

The Myth of a Sub-Culture of Corporal Punishment

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This paper addresses the question of whether adolescents coming from families using physical punishment have disciplinary beliefs similar to adolescents coming from families not using physical punishment. A related question is whether different ethnic groups share similar disciplinary beliefs. Anglo and Hispanic adolescents were asked to judge the appropriateness of certain disciplinary actions for specific teenage misbehaviors and asked if "physical punishments" were used in their families. Individual response profiles were compared and tested for patterns of clustering indicative of attitudinal sub-cultures. A Cultural Consensus Model was used to create an empirically derived description of community disciplinary standards and to calculate individual deviance from the standard. Results indicated that Hispanic and Anglo adolescents did not differ significantly in their disciplinary attitudes nor in the proportion of each group reporting physical punishment at home. Rather, a single value system was detected and adolescents reporting physical punishment were more likely to be on the periphery of that system. There appears to be a common set of beliefs concerning appropriate disciplinary actions and adolescents reporting physical punishment deviate from this norm. Furthermore, physically punished adolescents do *not* share a single well-defined set of values among themselves, but instead deviate in a variety of ways from the consensual view.

Key words: child abuse, clustering, cultural consensus model, disciplinary beliefs, quadratic assignment procedure

Is There a Sub-Culture of Corporal Punishment?

In an attempt to define clusters of families at risk for abuse, researchers have tended to search for characteristics which might differentiate abusive families from nonabusive families. In this paper we introduce a new theoretical framework which may be useful in identifying families or persons on the periphery of social value systems and thus be helpful in identifying individuals at risk. This new framework allows for an empirically derived description of standards based on community consensus. Deviance from the "norm" or consensus is calculated using the Cultural Consensus Model (Romney and Weller 1984; Weller 1984). Attitudinal or "belief" data were collected from Anglo and Hispanic adolescents regarding the appropriateness of certain disciplinary actions for specific adolescent misbehaviors. Using this data,

we explore the possible existence of an "abusive" sub-culture as well as test for possible cultural differences between Anglos and Hispanics.

Although all cultures have concepts of appropriate and inappropriate behavior, specific interpretations of what are acceptable and appropriate disciplinary practices may vary. Child rearing and disciplinary practices differ on several dimensions and are an essential part of transmitting cultural values to the young (Minturn and Lambert 1964; Whiting and Child 1953; Whiting and Whiting 1975; Witkin 1974). Increased acceptance of more violent or abusive disciplinary measures has been a common argument used to explain the increased prevalence of reported child abuse among ethnic minorities in the U.S. The fact that Hispanics appear in reported child abuse statistics in a percentage greater than their representation in the general population (Orange County Child Abuse Registry 1980) raises the following question: are Hispanics' values at odds with the dominant Anglo culture or are they being over-reported?

Little is known about the disciplinary beliefs and practices of Mexican-Americans. Romney and Romney (1963) reported on child rearing and disciplinary practices for young children in a rural village in southern Mexico. They also described an overall cultural preference for avoiding "strong feelings" (i.e., aggressiveness) because they are thought to be causally associated with illness. In a study of young children, Kagan and Madsen (1971) found Mexican-Americans to be less "cooperative" than Mexicans, but less "competitive" than Anglo-Americans. Cross-national studies by Diaz-Guerrero (1973) and Holtzman (1979) seem to indicate pos-

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sible developmental and attitudinal differences between Mexicans and Anglo-Americans. Martinez et al. (1976) imply that structural and cultural differences in families of Anglo and Chicano high school students may contribute to connotative differences in perceptions of mothers and fathers.

However, any description of cultural values or societal norms needs to take into consideration that culture is not a simple, unitary phenomenon. Variability occurs both within as well as between cultural systems and may be inevitable due to the nature and complexity of cultural systems (Roberts 1964; Wallace 1970:1-38). Variation may be idiosyncratic (random) or systematic, as when alternate models are present among different classes of people or in different contexts (Goodenough 1963; Hymes 1964). Although it is possible that no two individuals share identical value systems, an aggregation of individual cognitive structures may reveal a distributional pattern that warrants description by "modal structure," the "mean," or "norm." Norm and deviance are terms typically used to describe modal behavior patterns and variance from those patterns. Here we use the terms to describe the typical, and not necessarily the ideal, belief. Such a cognitive description is not meant to predict actual behavior, rather it describes "what is expected and appropriate" (Tyler 1969).

Variability in cognitive structures may be thought of as resulting from differential degrees of cultural sharing and may be described in terms of distributional characteristics. Possible models of variability and sharing are: a) random, without consensual beliefs; b) unimodal, with a single belief system; and c) bi- or multimodal, where two or more alternate belief systems are present (Wexler and Romney 1972; Young 1979; Boster 1985). In a "random" distribution, individuals would be interspersed with no discernable clustering. A unimodal or single belief system would be typified by a single cluster with individuals varying in the degree to which they correspond to an underlying cultural standard, i.e., with "deviants" lying on the periphery. When multiple or alternate belief systems are present multiple clusters of individuals form with each cluster conforming to an alternate belief system. In the case of disciplinary beliefs a bimodal structure might be indicative of one value system for families that prefer corporal punishment and another for families who do not.

A theoretical model of intracultural variability and sharing proposed by Romney and Weller (Romney and Weller 1984; Weller 1984) allows for the calculation of a "best estimate" of the underlying cultural standard or norm and for the quantification of individual deviations from that standard. The cultural standard or norm is best estimated by an aggregation of responses across subjects. Dispersion around the standard is a function of each individual's correspondence to the aggregated total. Individual deviations from the standard may be estimated by correlating an individual's response profile with the aggregated total (Romney and Weller 1984; Weller 1984) or estimates can be obtained from a pairwise agreement matrix among subjects (Batchelder and Romney 1986). The model is analogous to a reliability analysis of people (Weller 1984), rather than items (Nunnally 1978), and is an extension of information pooling theoretical models (Groffman et al. 1983) and other methods of measuring cultural consensus (Boster 1985). Romney and Weller (1984) utilized

the model to successfully predict informant accuracy on recall data, and Weller (1984) utilized the model to explore consistency and consensus among informants in a rural Mexican village. The formal derivation of the model is described by Batchelder and Romney (1986).

In this paper we explore the structure of adolescents' value systems regarding discipline. Specifically, we address the following questions:

1. Do Anglo and Hispanic adolescents have different beliefs about the appropriateness of certain disciplinary actions for different adolescent behaviors? (Are alternate value systems present?)
2. Are the beliefs of adolescents who report the use of some physical punishments different from those who do not? And, are the responses of adolescents reporting physical punishments similar to each other? (Is there a coherent sub-culture of "abuse," i.e., corporal punishment?)
3. Is deviation from the norm or majority related to familial use of corporal punishment?

Method

Adolescents were asked to judge the appropriateness of certain disciplinary actions for certain teenage behaviors, using sentence-frame substitutions that paired adolescent behaviors with disciplinary responses. The list of disciplinary actions was defined through extensive open-ended, individual interviews. School districts were invited to participate with special emphasis placed on securing cooperation from those with a mixed proportion of Anglo and Hispanic students. Data collection instruments were developed, pretested, and modified; and the study was independently replicated in two multi-ethnic high schools in Orange County, California. Informed consent was obtained from all participants.

QUESTIONNAIRE DEVELOPMENT. Preliminary, in-depth interviews were conducted to obtain a comprehensive list of adolescent misbehaviors and adult disciplinary responses. Verbatim responses of 29 Anglo and 27 Hispanic adolescents were recorded.¹ Individual interviews were conducted with approximately equal numbers of male and female adolescents. Each interview took approximately one to two hours to complete, and consisted of open-ended and free-recall type questions, descriptive answers, and probes by our interviewers to seek further explanation. The following issues were explored:

- 1) What things do you (or other teenagers) do that make your parents/mother/father/adults/etc. angry? (The purpose was to elicit as exhaustive a list of "misbehaviors" as possible.)
- 2) (For each response to the previous question) When you do _____, what do your parents, etc., do?
- 3) What other things might be likely to make adults upset or angry?
- 4) (For each item mentioned) And if _____ makes adults angry, what might they do in response?

All interviews were conducted by interviewers who were fluent in the native language of the respondents. Each interview was taped, transcribed, and where appropriate, also

translated. The taping and transcribing of the interviews served to provide a double check on interviewing style and content and to provide a record of verbatim responses. We had anticipated interviewing Hispanics in Spanish, but most Hispanic adolescents preferred to be interviewed in English.

To ensure that the list or domain of disciplinary actions included items that may be considered excessive or abusive, we included punishments reported most frequently by abused adolescents presenting to the Pediatric Emergency Room at the University of California, Irvine Medical Center.

DATA COLLECTION. Sentence-frame substitutions were used to assess the appropriateness of disciplinary actions for specific adolescent behaviors. Data were collected by systematically pairing each misbehavior with each disciplinary action and asking if the newly formed proposition was true (Steffire 1972; Steffire et al. 1971; D'Andrade et al. 1972). This kind of semantic analysis has been utilized to compare disease terms with attributes, causes, and "dimensions" of illness (Fabrega 1971; D'Andrade et al. 1972; Young 1978), and also in products by their uses (Steffire et al. 1971; Steffire 1972).

To minimize the imposition on classroom time, data collection tasks were designed so that they could be completed in approximately 30 minutes. Data collection materials were pretested in a multi-ethnic high school class of 28 students and modified. Because the number of paired-comparisons between behaviors and responses was large, an abbreviated list of items was used (see Table 1). The revised questionnaires were then completed by entire classes in each of the high schools. Cooperation was obtained from teachers of a variety of academic subjects and care was taken to select classes that were part of the required curriculum to avoid possible biases. English questionnaires were distributed to both Anglo and Hispanic students.

Students were asked to respond to 135 true/false statements that were formed by pairing 15 disciplinary actions with 9 "teenage behaviors"² (refer to Table 1). For example, they were asked to judge, true or false: "If teenagers stay out late, their parents take things away (bike, car, stereo, TV, phone, allowance)"; "If teenagers stay out late, their parents ground them and don't let them go out"; etc. In addition, students answered socio-demographic questions about age, grade level, family composition, ethnicity, birthplace, and parental educational level. They also were asked whether they thought they had been punished more severely than other adolescents, whether they had been struck in the last six months, and whether their family used physical punishments.

Analysis and Results

To be included in the study, Anglos had to declare White or Anglo ethnicity and could have, at most, one parent born outside of the United States in a non-Hispanic country. Hispanics had to declare Hispanic, Mexican-American, or Latin ethnicity, and could have at most one parent born outside of the United States or Mexico. Additionally, Hispanics had to have resided in the United States for five or more years to insure that they could comfortably answer the questionnaire in English.

TABLE 1. ADOLESCENT BEHAVIORS AND POSSIBLE ADULT RESPONSES USED IN SENTENCE SUBSTITUTION TASK

Adolescent behaviors	Adult responses
1. Stay out late	1. Take things away (bike, car, stereo, TV, phone, allowance)
2. Don't do their chores or jobs at home	2. Ground them, and don't let them go out
3. Lie	3. Whip them with a belt
4. Get bad grades or don't study	4. Ask them why they did it and tell them it better not happen again
5. Get drunk	5. Shake them
6. Talk back	6. Don't let them do something they want to do
7. Break the law	7. Spank them
8. Take drugs	8. Sit down and talk to them about it
9. Don't do what they are told to do	9. Send them to their room
	10. Hit them with a broomstick or rod
	11. Hit them with a fist or punch them
	12. Don't trust them as much and check up on them all the time
	13. Yell at them
	14. Put them down
	15. Slap them

DEMOGRAPHIC INFORMATION. There were 178 respondents; 97 at Santa Ana (42% Anglo) and 81 at Valencia (74% Anglo). The Valencia sample consisted mostly of 11th graders while the Santa Ana sample consisted mostly of 10th graders, with the Santa Ana Anglos being the youngest. Sample differences in demographic characteristics were tested with χ^2 (for dichotomous variables) and t-tests (for continuous variables). There were statistically significant differences between ethnic groups in level of parental education (a rough indicator of social class), number of children per household, and length of residence in current domicile (see Table 2; significant differences between ethnic groups within-schools are indicated with asterisks). There were no significant differences between Anglo and Hispanic students within each high school in terms of their year in school (grade), proportion of males, number of adults in the household, proportion with a telephone, nor the proportion that were first born. Most importantly, there were no significant differences between the two ethnic groups in terms of the proportion of students that reported severe punishment, physical punishment, or having been struck during the last six months.

ALTERNATIVE BELIEF SYSTEMS. The Quadratic Assignment Procedure (Hubert and Schultz 1976; Schultz and Hubert 1976) was used to test for clustering in the response profiles that might indicate the presence of alternate belief systems. Specifically, we tested for distinct patterns in responses between Anglos and Hispanics and between physically punished and non-physically punished adolescents.

The Quadratic Assignment Procedure (QAP) provides a nonparametric, inferential test of hypotheses regarding clusters in a data matrix. The QAP belongs to the general family of permutation tests but specifically allows for a comparison between a data matrix and a hypothesized cluster matrix.

TABLE 2. DEMOGRAPHIC CHARACTERISTICS OF SAMPLES

	Santa Ana		Valencia	
	Anglo	Hispanic	Anglo	Hispanic
Sex (% males)	51%	45%	37%	38%
Grade	9.9 ± .8	10.2 ± .9	10.8 ± 0.9	11.1 ± 1.1
Age	15.6 ± 1.0	16.1 ± 1.0*	16.4 ± 1.0	16.6 ± 1.3
Father's education	14.5 ± 3.2	8.5 ± 3.2**	14.6 ± 3.1	9.6 ± 3.5**
Mother's education	13.7 ± 3.0	8.1 ± 3.5**	13.0 ± 2.4	10.0 ± 3.6**
Number of children	3.1 ± 1.2	5.6 ± 2.8**	3.7 ± 1.9	4.8 ± 2.8
Birth position	2.2 ± 1.2	3.3 ± 2.7	2.5 ± 1.8	3.9 ± 2.1
Adults in household	1.9 ± 0.4	1.9 ± 0.5	1.9 ± 0.4	2.0 ± 0.4
People in household	6.0 ± 1.2	8.5 ± 2.8**	6.6 ± 2.0	7.7 ± 3.1
Years in house	10.2 ± 5.0	7.4 ± 5.2**	6.4 ± 5.3	9.8 ± 6.1*
>1 hr to previous house	10%	5%	32.8%	0%*
Percent with phone	100%	96%	100%	95%
Percent first born	37%	39%	42%	24%
Punished severely	5%	11%	17%	24%
Punished physically	20%	30%	32%	24%
Struck within 6 months	12%	9%	19%	14%
Household composition:				
Father	75%	77%	73%	85%
Stepfather	10%	5%	8%	5%
Mother	100%	96%	95%	85%
Stepmother	0%	0%	3%	10%
Aunt	2%	0%	2%	0%
Uncle	0%	0%	2%	5%
Grandmother	5%	9%	2%	5%
Grandfather	0%	2%	0%	0%

* $p < .05$.** $p < .01$.

QAP tests the null hypothesis that the observed correspondence between the two matrices or data structures is the result of random matching. An index value, the sum of the products of corresponding elements in each matrix, represents the unique combination of the observed rows and columns between the two matrices:

$$\Gamma = \sum_{i,j} d_{ij}c_{ij}$$

d_{ij} = row i and column j of data matrix D

c_{ij} = row i and column j of cluster matrix C

The index value is then compared to the permutation distribution of all such possible values, given all the row and column permutations of one of the matrices. The (one-tailed) significance level is defined as the proportion of permutations that would give indices at least as extreme as the observed index. Sufficiently small levels would suggest that a significant degree of correspondence exists between the two structures.

Because a total enumeration of all permutations is impractical for most purposes, the permutation distribution, and hence significance level, may be approximated with Monte Carlo sampling from the permutation distribution or with the theoretical moments of the distribution (Hubert and Schultz 1976). Approximations to the complete distribution based on moments provide a reasonable and adequate alternative for most cases (Hubert 1984).³ Using the theoretical moments the index value may be expressed as a standard Z

score and the significance level approximated from the standard normal distribution. The probability value associated with the observed Z score indicates the likelihood that the two matrices are matched at random.

To assess the pattern of agreement among respondents, QAP was used to compare a subject by subject agreement matrix with a hypothesized cluster matrix. The subject by subject agreement matrix was calculated by correlating the dichotomous responses of each student with the responses of all other students within each school. To test for clustering among the responses of Anglos and among Hispanics, the hypothesized cluster matrix contained 1's between all pairs of Anglos, 1's between all pairs of Hispanics, and 0's in all cells comparing Anglos and Hispanics. QAP results indicated that no significant clustering was present, e.g., that responses of Anglos and Hispanics could not be differentiated (for the Santa Ana sample, $Z = 1.58$ with $p > .05$; and at Valencia, $Z = -1.22$ with $p > .05$).

To compare the responses of physically and nonphysically punished students, a slightly different structural analysis was used. Here, the hypothesis was that the responses of those who reported physical punishment regardless of ethnicity would be more similar to each other than they would be to those not reporting physical punishment. Although a t -test revealed that students reporting physical punishment tended to report more punishments as appropriate (73.9 vs. 64.1, $p = .09$, at Santa Ana; and 96.9 vs. 72.0, $p = .001$, at Valencia), QAP was used to test for differences in the *pattern* of

TABLE 3. CLUSTERED AGGREGATE RESPONSES

Adolescent behavior (N = 178)	Hit with a broomstick or rod	Spank you	Whip with a belt	Shake you	Hit with a fist or punch	Slap you	Send you to your room	Put you down	Not trust you	Sit and talk	Not let you do something	Ask you why	Ground you	Take things away	Yell at you	Total
Talk back	15	17	21	36	20	81	91	55	46	108	122	119	118	82	141	1,072
Grades	8	9	10	15	11	16	51	67	83	164	146	153	139	114	119	1,205
Chores	9	11	13	13	11	16	44	52	68	121	140	143	126	91	122	980
Late	9	8	9	11	11	17	44	37	122	151	127	163	117	82	110	1,018
Lie	11	14	21	18	16	32	57	60	139	161	128	164	125	88	115	1,155
Drunk	13	20	28	41	20	40	59	67	138	163	137	150	141	104	118	1,265
Break law	12	21	30	35	19	42	57	70	143	165	153	150	155	133	138	1,266
Drugs	19	34	40	45	28	55	58	96	149	165	147	154	138	115	127	1,370
Don't do	15	17	23	21	18	29	84	56	87	131	148	143	142	112	136	1,162
Total	111	151	195	239	154	328	545	560	975	1,329	1,248	1,339	1,203	921	1,127	10,424

responses. Two separate QAP analyses were performed, first to test for a high level of agreement among those not reporting physical punishment, and second to test for agreement among those reporting physical punishment. To test if students who did not report physical punishment agreed with each other about the appropriateness of disciplinary actions, an hypothesized cluster matrix was created with 1's between pairs of students who did not report physical punishment and 0's elsewhere. Again, the hypothesized matrix was compared to the observed level of agreement in the subject by subject correlation matrix. There was a significant fit between the hypothesized cluster matrix and the observed agreement matrix (Santa Ana $Z = +2.98$, $p < .01$; Valencia $Z = +3.45$, $p < .001$), identifying a coherent cluster of responses among the nonphysically punished adolescents regarding disciplinary appropriateness.

To test for agreement among the physically-punished students, an hypothesized cluster matrix was created with 1's between all pairs of physically-punished students and 0's elsewhere. Physically-punished students responded significantly *different from each other* (Santa Ana $Z = -2.80$, $p < .01$; Valencia $Z = -2.67$, $p < .01$). A positive Z score indicates clustering or agreement among specified individuals and a negative Z indicates that individuals are interspersed rather than clustered. The significant amount of agreement among the non-physically punished adolescents and the significant *disagreement* among the physically punished adolescents indicates that there are not two separate response patterns. If alternate structures were present, the Z scores from the latter two pairs of test would have been positive.

NORM RESPONSE PATTERN. Since the QAP analysis did not detect the presence of alternative models for Anglos vs. Hispanics or for physically punished vs. nonphysically punished, we then derived an empirical description of the norm response for each school. The norm or underlying cultural standard was estimated by summing responses (where false = 0 and true = 1) across individuals. (Although data were analyzed separately for each school, the responses appearing in Table 3 are aggregated across ethnic groups and schools.) To aid in the interpretation of responses in Table 3, rows and

columns were reordered so that rows that were similar would be adjacent or near each other and columns that were similar also would be adjacent or near each other using the "double" hierarchical clustering algorithm of Steffire (1972), similar to that of D'Andrade et al. (1972) and Young (1978).

The analysis revealed that punishments tended to fall into three general categories: always appropriate, conditionally appropriate, and never appropriate. The block of "nonphysical" types of discipline were, in general, appropriate for all of the behaviors listed.⁴ There was high agreement among samples that "sit and talk," "ask why," "not let you do something," "ground you," and "yell" were appropriate punishments for all the listed adolescent behaviors. A few punishments were considered to be appropriate only for specific behaviors. For example, "take things away" and "not trust" were appropriate for most behaviors, but "slapping" was appropriate only for "talking back," "put you down" only for "using drugs or drinking," and "send you to your room" only for "talking back" and "not doing what you are told to do." Most of the students did not consider physical punishments, "whip with a belt," "punch," "hit with a broomstick or rod," "shake," and "spank" to be appropriate for any of the behaviors listed. Also, if row and column totals from the aggregate response matrices are construed as general indices of severity of misbehaviors and frequency of punishments respectively, there was also high concordance among samples as to the relative severity and frequency of items.

QUANTIFICATION OF DEVIANCE. In order to discover the degree to which physically punished adolescents were social and cultural "outliers," each individual's degree of deviation from the norm was quantified utilizing the Cultural Consensus Model proposed by Romney and Weller (1984). The model measures individual differences in the degree of "shared cultural knowledge." The consensual or norm belief is estimated by an aggregation or average of responses across individuals. Deviation from that standard is estimated by each individual's correspondence with the consensus, i.e., the aggregated responses. The formal model described by Batchelder and Romney (1986) incorporates concepts and derivations from signal detection theory, test construction and

TABLE 4. STUDENTS CLASSIFIED BY DEVIATION, PHYSICAL PUNISHMENT, ETHNICITY, AND SCHOOL

Santa Ana									
Anglo	Deviation			Hispanic	Deviation				
	High	Low			High	Low			
Physical	6	2	8	Physical	10	7	17		
Nonphysical	15	18	33	Nonphysical	10	29	39		
	21	20	41		20	36	56		
Odds Ratio = 3.60			Q = .57	Odds Ratio = 4.14			Q = .61		
Valencia									
Anglo	Deviation			Hispanic	Deviation				
	High	Low			High	Low			
Physical	13	5	18	Physical	3	2	5		
Nonphysical	15	25	40	Nonphysical	8	8	16		
	28	30	58		11	10	21		
Odds Ratio = 4.33			Q = .63	Odds Ratio = 1.15			Q = .20		

item reliability, and decision analysis. The model assumes that: (1) a consensual belief exists (axiom of common truth); (2) each subject answers independently from every other subject (local independence); and that (3) items are drawn from a coherent, culturally defined domain (homogeneity of items).

Agreement between any pair of subjects is a function of their "knowledge"; the proportion of questions that really are "true," i.e., vs. false; and response bias or guessing. Subject by subject agreement measures differ in their sensitivity to response bias and the proportion of true/false answers. Batchelder and Romney (1986) estimate "deviance" with the first principal component from a subject by subject covariance matrix corrected for the proportion of "true" answers or from a "match" coefficient matrix corrected for guessing. While their method may be more methodologically correct, empirical work to date has indicated that different solutions tend to correlate at the $r = .99$ level (Weller 1984). In this paper, correspondence was calculated by correlating (Pearson correlation coefficient) an individual's responses with the aggregated responses of all other respondents in his/her school minus him/herself. This analysis is analogous to an item reliability analysis (Nunnally 1978; Hull and Nie 1981) except that in this context it is applied to individuals.

Using each individual's degree of correspondence to the norm response pattern for each school, we asked if deviance was related to familial use of corporal punishment. Results were congruent with the QAP analyses and indicated that physically punished students tended to be outside or on the periphery of the cultural value system. A loglinear analysis (Brown 1983) of school, ethnicity, physical punishment, and deviation revealed only two significant interactions in the data. Degree of deviation was dichotomized at the median: greater than .65 indicates "low" deviation and less than .65 indicates "high" deviation. School and ethnicity were associated (Santa Ana and Valencia had different proportions of

Anglos and Hispanics) and punishment was significantly associated with deviation from the majority (see Table 4). The odds were approximately 4:1 that if a student deviated from consensual values, he/she was also four times as likely to have been physically punished.⁶ The maximum likelihood pooled estimate of the odds ratio, stratified by ethnicity and school, is 3.66 (95% confidence interval: 1.80 to 7.43).

Further examination of the degree of deviance revealed that deviance tended to have a stronger and more consistent association with the reported use of physical punishment than did any of the demographic variables. Deviation itself was not found to have a strong or consistent relationship with parental education, sex, ethnicity, or family composition. Correlation coefficients between physical punishment, deviance, and demographic variables appear in Table 5. The odds ratio based measure of association, Goodman and Kruskal's gamma or Yule's Q, has been used throughout Table 5. Continuous variables have been dichotomized at the median, so that all associations represent 2×2 relationships.

Summary and Discussion

While Anglo and Hispanics differed on some demographic characteristics, namely parental education, length of residence, and size of household, there were no differences between the two groups in the proportion reporting severe or physical punishment or having been struck in the last six months. Nor were there ethnic differences in the perception of the appropriateness of disciplinary actions. Results indicate that a *single value* system was present—rather than separate value systems for Anglos and Hispanics or between physically punished and nonphysically punished adolescents. Furthermore, physically punished individuals tend to scatter on the periphery of that value system.

The *lack* of differences between Hispanic and Anglo respondents may have been due to a true lack of differences between the groups, or the findings may be specific to this particular age group or to these particular questions. Recent work by Mendoza (1984) indicates that Mexican-Americans or Chicanos are not a homogeneous group. Rather, they are dispersed along an "acculturation" continuum and cultural differences are a function of the degree and type of acculturation. It is quite possible that the Chicanos in our study *are* acculturated and not discernably different from Anglo adolescents. Further research is necessary to explore the relationship between the degree of acculturation among Mexicans/Mexican-Americans and variability in disciplinary values. Also, cultural differences may exist at younger ages, where child-rearing practices may be of a totally different sort. Adults may use corporal punishments to a lesser degree on adolescents because child rearing may have switched from "training" to "polishing" that which has already been learned. Also, adults may be less inclined to strike an adolescent who is nearly adult-sized.

Adolescents reporting the use of physical punishments tended to be outliers both statistically and culturally. The "majority response pattern" of the adolescents indicated that adolescents perceived nonphysical punishments as appropriate for most teenage misbehaviors, while physically punished students tended to report more physical punishments

TABLE 5. GAMMA CORRELATION COEFFICIENTS

	Physical punishment				Deviance			
	Santa Ana		Valencia		Santa Ana		Valencia	
	Anglo	Hisp.	Anglo	Hisp.	Anglo	Hisp.	Anglo	Hisp.
Sex	.28	.24	.44	.05	-.15	.17	.57	.32
Age	.25	.26	.11	.20	.01	-.01	.01	-.34
Grade	.51	.42	.18	.04	.20	-.02	.01	-.57
Father's education	—*	-.14	.64	.32	-.25	-.35	+*	-.45
Mother's education	.41	.12	.82	-.51	.36	-.33	.25	.32
Oldest child	-.33	.12	.47	-.49	-.07	.14	.41	.32
Years in house	.09	.51	-.04	.53	.57	.20	-.06	.66
> hr from previous house	.67	.31	.09	—*	-.52	.51	.53	-.07
Father present	.47	.23	.23	-.24	-.26	.37	-.21	-.38
Deviance	.57	.61	.63	.20				
Physical punishment					.57	.61	.63	.20

* Undefined because there was a marginal total of one.

as appropriate. Students reporting that their family used physical punishments tended to respond *differently* from the majority pattern of responses *as well as* differently from each other. The pattern replicated across high schools and ethnic groups.

Although abusive families may be a subset of those using corporal punishment, the lack of value sharing and community norms (Parke 1977) usually attributed to abusive families appears to be evident among adolescents whose families use corporal punishment. Results indicate that there is a single "standard" or belief system regarding the appropriateness of disciplinary actions and not a dual system with alternate models for Anglos and Hispanics or for physically punished and non-physically punished adolescents. This may help explain why it has been difficult to identify families at risk for abuse; most investigators have assumed that there is a coherent cluster of abusive families that may be characterized by some set of variables. Families at risk may be scattered on the periphery of the cultural system and the "deviance" model proposed in this paper may be more helpful in identifying them.

These results are somewhat striking in light of the high degree of consensus among respondents and the focus on discipline and not abuse. The fact that there was generally a high level of consensus was evident in the high average correlation coefficient among respondents in each group (approximately .40). If we apply Snedecor's (1946:146) interpretation of the correlation coefficient as the degree of sharing, approximately 40% of disciplinary values were held in common. Furthermore, adolescents "sharing" less than 65% of the consensual values were almost four times as likely to come from families that used corporal punishment. It is important to emphasize that we did not ask the students if they thought they had been abused, but rather if their family used physical punishments. Surprisingly, students responding affirmatively tended to be significantly outside the social and cultural "norms" in terms of their beliefs about the appropriateness of physical punishments. It is quite possible that the familial use of corporal punishment on high school students may be indicative of an adolescent or a family at risk

for psycho-social problems. The relationship between our findings and abuse are unknown. However, it suggests future research be directed toward investigation of cultural deviance in adolescence.

NOTES

¹ This study is part of a larger study (N = 482) exploring the similarities and differences among Anglo, Hispanic, and Vietnamese high school students' perceptions of disciplinary actions. The 178 students reported in this study represent only those Anglos and Hispanics who participated in the sentence-substitution data collection tasks.

² Technically, the students answered 165 questions: 15 disciplinary actions paired with 11 items (9 behaviors and two statements about parents: "when mothers get angry at teenagers, they . . ." and "when fathers get angry at teenagers, they . . ." were included).

³ Although a normal approximation is a reasonable alternative, anomalies may occur. A better normal approximation can be obtained by using higher moments; for example, Mielke et al. (1981) suggest using a skewness parameter and referring to a Pearson Type III distribution. When both matrices are dichotomous and sparse, a Poisson approximation may be more appropriate than a normal distribution (Hubert 1984). In the most conservative case, "A simple Cantelli-bound assures us that the significance level for any form of reference distribution whatsoever will be no larger than $1/(Z^2 + 1)$ " (Hubert et al. 1981:47).

⁴ As part of the sentence substitution data, adolescents were also asked about which disciplinary actions were appropriate for mothers or fathers to do. Again we observed the same pattern; the nonphysical punishments were appropriate for both mothers and fathers and the physical ones were not.

⁵ For the purposes of this paper we are using "deviance" to describe the degree of correspondence to the consensus. In previous work (Romney and Weller 1984; Weller 1984; Batchelder and Romney 1986) this is referred to by its inverse, "competency."

⁶ The odds ratio provides an estimate of the likelihood that two variables co-occur. In a 2×2 table:

$$\begin{array}{cc}
 & \text{A} \\
 & - \quad + \\
 \text{B} & \begin{array}{|c|c|} \hline a & b \\ \hline c & d \\ \hline \end{array} \\
 & +
 \end{array}
 \quad \text{odds} = \frac{ad}{bc}$$

In epidemiologic research, the odds ratio is used to estimate the "relative risk" that an outcome variable is associated with exposure to another variable. For example, if the odds ratio is 2.00 between oral contraceptives (women who took them and women who did not) and breast cancer, we would say that women who develop breast cancer are twice as likely to have taken oral contraceptives. Odds ratios of 3 or more are considered large. The odds ratio can also be transformed so that it ranges from -1 to +1, as a correlation coefficient gamma or Q:

$$Q = \frac{ad - bc}{ad + bc}$$

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