiety Disorders, 16*, 567–584 (retrieved June 24, 2003 from the Science Direct database).

Ollendick, T. H. (1983). Reliability and validity of the Revised Fear Survey Schedule for Children (FSSC-R). *Behaviour Research and Therapy, 21*, 685–692.

Ollendick, T. H., Yang, B., King, N. J., Dong, Q., & Akande, A. (1996). Fears in American, Australian, Chinese, and Nigerian children and adolescents: a cross-cultural study. *Journal of Child Psychology and Psychiatry, 37*, 213–220.

Schaefer, B. A., Watkins, M. W., & Burnham, J. J. (2003). Empirical fear profiles among American youth (electronic version). *Behaviour Research and Therapy, 41*, 1093–1103.

Scherer, M. W., & Nakamura, C. Y. (1968). A Fear Survey Schedule for Children (FSS-FC): a factor analytic comparison with manifest anxiety (CMAS). *Behaviour Research and Therapy, 6*, 173–182.

Shore, G. N., & Rapport, M. D. (1998). The Fear Survey Schedule for Children-Revised (FSSC-HI): ethnocultural variations in children's fearfulness. *Journal of Anxiety Disorders, 12*, 437–461 (retrieved June 24, 2003 from Science Direct database).

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). New York: Harper Collins College.

Thompson, B., & Daniel, L. G. (1996). Factor analytic evidence for the construct validity of scores: a historical overview and some guidelines. *Educational and Psychological Measurement, 56*, 197–208.

Trinidad and Tobago Ministry of Education. (1998, September). *Data on secondary schools in Trinidad and Tobago 1997/1998* (Educational Planning Division). Port of Spain: Author.

Tucker, L. R. (1951). *A method for synthesis of factor analysis studies* (Personnel Research Section Report, No. 984). Washington, DC: Department of the Army.

Wolpe, J., & Lang, P. J. (1964). A Fear Survey Schedule for use in behaviour therapy. *Behaviour Research and Therapy, 2*, 27–30.

Wrigley, C. S., & Neuhaus, J. O. (1955). The matching of two sets of factors. *American Psychologist, 10*, 418–419.