Parent Reports of Behavioral and Emotional Problems among Children in Kenya, Thailand, and the United States

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WEISZ, JOHN R.; SIGMAN, MARIAN; WEISS, BAHR; and MOSK, JULIE. *Parent Reports of Behavioral and Emotional Problems among Children in Kenya, Thailand, and the United States.* CHILD DEVELOPMENT, 1993, **64**, 98–109. The behavioral and emotional problems children develop may differ from one cultural context to another. We explored this possibility, comparing 11–15-year-old Embu children in Kenya, Thai children, African-American children, and Caucasian-American children. Standardized parent reports on 118 problems revealed 62 significant ($p < .01$) culture effects. Caucasian-Americans were rated particularly high on undercontrolled problems (e.g., arguing, disobedient at home, cruel to others). Embu children were rated particularly high on overcontrolled problems (e.g., fears, feels guilty, somatic concerns), largely because of the numerous somatic problems reported. The findings may relate to the strict emphasis on compliance and obedience among the Embu, as opposed to the greater independence permitted in the United States. But alternative interpretations are discussed as well, including the effects of parent sensitivities and Third World living conditions.

A growing body of research supports the notion that patterns of child and adolescent psychopathology are influenced by the culture in which youngsters grow up. Culturally mediated beliefs, values, and traditions and associated child-rearing and socialization practices may help shape both the kinds of problems youngsters show when distressed (see, e.g., Lambert, Weisz, & Knight, 1989; Weisz, 1989) and the kinds of problems parents perceive or find distressing (e.g., Weisz et al., 1988). To explore this possibility, researchers have begun to develop a base of data on child and adolescent problem behavior in various parts of the world, including North America (Achenbach & Edelbrock, 1981), South America (Montenegro, 1983), the Caribbean (Lambert et al., 1989), Australia (Achenbach, Hensley, Phares, & Grayson, 1990), Asia (Weisz et al., 1987); and Europe (Achenbach, Verhulst, Baron, & Akkerhuis, 1987).

In contrast to the changing state of affairs in many regions of the world, we know relatively little about child and adolescent problem behavior in Africa. There have been several relevant studies, a number of these in Kenya; some have dealt with child-rearing and child behavior generally (e.g., Levine & Levine, 1977; Whiting & Whiting, 1975), whereas others have dealt with specific forms of problem behavior—for example, learning disabilities and mental retardation (Dhadphale & Ibrahim, 1984) and symptoms of depression and anxiety (Mitchell & Abbott, 1987). However, to our knowledge, none of these studies has surveyed a

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broad array of problems, none has used a standard problem assessment procedure, and none has directly compared the reported problems of African youngsters to those of youth from other regions. These were objectives of the present research.

To maximize the theoretical and empirical yield of such research, it is important to select comparison cultures that are different in conceptually significant ways and to focus on problem patterns, or syndromes, which theory suggests may be related to those cultural differences. The syndromes selected for study here were the two that are most frequently identified in factor analytic research with children: overcontrolled or "internalizing" problems (e.g., shyness, fearfulness, somaticizing), and undercontrolled or "externalizing" problems (e.g., fighting, showing off, hyperactivity). The two syndromes have been found in more than 20 factor analytic studies (many reviewed by Achenbach & Edelbrock, 1978). Although we do not know a great deal about what provokes the development of over- and undercontrolled problems, some evidence (Achenbach & Edelbrock, 1978; Hetherington & Martin, 1986) and theory (Weisz, 1989) suggest that socialization that stresses self-control, emotional restraint, and strict compliance with social rules may make children more likely to develop overcontrolled as opposed to undercontrolled problems.

The African youngsters of interest in the present study were children living in the Embu District of east-central Kenya (for details on the people and region, see Sigman et al., 1988; Sigman, Neumann, Jansen, & Bwibo, 1989; see also below). The Embu people are a part of the large Bantu stream that populates much of sub-Saharan Africa. Like many African peoples, they reside primarily in rural areas and live by cultivating crops, herding animals, and sometimes working at jobs that provide modest income (e.g., driver, teacher). Most infants and toddlers accompany their mothers throughout the day; most older children are in school much of the day and at home late afternoons and evenings. Given the literature on the origin of overcontrolled problems (above), it is intriguing to note that when Embu parents were asked (in an unpublished portion of Sigman et al., 1989) what they wanted most for their children, 92% replied with *obedience, politeness,* or both. As for African children more generally, Munroe and Munroe (1977) have noted that, "In sub-Saharan Africa, socialization almost universally emphasizes strong pressures [on children] toward compliance" (p. 146). Decades ago, in Kenyatta's (1938) classic study of the Embu's neighboring tribe, the Gikuyu, he noted, "Growing boys and girls learn that they have one thing to learn which sums up all the others, and that is the manners and deportment proper to their station in the community. They see that their happiness in the homestead, their popularity with their playmates, their present comforts, and their future prospects depend on knowing their place, giving respect and obedience where it is due" (p. 106).

The groups selected for comparison with the Embu youth were youngsters from Thailand and the United States (African-American and Caucasian groups considered separately) who, like the Embu, lived outside cities and suburbs. Thai youngsters offer a useful comparison group because their rearing conditions, and the socialization goals that guide their rearing, appear to be similar in several respects to those of Kenyan youth. In Thai society, children are socialized to be obedient and polite, to avoid offending or distressing others (particularly those who are older), and to show emotional restraint and self-control (see Boesch, 1977; Suvannathat, 1979; Suwanlert, 1974; Weisz, 1989). By contrast, American youngsters appear to be given considerably greater latitude, with independence and emotional expression not only tolerated but often encouraged and rewarded (see Weisz, 1989).

In previous epidemiologic research relying on both parent reports and teacher reports (Weisz et al., 1987, 1992) Thai children and adolescents have consistently been rated higher than American children on overcontrolled problems. Some theorists have speculated that Thai children may become more overcontrolled or internalizing in part because of socialization that stresses self-control, social inhibition, and compliance with social norms (see Boesch, 1977; Sangsingkeo, 1969; Weisz, 1989). Following this reasoning, one might expect from the brief child-rearing overview given above that parents of Embu children, like parents of Thai children, would report higher levels of overcontrolled behavior than the two American groups, because the Embu people, like Thais, emphasize self-control and social compliance. However, it is also possible that parents would be sensitized to problems of undercontrol in a society where compliance and obedience are important (although the Thai data do not appear to support this hypothesis). Furthermore, the Embu society, like most, must certainly con-

vey a variety of messages to its youth (see, e.g., Saberwal's [1970] report on Embu practices that appear to encourage assertiveness and aggression), and there is clearly not sufficient evidence for a firm prediction at this point.

As the preceding paragraph implies, reliance on parent reports of child problems raises a number of intriguing conceptual issues. One issue is the nature of a "child problem." The concept of a child problem, like the concept of child psychopathology generally, must inevitably involve two components: *actual child behavior* and *the perception of that behavior* through the lens of some observer—a parent, a teacher, a trained observer, or the child him- or herself. Indeed, one could argue that "actual behavior" and "perceived behavior" are inextricably linked in reports by any informant. A variety of factors may influence whether a particular observer reports a particular problem for a child—factors such as whether the behavior is unusual or otherwise salient in its cultural and social context, and even whether the observer is willing to report the problem to an interviewer. In the long term, there is value in sampling reports from multiple informants. However, assessing parent reports may be a particularly useful first step, because (1) parents have a particularly comprehensive observational base (i.e., more exposure to their child across more settings than, say, teachers or trained observers), (2) parents may have somewhat better descriptive language skills than their children, and (3) parent reports reflect the combination of actual child behavior and culturally influenced perception that is the essence of "child problems" in the first place.

Accordingly, we used parent-report methodology to help extend the base of information on child problems to an African sample. We obtained parent reports on the prevalence of 118 specific behavior problems among Embu children; these data were compared to parallel parent reports for Thai, African-American, and Caucasian-American youth. The groups were compared not only on the specific problems but also on total problem scores and on the two most commonly identified syndromes of problem behavior—overcontrolled and undercontrolled. We explored problem prevalence as a function of culture, gender, and the interaction of culture and gender.

Method

Subjects and Research Design

The total sample numbered 308, with 90 Embu youth, 96 Thais, 32 African-Americans, and 90 Caucasian-Americans. All children lived in rural or semirural areas. Each group had equal numbers of boys and girls, the same age range (11–15), and similar age means (13.0, 13.1, 12.9, and 13.0, respectively). A 4 (culture) × 2 (gender) ANOVA on age yielded no significant effects of culture, gender, or their interaction (all p's $> .50$). The sample formed a 4 (culture group) × 2 (gender) design with proportional cell N's throughout.

We were unable to find SES classification schemes for Kenya or Thailand which had either validity information or sufficiently detailed coding procedures to permit them to be applied to our data. So, instead, we applied Hollingshead's (1975) SES system to parent occupation data in each country. In the economies of Thailand and Kenya, some of the logic of the Hollingshead system does apply; for example, in all four countries, teachers, clerks, and small business operators do tend to have higher levels of education and income than subsistence farmers and manual laborers. Nonetheless, the SES data for the Embu and Thai samples should certainly be interpreted with caution because they involve use of an American system in cultures for which it was not designed. To provide for at least a rough similarity on parent occupational level, we selected samples with the constraint that the four groups not differ on this SES measure. Mean ratings on Hollingshead's 9-point scale (9 = highest SES) were 3.42, 3.62, 3.38, and 3.83 for the Embu, Thai, African-American, and Caucasian samples, respectively. The overall culture effect was nonsignificant ($p > .5$).

Study Areas and Sampling Procedures

Embu sample.—We sampled three locations in the Embu District, in central Kenya, about 120 miles northeast of Nairobi. The district rests on the slopes of Mt. Kenya, where the Embu people live through a combination of subsistence farming (corn, beans, livestock), modest small businesses (e.g., cash crops, such as coffee), and private and public employment (e.g., manual laborer, driver, teacher). The children were originally selected because they were between 7 and 9 years of age at the time of a previous study focused on schoolchildren (reported in Sigman et al., 1989).

Thai sample.—Because the Embu youth resided outside the boundaries of any city or suburb, we used comparison samples of Thai and American youth who did not live in cities or suburbs. Thai youngsters were sampled from districts in the central, north, northeast, and southern peninsula areas of Thailand. As with the Embu sample, the Thai parents live through a combination of subsistence farming, small businesses (e.g., cash crops such as bananas), and public and private employment. The children were randomly sampled through the use of school and province population directories (see Weisz et al., 1987, 1989 for further details).

U.S. samples.—Both the black and white U.S. samples were drawn from numerous regions throughout the United States,[1] selected for representativeness by the Institute of Survey Research at Temple University (procedures described in Stanger, McConaughy, & Achenbach, in press). Our sample, a subset of the Stanger et al. sample, included black and white subjects, selected randomly with the constraints that they not differ from one another or from the Thai or Embu samples in parental occupational levels (see SES data, above) and that they not reside in cities or suburbs. The range of parent occupations included farming as well as other private and public employment.

Problem Checklist Measure and Interview Procedure

In the United States, the problem report measure was the Child Behavior Checklist (CBCL; Achenbach, 1991). It includes questions about child and parent demographics, child competence in school and elsewhere, and a list of 118 specific problems (e.g., "disobedient at home," "shy or timid"). Parents indicate the degree to which their child shows each problem by ratings of 0 = not true of the child, 1 = somewhat or sometimes true, or 2 = very true or often true. The CBCL is very widely used and well supported through extensive psychometric data (see Achenbach, 1991). Principal components analyses of CBCL data have revealed overcontrolled ("internalizing") and undercontrolled ("externalizing") syndromes, as described above.

The Thai and Kenyan parents completed checklist measures that included the same problem items as the CBCL, translated into Thai and Kiembu, respectively. These two checklists were designed to be sufficiently similar in format and content to the CBCL to permit cross-cultural comparisons, but also sufficiently sensitive to Thai and Embu cultures to detect patterns of particular importance in those cultures. The first 118 problem items listed in both checklists are the same (and in the same order) as the 118 CBCL problem items, and the response format is the same as in the CBCL (i.e., the 0-1-2 rating scale). The only exception is that CBCL item no. 105 ("uses drugs and alcohol") was divided into two items, "uses drugs" and "uses alcohol," in the Thai and Embu checklists; for the present study, however, we combined these two into one item (giving to the composite the higher score of the two items), thus forming in effect a single problem item, as in the CBCL. Additional problem items were added to reflect child problems of interest in Thailand and Kenya, respectively, but the present analyses focused only on the initial 118 problem items, which were the same in all three checklists.

Conversion of the CBCL items and instructions into Thai and Kiembu was accomplished (following Brislin, 1970; Draguns, 1982; Wagatsuma, 1977) through successive waves of translation and backtranslation (three waves in Thailand; two waves in Kenya). Each wave involved hired translators and psychologists, aiming for linguistic equivalence and for simplicity of expression (for further details, see Weisz et al., 1987).

All data were collected via individual interviews with subjects' parents or guardians. In each case, the interviewer read aloud the standard problem checklist in the parents' language and recorded the parent's answers.

Results

We assessed group differences in (*a*) total problem scores (i.e., sum of all 1 and 2 ratings across all 118 problems plus "other

[1] The U.S. data come from a large survey of child problems conducted by Stanger, McConaughy, and Achenbach (in press). The children used in that survey were sampled from 100 locations in the United States identified by the Temple University Institute of Survey Research as demographically representative of the country as a whole. Identification of areas in which the children resided took place 3 years prior to the Stanger et al. survey; thus it is possible that some of the children in our sample no longer lived in rural or semirural areas by the time (3 years later) when the problem reports used in the present study were collected.

TABLE 1

SIGNIFICANT ($p < .01$) MAIN EFFECTS OF CULTURE AND GENDER ON PROBLEM ITEMS

Type[a]	Problem	Culture[b]	Pairwise[c]	Gender[d]
M	1. Acts too young	K > B > W > T (4.6)	[KT]	
–	2. Allergy	W > T > B > K (5.4)	[WK,TK]	
U	3. Argues	W > B > T > K (8.2)	[WT,WK]	
M	7. Brags	W > B > K > T (4.7)	[WT,KT]	
O	9. Obsessions	W > B > T > K (5.3)	[WT,WK]	
UB	10. Hyperactive	B > W > T > K (7.6)	[BK,WK,TK]	
U	16. Bullies, cruel to others	W > B > K > T (6.4)	[WK,WT]	
O	17. Daydreams	W > B > T > K (16.1)	[WB,WT,WK,BK]	
M	19. Demands attention	W > B > T > K (10.0)	[WT,WK]	
U	20. Destroys own things			B > G (3.2)
U	22. Disobedient at home	W > T > K > B (3.9)	[WK]	
U	23. Disobedient at school	W > B > K > T (5.9)	[WK,WT,BT]	
UG	25. Poor peer relations	W > B > K > T (5.1)	[WT]	
UG	26. No guilt after misbehaving	B > W > T > K (4.9)	[WT,WK]	
M	27. Jealous	W > B > K > T (15.7)	[WB,WK,WT]	
OG	29. Fears things	K > T > B > W (6.3)	[KB,KW,TW]	G > B (3.0)
O	32. Feels has to be perfect	K > W > B > T (18.3)	[KW,KB,KT]	
M	33. Feels unloved	W > T > B > K (4.9)	[WK,TK]	
M	34. Feels persecuted	W > B > T > K (9.4)	[WT,WK]	
OG	35. Feels worthless or inferior	W > T > K = B (10.6)	[WT,WK,WB]	
–	38. Teased	B > W > T > K (14.2)	[BT,BK,WT,WK]	
U	39. Bad friends	W > B > K > T (8.0)	[WK,WT]	
U	41. Impulsive	W > T > B > K (11.3)	[WK,TK]	
O	42. Likes to be alone	T > W > B > K (13.5)	[TK,WK,BK]	
UB	44. Bites fingernails	W > B > K > T (6.8)	[WK,WT]	G > B (2.2)
M	45. Nervous	W > T > K > B (9.2)	[WK,WB,TK,TB]	
OB	49. Constipated	T > W > B > K (13.7)	[TW,TB,TK]	
O	50. Too fearful or anxious	W > T > B > K (6.0)	[WK,TK]	
O	51. Dizzy	T > K > B > W (17.0)	[TK,TB,TW]	
O	52. Feels too guilty	K > W > T > B (52.5)	[KW,KT,KB]	
–	53. Overeating			B > G (2.7)
–	55. Overweight	W > B > T > K (7.0)	[WT,WK]	
O	56a. Aches or pains	K > W > B > T (80.9)	[KW,KB,KT,WT]	
O	56b. Headaches	K > W > B > T (80.8)	[KW,KB,KT,WT]	

O	56c. Nausea, feels sick	K > B > W > T (89.0)	[KB,KW,KT]	
O	56d. Problems with eyes	K > B > W > T(84.6)	[KB,KW,KT]	
O	56g. Vomiting	K > B > W > T (49.9)	[KB,KW,KT]	
U	57. Physically attacks people	K > W > B > T (11.8)	[KW,KB,KT]	
–	58. Picks nose, skin	T > W > B > K (4.6)	[TK,WK]	
U	61. Poor schoolwork	B = W > T > K (20.1)	[BT,BK,WT,WK]	B > G (4.8)
UB	62. Clumsy	W > T > K > B (4.1)	[WT,WK,WB]	
UG	63. Prefers older children	B > T > W > K (9.1)	[BK,TK,WK]	
OB	64. Prefers younger children	T > B > W > K (15.4)	[TB,TW,TK]	
OB	66. Compulsions	K > W > T > B (13.3)	[KW,KT,KB]	
M	69. Secretive	W > B > T > K (16.3)	[WT,WK,BK]	
OG	70. Visual hallucinations	K > T > W > B (5.6)	[KT,KW,KB]	B > G (2.6)
O	71. Self-conscious	W > B > T > K (33.4)	[WB,WT,WK,BT,BK,TK]	
U	74. Shows off	W > B > T > K (19.0)	[WT,WK,BK,TK]	B > G (1.5)
O	75. Shy or timid	T > W > B > K (15.8)	[TK,WK,BK]	
OG	76. Sleeps less than most kids	K > T > W > B (54.2)	[KT,KW,KB]	
OG	77. Sleeps more than most kids	T > B > W > K (3.9)	[KT]	
OB	83. Stores up unneeded things	W > B > T > K (10.3)	[WK,BK,TK]	
O	85. Strange ideas			B > G (2.9)
M	86. Stubborn, sullen, irritable	W > T > B > K (21.1)	[WT,WB,WK,TK,BK]	
M	88. Sulks a lot	T > B > W > K (22.9)	[TB,TW,TK]	
M	89. Suspicious	K > B > T > W (40.2)	[KB,KT,KW]	
–	92. Talks or walks in sleep	W > T > B > K (6.3)	[WK,TK]	
M	93. Talks too much	W > B > T > K (25.5)	[WT,WK,BT,BK]	
U	94. Teases a lot	B > W > T > K (13.6)	[BK,WK,TK,WT]	B > G (1.9)
U	95. Temper tantrums	W > T > K > B (3.7)	[WT,WK]	
OB	99. Too concerned with neatness	B > W > T > K (6.1)	[BK,WK,TK]	
U	101. Truancy			B > G (2.7)
O	102. Underactive, lacks energy	T > W > B > K (7.2)	[TK,WK]	
M	104. Unusually loud	B > W > T > K (5.6)	[BK,WK,TK]	
OM	109. Whining	K > W > T > B (7.0)	[KW,KT,KB]	
O	112. Worrying	W > T > B > K (11.8)	[WT,WB,KW,KT]	

NOTE.—Problems are designated with their CBCL item numbers and brief labels indicating item wording. Numbers in parentheses show the percentage of variance in item ratings accounted for by each independent variable.

[a] O = problem loads on overcontrolled syndrome for both boys and girls aged 12–16, U = problem loads on undercontrolled syndrome for both boys and girls, OB/OG = problem loads on overcontrolled syndrome for boys/girls only, UB/UG = problem loads on undercontrolled syndrome for boys/girls only, M = problem loads on both over- and undercontrolled syndromes for some age/sex group(s), – = problem does not load on either over- or undercontrolled syndrome.

[b] Rank order indicated—e.g., K > T > W > B indicates that Kenya > Thailand > U.S. whites > U.S. blacks.

[c] Brackets show pairwise test results—e.g., [KT,KW] indicates that only the Kenya-Thai and Kenya-U.S. white differences were significant at $p < .01$.

[d] Direction of gender effects—e.g., B > G indicates that boys were rated higher than girls on a particular problem.

physical problems" and "additional problems"), (*b*) ratings on each of the 118 specific problems, and (*c*) composite scores for over- and undercontrolled problems (see below). Given the large sample and resultant statistical power, we set alpha at .01 rather than .05. We also assessed the magnitude of all significant effects by assessing percent variance accounted for; these figures were interpreted using Cohen's (1988) criteria: effects are *small* if they account for 1–<5.9% of the variance, *medium* if 5.9%–13.8%, and *large* if >13.8%.

Total Problem Scores

The 4 × 2 (culture × gender) ANOVA on total problem scores revealed only one significant effect, a main effect of culture, $F(3, 300) = 7.23$, $p = .0001$; the effect accounted for 7.2% of the variance and was thus medium by Cohen's (1988) criteria. Total problem means were 26.57 for Embus, 19.73 for Thais, 22.19 for U.S. blacks, and 29.57 for U.S. whites. Pairwise comparisons revealed that the Embu and U.S. white scores were significantly higher than the Thai scores (both p's $< .01$), but that no other group differences were significant.

Individual Problems

The 4 × 2 (culture × gender) ANOVAs on the 118 specific problems revealed main effects of culture on 62 (i.e., more than half) of the problems. The effects are shown in Table 1, together with the percent variance accounted for by each effect and the results of pairwise group comparisons. Of the 62 effects, 19 were large, 20 were medium, and 23 were small, by Cohen's standards. Embu youngsters had notably higher scores than the other groups on a number of overcontrolled problems. Quite striking among these group differences were the very large culture effects on problems involving somatic concerns: no. 56a "aches and pains" (75% of variance), no. 56b "headaches" (74%), no. 56c "nausea, feels sick" (85%), no. 56d "problems with eyes" (80%), no. 56g "vomiting" (50%), and no. 76 "sleeps less than most children" (52%). These problems all showed much higher prevalence in Embu children than in all three of the comparison groups (all p's $< .0001$). We follow up on these findings below.

Table 1 also shows that there were eight gender effects, six involving higher problem ratings for boys than girls. Neither of the two problems on which girls scored higher (i.e., no. 29 "fears," no. 44 "bites nails") were undercontrolled (for girls). By contrast, three of the six problems on which boys scored higher were undercontrolled problems. The gender effects tended to be more modest in magnitude than the culture effects reported above; all gender effects were small, by Cohen's (1988) standards.

Finally, the table shows that only three of the 118 problems were associated with a gender × culture interaction, and all three interactions were small in magnitude. Because this number of significant effects approximates chance expectancy, the interactions were not analyzed further or interpreted.

Composite Overcontrolled and Undercontrolled Scores

To compare groups on over- and undercontrolled problems, we calculated two composite scores for each child, following a procedure used in previous research (e.g., Weisz et al., 1987). To calculate each child's overcontrolled score, we computed the child's mean rating across all problems that fit the empirically derived overcontrolled syndrome for that child's age and gender group in principal components analyses by Achenbach and Edelbrock (1983).[2] Thus, the scale for these composite scores was the same as the scale for individual items, 0 to 2. Using a parallel procedure, we calculated an undercontrolled composite score. Then we included these two composite scores in a 4 × 2 × 2 (culture × gender × problem type) repeated-measures ANOVA, with problem type (i.e., over- vs. undercontrolled score) as a within-subjects factor.

This analysis produced a significant main effect for problem type, $F(1, 300) = 13.96$, $p = .0001$ (accounting for 1.0% of the variance), plus significant interactions of problem type × gender, $F(1, 300) = 8.13$, $p < .001$ (accounting for <1% of the variance) and problem type × culture, $F(1, 300) = 65.63$, $p < .0001$ (a medium effect, 9.8% of the variance). The main effect for problem

[2] As noted elsewhere (e.g., Weisz et al., 1987), a limitation of this procedure is that it is based on principal components analyses of data from American samples. This seems appropriate, in that such analyses have not been done with Kenyan or Thai children; moreover, it is useful to have one set of results on which to base item classification, and the U.S. analyses were carefully done and with very large samples. However, it will be useful in the long run to apply principal components analyses to child problem data from Thailand, Kenya, and other countries as well, to assess degree of correspondence in the composition of child clinical syndromes across cultures.

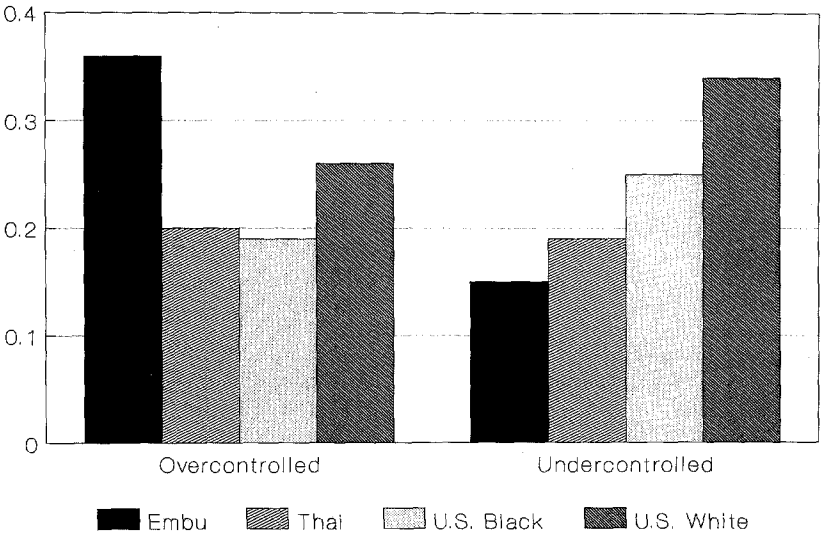

FIG. 1.—Overcontrolled and undercontrolled problem means for Embu, Thai, U.S. black, and U.S. white children.

type reflected somewhat higher scores for overcontrolled problems (mean: 0.27) than for undercontrolled (0.23). The problem type × gender interaction reflected the fact that boys and girls differed in undercontrolled problems (means: 0.26 and 0.19; $p < .0001$) but not in overcontrolled problems (both means: 0.27).

Underlying the culture × problem type interaction were significant effects of problem type for U.S. whites, $F(1, 89) = 15.79$, $p < .0001$, and for Embu youth, $F(1, 89) = 214.71$, $p < .0001$; the problem type effect was not significant for Thai and U.S. black youth. United States whites had significantly higher ratings for undercontrolled than overcontrolled problems (means: 0.34 and 0.26); Embu youngsters showed the reverse pattern (0.36 for overcontrolled, 0.15 for undercontrolled).

Viewing the interaction from another perspective, the effect of culture was significant for both overcontrolled problems, $F(3, 300) = 21.31$, $p < .0001$, and undercontrolled problems, $F(3, 300) = 16.13$, $p < .0001$. On overcontrolled problems, the Embu mean (0.36) was significantly higher than the means for Thais (0.20), U.S. whites (0.26), and U.S. blacks (0.19) (all p's $< .0001$), and U.S. whites were higher than Thais ($p < .01$). On undercontrolled problems, U.S. whites (0.34) were rated higher than Embus (0.15) and Thais (0.19) (both p's $< .0001$), with no other pairwise comparisons significant. The interaction is shown in Figure 1.

Secondary analysis excluding somatic problems.—Particularly salient in the findings reported above were the high levels of somatic problems reported for Embu youngsters. We sought to learn how much of the culture × problem type interaction might be accounted for by such problems. To do this, we recomputed the 4 × 2 × 2 (culture × gender × problem type) repeated-measures ANOVA, but with the 21 problems that involved somatic complaints excluded. As might be expected, the results changed substantially. Two effects were significant: (1) a gender × problem type interaction ($F[1, 300] = 8.82$, $p < .005$) closely resembling the interaction in the original analysis (see above), and (2) a culture × problem type interaction ($F[3, 300] = 8.52$, $p < .0001$) quite different from that in the original analysis. With somatic problems excluded, the four cultures showed a much more modest difference than before in overcontrolled problems, $F(1, 300) = 5.48$, $p < .005$; U.S. whites (0.30) had higher scores than Thais (0.22) and Embus (0.21), with no other pairwise differences significant. On undercontrolled problems, the culture effect remained strong, $F(1, 300) = 16.13$, $p < .0001$; U.S. whites (0.34) were rated higher than Thais (0.19) and Embus (0.15), with no other pairwise tests significant. Viewing the interaction from the other direction, we found that overcontrolled scores were higher than undercontrolled scores for Embus ($p < .0001$) and Thais ($p = .0005$), but

that there was no significant difference for U.S. blacks or whites.

Discussion

Embu and U.S. white children had similar, relatively high total problem scores, but the types of problems leading to those scores were evidently quite different for these two cultural groups. Embu youth were rated much higher than the other three cultures on overcontrolled problems, and U.S. whites were rated significantly higher than Embu and Thai youth on undercontrolled problems. These cross-cultural differences warrant closer examination.

First, it is useful to consider the pairwise comparisons between Embu and other cultures. Thai culture, which is steeped in Buddhist tradition, is widely viewed as strongly emphasizing self-control, emotional restraint, and inhibition (see Boesch, 1977; Gardiner, 1968; Sangsingkeo, 1969)—that is, as emphasizing what might be called "overcontrol"—and, accordingly, Thai youth have repeatedly been found in previous research to have higher levels of reported overcontrolled problems than American youth of the same ages (see Weisz et al., 1987, 1989, 1992). The level of overcontrol reported for Thai youth here fell well below the level reported for our Embu sample. (Notably, the mean for overcontrolled problems was also lower for Thais than for Caucasian-American youngsters in the present sample. This pattern may have resulted from the fact that our sampling procedures [see Method section, above] generated a rather uniformly low-SES sample in each culture; in previous comparisons SES has been free to vary.)

If one searches for an explanation of the high overcontrolled scores for Embu youngsters in the child-rearing patterns to which they are exposed, one finds only modest relevant information in the published literature. As noted in the introduction, parents of Embu youth rate obedience and politeness as the two things they want most in their children. Those who have written about traditional and more recent child rearing among neighboring African groups in Kenya (e.g., Kenyatta, 1938; Munroe & Munroe, 1977) have emphasized that children are subjected to strong pressures toward compliance with strict social rules. It is possible that such pressures foster the development of overcontrolled behavior among Embu children. Such pressures should also, of course, *discourage* development of many forms of *undercontrolled* behavior, and in accord with this notion, Embu children were rated significantly lower than American children (both black and white) on undercontrolled problems.

To examine further the large culture effect on overcontrolled problems it is useful to identify those *individual* overcontrolled problems that showed the largest cross-cultural differences. Nearly all the large effects (by Cohen's [1988] definition) of this type involved problems for which Embu were rated higher than all other groups. Some of these problems—such as no. 32 "feels s/he has to be perfect," no. 52 "feels guilty," no. 66 "compulsions," no. 76 "sleeps less than most"—sound like the kinds of difficulties one might expect of children strongly pressured to be polite, compliant, and well behaved. This interpretation is further supported by the low level of undercontrolled behavior reported for Embu children relative to the two American groups, assuming that American children are given greater behavioral latitude than are Embu children.

It is especially important to note, however, that most of the really large culture effects involving high scores for Embu children on overcontrolled problems were for problems involving somatic concerns, such as no. 56a "aches or pains," no. 56b "headaches," no. 56c "nausea, feels sick," no. 56d "problems with eyes," and no. 56g "vomiting." When the 22 problems involving somatic elements were excluded from the analyses, the culture difference on overcontrolled scores was no longer significant. This indicates that this particular culture effect resulted primarily from group differences in parents' reports of somatic problems. Given this fact, special attention must be paid to the meaning of such reports.

Parent reports of children's somatic problems could result from a number of causes. First, some psychodynamic theories hold that somatic problems can result from conversion of psychic distress in individuals who are pressured to comply with strictly defined behavioral rules. Second, it is possible that in some societies where behavioral rules are quite strict, somatic concerns (i.e., problems which appear to involve "illness") evoke more positive responses from adults than do behavioral problems, and that somatic concerns are thus reinforced. Third, as suggested by Embu villagers outside our sample, somatic concerns may develop in

youngsters who are expected to work very hard all the time, if the apparent ailments are rewarded by freeing the youngsters from work responsibilities. Fourth, parent reports of somatic problems could be influenced by conditions or events that heighten their attentiveness to such problems. For example, the Embu people we sampled had been interviewed frequently about health concerns in their families during a 1-year period 5 years prior to our study; it is possible that those interviews sensitized parents to signs of physical problems in their children 5 years later. Fifth, it is possible that children's somatic concerns may reflect *real* physical problems, some resulting from poor nutrition or other aspects of impoverished living conditions. For all the somatic items under category no. 56 in the checklist (see Table 1), parents were asked to indicate whether their child had "physical problems *without known medical cause,*" but parents may not always know whether their child's problems have a medical cause. We must consider the possibility that children in developing countries, more than children in the United States, may be exposed to conditions that put them at risk of such problems as no. 56c "nausea," no. 56g "vomiting," and even no. 56a "aches or pains." On the other hand, we know of no reason to think that such conditions would be more prevalent in Kenya than Thailand, and ratings for Thai youngsters on somatic problems were not particularly high. Nonetheless, it will be important not to overinterpret the psychological significance of the findings reported here until more data can be collected regarding possible artifactual and physical causes.

In this connection, we carried out one additional analysis to explore whether the Embu children received more extreme ratings on the somatic items than did children in the three other samples. We reanalyzed each of the 21 items involving somatic concerns, restricting the analysis to subjects who had received either a 1 or a 2 rating on the checklist. Fisher's exact test was used to determine whether the distributions of culture (Embu vs. non-Embu) and level (1 vs. 2) were independent of one another. Across the 21 items, we found 14 for which the proportion of 2's was higher for Embu than non-Embu samples. Such a tendency toward disproportionately high ratings for Embu children might suggest that Embu children's ratings were more frequently associated with real physical ailments than were the somatic problem ratings for non-Embu children. However, it could certainly be argued that if Embu children had developed a strong tendency toward somatic expression of psychological stress, that strong tendency, too, could be reflected in numerous ratings of 2 on somatic items. Thus, the analysis provided new data but no clear resolution.

One other issue should be raised. Large cross-cultural differences may also result partly from cross-national differences in interpretation of the questions asked. We tried to insure faithful replication of the CBCL items by using multiple waves of translation and back-translation, as recommended by cross-cultural experts (e.g., Brislin, 1970; Draguns, 1982; Wagatsuma, 1977), but translations can always be improved. The large culture effects found here may need to be tested for robustness across further adjustments in translation of the instrument.

The gender effects found here are noteworthy because they fit fairly well into other findings on over- and undercontrolled problems in boys and girls. A gender × problem type effect showed that boys and girls had identical overcontrolled scores, but that boys showed higher undercontrolled scores than girls. These findings combine with the results of numerous other studies (see Achenbach et al., 1990; Rutter & Garmezy, 1983) to suggest that boys are more likely than girls to develop undercontrolled problems, that this trend may be rather robust across different cultures and different socialization practices, and that it may thus result from relatively culture-transcendent causal forces. Such forces might include very widespread gender differentiation in the socialization of boys and girls or biological/temperamental differences. To weigh such possibilities we will need continued assessments of early temperament, and of child and adolescent behavior problems, among boys and girls of diverse cultures.

Finally, a reminder is in order that the data presented here were all derived from parent reports on child behavior. Although parent reports may well be our best single source of information on child problems, it must also be true that what parents notice, and what they consider to be a significant problem in their child, can be influenced by cultural ethos and the social values of the parents' society. It will be important, in all research of the sort represented by this study, to extend the assessment of children's problems to informants other than the child's parents (e.g., teachers, the children

themselves—informants who also share the culture's values) and to include direct observations of child behavior where feasible. As we noted in the introduction, the *actual* and the *perceived* are, to a certain extent, inseparably interwoven in reports of child behavior and child problems by any informants (including trained observers). Given the overdetermined nature of the phenomena—the fact that "child problems" inevitably involve a combination of actual child behavior and the lens through which that behavior is viewed—a thorough triangulation of informants and methodologies will be needed to generate a fully informative base of cross-cultural data.

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