The Political System and Aggression: A Stepwise Multiple Regression Analysis of Cross-Cultural Variables

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RÉSUMÉ

On a fait l'hypothèse que l'ouverture sociétale et l'intégration politique sont les variables les plus susceptibles de permettre de prédire l'agression. Une analyse de regression multiple a été faite sur les données de 44 sociétés. L'ouverture sociétale est la variable clé pour prédire trois aspects de l'agression (ethnocentrisme, l'antagonisme à l'intérieur du groupe, et la guerre) et la quatrième meilleure variable pour prédire l'agression par l'humour. L'intégration politique est la meilleure variable pour prédire l'agression par l'humour et la deuxième meilleure variable pour prédire l'ethnocentrisme. Les autres variables indépendantes utilisées sont la socialisation, la structure familiale, la stratification et les croyances surnaturelles.

Several cross-cultural studies have demonstrated relationships between social structure and the expression of aggression. Some of these studies have shown that child-rearing practices are related to the expression of aggression, while others have shown that social-structural variables such as family organization, level of political integration, and the economy affect aggression. Yet other studies have developed more complex models which show that social-structural variables affect patterns of child-rearing, which in turn affect the expression of aggression. One study (Bolton 1973) has taken a sociobiological approach and has shown that the Andean Quolla, who are a very aggressive society, are hypoglycaemic.

Child-Rearing and the Expression of Aggression

Whiting (1959a: 184) has shown for a sample of 31 societies that low indulgence during infancy is related to fear of ghosts (p < .01), and that for low indulgence societies severe socialization concerning the expression of aggression is related to fear of ghosts at funerals. Boram (1973) argues that hostile child-rearing patterns among the Kutchin Athabascan Indians causes quarrelling and aggressiveness. Lambert, Triandis, and Wolf (1959: 164-5) for a sample of 62 societies have shown that all of the following variables are related to aggressive supernaturals (p < .05): pain from nurturing agent; training for self-reliance and for independence; punishment for dependence and low self-reliance; children's behavior is self-reliant and independent; pressure for self-reliance and independence; low nurturance; and rigidity in child-rearing (measured by the total scores for punishment). Otterbein and Otterbein (1973: 1679) for 20 caretakers in the Bahamas bringing up 48 children and grandchildren, verified Lambert, Triandis and Wolf's hypothesis that those who most fear the supernatural are those who rely on painful childrearing methods. Triandis and Lambert (1961: 643) have shown for a sample of 60 societies that verbal aggressiveness is related to frequent sacrifice to the gods (p < .02). Bacon, Child, and Barry (1963: 295) found for 48 societies that theft was related to concern to socialize children to be responsible, self-reliant, obedient, and achievement-oriented, and crimes against the person were related to concern to make children independent.

Family Structure, Child-Rearing, and the Expression of Aggression

Several direct relationships between family structure and the expression of aggression have been recorded. Bacon, Child, and Barry (1963: 294) showed that exclusive mother-child sleeping arrangements were correlated with theft and crime against the person and interpreted crime in this context as an attempt to express a thwarted masculine identity. LeVine (1962: 41-44) found that societies with polygamous households maximize jealousy between co-wives and thereby produce a belief in sorcery (sorcery being interpreted as a form of aggression).

The Political Structure and the Expression of Aggression

Otterbein and Otterbein (1965: 1476-8) took 129 societies both in the HRAF and Murdock's Ethnographic Atlas and studied the first fifty societies with the most information. In societies with a low level of political integration, war and internal feuding tend to be associated. In societies with a high level of political integration, war and feuding are inversely related, and this finding is interpreted as evidence for control of feuding by a central political authority wishing to reserve aggressive energies for external warfare. Cohen (1961: 351-386) has argued the concept of inalienable friendship occurs in societies with closed and highly solidary communities. Whiting (1950) has similarly shown that belief in sorcery (viewed as the imputation of aggressive motives to others) occurs in societies with no delegation of authority for punishing crime. Obeyesekere (1976) argues that resort to sorcery occurs in Ceylon where the local institutional structure does not punish offences. Bacon, Child, and Barry (1963: 296) showed that politically integrated societies with complex social controls had fewer crimes against the person.

Aberle has advanced the following reason why political integration should promote the inhibition of aggression within a society, and why the absence of political integration should promote the expression of aggression (1961: 395-6):

> Bands, which lack any clear-cut authoritative structure, and tribes, which consist of small territorial units cross-cut by sodalities or clans, but lacking either strong local authority or overarching authority above the local unit, are likely to have well-developed systems of reciprocity. Chiefdoms, where there is some centralized authority but no ultimate central control of legitimate use of force, and pre-industrial states, where legitimate use of force is the property of the government, are the domain of various redistributive systems. ... In tribes and bands, two conditions normally prevail: individuals are highly interdependent and leaving the group is difficult, or family units are relatively autonomous and egress is easy. With no central control of aggression, the former situation seems to promote inhibition of aggression; the latter permits or encourages it. If this impression is correct, the aims of socialization with respect to aggression should vary with these conditions.

The following hypotheses may, therefore, be stated:

> (1) In a closed society, where there is little chance of escaping the bonds which bind the individual to the society, or of surviving

physically outside the society (especially in geographically isolated areas), child-training will emphasize the inhibition of aggression against in-group members. High socialization anxiety will be incurred over the expression of aggression in childhood and adult life.

(2) Socialization anxiety will be projected in the form of fear of others, ghosts, and spirits.

It may be expected, therefore, that in a closed society in-group antagonisms will typically be settled by quasi-legal means or formal restitution. If such societies do not permit the direct, physical expression of aggression, then if the aggression is not abreacted in some way, it may be expected that it will find outlet in verbal form, especially in jokes with hidden malice, a method of cloaking aggression in a non-physical form. If such societies also frequently experience high socialization anxiety concerning sex as a disruptive element in a closed in-group, aggression may also be disguised in the form of sexual jokes. In an open society, on the other hand, warlike behavior will be more frequent. In-group antagonisms will often be expressed in violence. There will be less expression of aggression in the form of jokes with strong sexual overtones or hidden malice, but rather jokes for taunting and open ridicule, or those dependent upon physical abuse will be more common. There will be relatively less fear of others; and fear will less likely be displaced onto ghosts and animal spirits.

The third hypothesis therefore, is:

(3) In closed societies there will be less expression of physical aggression towards in-group members than in open societies, and jokes will have sexual overtones or connote hidden malice; whereas in open societies jokes will be concerned with taunting, ridicule or physical abuse.

An example of each of the two kinds of societies, drawn from the Human Relations Area Files and Whiting and Child, may well be appropriate at this point in order to indicate the kind of data necessary for the confirmation of the hypotheses. The Abipone of the Gran Chaco are an example of a fairly open society. They have a very loose form of political integration, and they come into contact with other societies within the large land area thay they inhabit. The function of the *cacique* or leader is not that of a judge or permanent focus of authority, but that of a war chief.

It is he who decides when war is to be made and when to collect recruits for the purpose of war. If the warriors feel that the *cacique* is not sufficiently warlike, they may well beat him for his lack of aggressiveness. The degree of political integration is, in fact, so loose that warriors may even refuse to fight in a particular battle. The Abipone seize on the smallest insult as an occasion for war, and women are warlike. The old women who, in addition to an official juggler, are the augurs for war, will tend to fight over which of their predictions concerning the outcome of battle is correct. They have, moreover, a low aggression socialization anxiety index (7 on Whiting and Child's scale ranging from 0 to 24). Their humour is without sexual overtones and is not directed with malice toward other members of the in-group. Thus the Abipone are an open society with low aggression socialization anxiety who express their aggression directly.

A good example of a historically closed society is the Ainu, closed both by virtue of political structure (it was dependent on the Japanese political system) and for ecological reasons (it was possible for them to migrate to other small islands, which they had done in the past, but not out of their area). There has been only one war in their recorded history, which was fought against the Japanese and involved fishing rights. Both the Japanese and the Russians tried to make the Ainu warlike, the Japanese encouraging them to attack the Russians and vice versa. The Japanese were so surprised when an Ainu actually killed a Russian on Sakhalin Island that he was made a samurai and permitted to wear a sword. In general, however, Japanese attempts to train the Ainu in bow and arrow warfare failed. The Ainu were rated by Whiting and Child as high on aggression socialization anxiety (16 on a scale ranging from 0 to 24); and disputes were settled under the aegis of a judge who usually decided that a fine be paid to the offended party. If, however, the matter was very serious, the judge might decide to allow the offended party to hit the guilty one on the hip with a club until blood was drawn. It was very rare for serious injury to occur in this formal restitution. The Ainu, therefore, may be described as a closed society, high on aggression socialization anxiety, who do not express hostility directly against either the in-group or the out-group.

The Sample

The sample is composed of all those societies in Whiting and Child (1953: 48-9) which were also in the Human Relations Area Files and in Murdock's Ethnographic Atlas (1967). Whiting and Child's sample was chosen because each society in it had been rated by two expert psychologists on an aggression socialization anxiety index and the authors qualified their judgements by also indicating three degrees of confidence in their findings. However, their sample is biased because they took the 65 societies from the (then) Cross-Cultural File and 10 others for which the most data was available. Whiting and Child have also compiled ratings of fear of others, fear of ghosts, and fear of animal spirits for each of the societies in the sample. Murdock's "World Ethnographic Sample" and "Ethnographic Atlas" provide ratings of the societies on structural factors such as family type, political organization, and type of economy. The Human Relations Area Files were used to compile the data on aggression and humour.

Of the seventy-five original societies in Whiting and Child, nine were dropped either because the authors indicated that socialization ratings had low inter-coder reliability or aggression socialization anxiety ratings were not reported. Twenty-two societies were dropped because there was insufficient information on aggression or joking in the HRAF. Thus, forty-four societies were retained which occurred in each of the HRAF, Whiting and Child, and Murdock.

Coding

Where variables were coded from the HRAF (Table 2), the codings were done independently by the two researchers. Sentences were copied indepently to support each coding. Where codings disagreed, the sentences were compared and a further independent search of the HRAF was made and the item recoded. If agreement was not reached, the literature both cited in the HRAF and elsewhere was searched. Initial agreement on codes was 73%.

Measurement of the Independent Variables

Political Integration was measured using Murdock's ratings in the "World Ethnographic Sample". Murdock classified societies

as Autonomous Communities (if their population was less than 1,500), as Minimal States (population above 1,500 but less than 10,000), States (with a centralized control of the legitimate use of force), Dependent Societies (those which were part of a larger society and which were politically dependent on it), Peace Groups (societies which met only to make peace, and had no other supra-governmental structure than that), and as Societies without Political Integration.

Societal Openness was measured using the Human Relations Area Files which were searched under the headings 133 (Topography) and 167 (Immigration and Emigration). Societies were grouped into closed (physically by mountains, deserts or seas; *and* closed to emigration); intermediate physically closed *or* closed to emigration); and open (physically open *and* emigration possible).

Extended Familialism was measured because it was hypothesized that polygynous or polygamous households could be a source of conflict in the society due to inter-spouse conflicts. Using the codings in Murdock's *Ethnographic Atlas* (1967), the societies were classified into *either* polyandrous and polygynous (independent sororal, independent non-sororal either residing in the same or separate dwellings); *or* independent nuclear families, large extended families, small extended families, or minimal extended or "stem" families in which monogamy was the general practice and polygyny was at best an occasional practice.

Patrilocality was measured as it was hypothesized that the residence pattern could similarly affect the possibility of intra-societal conflict and tension, and, following Murdock (1967: 118) the sample was grouped into either uxorilocal, matrilocal, neolocal, ambilocal, and no common household established; or patrilocal, virilocal and avunculocal.

Subsistence technology was measured as it has been argued by Lenski (1970: 177-8, 247, 270-2) that there are major differences in degree of stratification between societies with different subsistence technologies, and he has proposed that in hunting and gathering societies there is more equality and smaller differences in value orientations then in agrarian societies where there are marked inequalities, aristocrats may despise peasants, and tension-producing value discrepancies are general between social classes.

The sample was then classified using Murdock's codings (1967) into either hunting and gathering and shifting agriculture; or intensive horticulture and intensive agriculture.

Stratification was measured for the same reason as Agriculture. Following the codings by Murdock (1967), the sample was classified into either no stratification and stratification based only on age grades; or complex stratification (three or more classes or castes exclusive of slaves), hereditary aristocracy, and stratification based on wealth.

Dependent Variables

Fear of other human beings and fear of spirits were both measured by Whiting and Child (1953: 263-5 and 286) on a scale ranging from 0 (low) to 6 (high). For each society these two scores, individually arrived at by the two psychologists, were combined to give a possible score of 12, and were then summed to give an over-all index of fear of others (ranging from 0 to 24).

Fear of ghosts was similarly measured by each psychologist on a scale ranging from 0 to 6, as was also fear of animal spirits. Whiting and Child did not combine these last two scales. For the purpose of the present paper, however, they were combined to form a scale of fear of ghosts and animal spirits; which, when the scores of the two raters for each scale had been added together, yielded a scale ranging from 0 to 24.

Warfare[1], in-group antagonism, and ethnocentrism were coded as in Table 1.

Humour was measured using the following scale (Table 1): joking mainly for fun and without sexual overtones was coded

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[1] Malinowski (1941: 522) has proposed that warfare be classified according to a sixfold scale reflecting the nascent aims of the tribe-state, but this is an index of increasingly complex and organized forms of primitive warfare, and does not correspond to the peacefulness-bellicosity continuum sought in the present study.

Speier (1941) classifies wars as absolute, instrumental, or agonistic. Absolute wars are those in which the enemy is seen as sub-human, his rites and customs sacrilegious, and is a threat to the enemy society. War is then fought à l'outrance and with treachery. Instrumental war is fought to gain possessions. Agonistic warfare is carried on with chivalry. But this typology does not correspond to a bellicosity-peacefulness continuum sought for this study, as instrumental war could equally be conducted in an aggressive or non-aggressive manner.

TABLE I

INDICES OF AGGRESSIVE BEHAVIOUR

HRAF Categories Searched	Index of Aggressive Behaviour	Code
	I. *Warlike Behaviour*	
702 Recruiting and Training	Little or no warlike behaviour	1
721 Instigation of War	Warfare primarily for defense or because of economic necessity	2
726 Warfare	Warfare because of direct provocation (e.g. bride-stealing, encroachment of boundaries,	
728 Peacemaking	insults), for plunder, for the glory of the common soldier, or for the power and prestige of the group	3
	II. *In-Group Antagonism: Mode of Settlement*	
578 In group antagonism	Largely legal settlement or formal restitution	1
	Low degree of personal aggression allowed (antagonism often resolved through argument)	2
	Medium degree of aggression (much verbal insult and/or limited physical violence permitted)	3
	High degree of aggression allowed (frequent resort to physical violence)	3
	III. *Ethnocentrism: Treatment of the Out-Group*	
186 Ethnocentrism	Little or no verbal or physical abuse of out-group individuals	1
	Low degree of aggression (e.g. insulting names used for out-group members)	2
	Medium degree of aggression (i.e. much verbal insult and limited physical abuse)	3
	High degree of aggression (i.e. frequent physical abuse of out-group members)	4
	IV. *Humour**	
522 Humor	Jokes mainly for fun	1
	Jokes with strong sexual overtones, involving insult, veiled malice, or disapproval	2
	Jokes for taunting and ridicule, or those consisting of physical abuse and pranks	3

* If more than one form of joking was common, the higher rank was assigned.

(1), as this form of humour seemed to express little or no indirect aggression; joking with sexual overtones and jokes with especial malice or insult directed towards an individual was coded (2) as a mode of expressing moderate aggression; and jokes for taunting and ridicule, or those involving physical pranks and abuse, were considered the most aggressive and were coded as (3). An institutionalized joking relationship was not regarded as automatically indicating a particular degree of aggression, although it did, of course, draw attention to a focus of tension in the society.

Results for Political Organization, Aggression Socialization Anxiety, and the Projection of Aggression

Hypothesis No. 1:
There was a direct relationship between societal closedness and socialization anxiety over aggression ($r = 0.36$, $p < 0.01$, $df = 37$), but no relationship was found between level of

TABLE II

FOUR ASPECTS OF AGGRESSION: CODINGS BASED ON THE HRAF

Society	World Ethnographic Sample Culture Area	Ethnocentrism	Index of Aggression		
			In-Group Antagonism	Humour	Warfare
World Ethnographic Sample Ethnographic Region: Africa					
Chagga	NE Bantu	1	3(4)	1	3
Thonga	Southern Bantu	1(2)	4(3)	1	3
Dahomeans	Guinea Coast	1	1(2)	2	3
Ashanti	Guinea Coast	2	4	1	3
Tiv	Nigerian Plateau	2	1(3)	3	3
Masai	Upper Nile	4	4	3	3
Azande	Eastern Sudan	2	1	1(2)	3
World Ethnographic Sample Ethnographic Region: Circum-Mediterranean					
Lapps	NE Europe	1	1	1	1
World Ethnographic Sample Ethnographic Region: East Eurasia					
Ainu	Arctic Asia	1	1	1	1
Lepcha	Himalayas	1	1(2)	1	1
Andamanese	Indian Ocean	1	2	1	2(3)
Tanala	Indian Ocean	2	1	2	3
Lakher	Assam and Burma	1(2)	2(1)	2(1)	3

Society	World Ethnographic Sample Culture Area	Ethnocentrism	Index of Aggression		
			In-Group Antagonism	Humour	Warfare

World Ethnographic Sample Ethnographic Region: Insular Pacific

Society	World Ethnographic Sample Culture Area	Ethnocentrism	In-Group Antagonism	Humour	Warfare
Bali	Western Indonesia	2(1)	1(2)	1(2)	1
Dusun	Western Indonesia	1(2)	3(4)	2	3
Alorese	Eastern Indonesia	1	2	3	3(1)
Murngin	Australia	4	4	1(2)	3
Yungar	Australia	3(2)	1	1	3
Wogeo	New Guinea	3	3	3	2(3)
Kiwai	New Guinea	3	2	1	3
Marshallese	Micronesia	1	2(3)	1(2)	2(1)
Palaung	Micronesia	1	1	1	1
Manus	Western Melanesia	3(4)	2	3	3(1)
Trobrianders	Western Melanesia	2	2(3)	2	2(3)
Dobuans	Western Melanesia	4(2)	3(4)	3	3
Ontong-Javanese	Western Polynesia	1	1(3)	2	2(3)
Samoans	Western Polynesia	1(2)	1(3)	1(2)	1
Tikopia	Western Polynesia	2	1	2(3)	1
Pukapukans	Western Polynesia	2	2	2	1
Maori	Eastern Polynesia	3(2)	2	1(2)	3(1)
Marquesans	Eastern Polynesia	2	2	1(2)	3(1)
Ifugao	Philippines and Formosa	2	4	2	3

World Ethnographic Sample Ethnographic Region: North America

Society	World Ethnographic Sample Culture Area	Ethnocentrism	In-Group Antagonism	Humour	Warfare
Comanche	Plains	4	4	3	3
Teton	Plains	4	4	3	3
Taos	Southwest	2	1	1	2
Hopi	Southwest	4(2)	1	3	1(2)
Navaho	Southwest	3(2)	2	1	3
Zuni	Southwest	2	2	1	3(1)
Papago	Northwest Mexico	2	1	1	2
Omaha	Prairie	2	3	2	3
Kutenai	Great Basin and Plains	1	2	1	1

World Ethnographic Sample Ethnographic Region: South America

Society	World Ethnographic Sample Culture Area	Ethnocentrism	In-Group Antagonism	Humour	Warfare
Siriono	Interior Amazonia	1(2)	2	1(2)	1
Jivaro	Interior Amazonia	4	3	1	3
Abipone	Gran Chaco	2(3)	4	1	3

* Codes in parentheses are other possible codes for other periods of the society's history (e.g. the Maoris had both peaceful and warlike periods), or codes possible if particular sentences in ethnographies are stressed. The researchers achieved 73% agreement on first coding and complete agreement on final coding.

political integration and socialization anxiety over aggression
(r = 0.09, N.S., df = 37).

Hypothesis No. 2:
In regard to socialization anxiety over aggression being
projected as fear of others, ghosts and spirits, the hypothesis
is only confirmed for fear of animal spirits (r = 0.41, p <
0.005, df = 37).

*Results for Political Organization, and the Expression of Aggression
in War, In-Group Antagonism, and in Joking*

Hypothesis No. 3:
The third hypothesis predicts that open societies and those
with a low level of political integration will express considerable
aggression towards members of the in-group, and that joking
will take the form of taunting, ridicule, or physical abuse rather
than consisting of sexual jokes or hidden malice.

Table 3 shows that the hypothesis is supported in the case
of societal openness, with partial correlations with ethnocentrism
of 0.46, with aggression in humor of .34, and with warfare of .35,
although there was no correlation with in-group antagonism.[2] For
political integration, the hypothesis is supported for two of the four
dependent variables, with partial correlations of —.33 for ethno-
centrism, and —.44 for aggression in humour.

Another approach to the study of the expression of aggression
is to ask which variables best predict the various expressions of
aggression. The statistical technique best suited for this purpose
is stepwise multiple regression.[3] With this technique a computer
programme constructs a regression equation, using as the first

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[2] It is not a tautology to perform correlations of societal openness with
the indices of aggression, as even though a society may be in the closed
category, it has some neighbours with whom they have traded or carried on
at least defensive warfare.
[3] Multiple regression is regarded in most statistics texts as requiring in-
terval data. Of particular relevance to anthropological data is a demonstration
by Labovitz (1970) that widely differing ordinal scoring systems intercorrelate
so highly that little error is introduced by treating ordinal data with powerful

rndependent variable entered in the equation that variable with the largest zero-order correlation with the dependent variable. Subsequent independent variables are added to the regression equation in declining order of their contribution (multiple R^2) to explaining the variance in the dependent variable. The computer programme stops adding variables to the regression equation when the variance explained (R^2 change) declines to an arbitrary small level (1%).

Tables 4-7 show that societal openness is the best predictor of three of the four dependent variables, namely ethnocentrism,

TABLE III

ZERO-ORDER AND PARTIAL CORRELATIONS OF SOCIETAL
OPENNESS AND LEVEL OF POLITICAL INTEGRATION
WITH MODE OF EXPRESSION OF AGGRESSION

| | Mode of Expression of Aggression | | | |
	Ethnocentrism	In-Group Antagonism	Humor	Warfare
SOCIETAL OPENNESS				
Zero-Order	.39**	.47***	.28*	.35**
	df=37	df=38	df=37	df=39
Partial@ (df=22)	.46**	.30(p$<$.08)	.34*	.35*
POLITICAL INTEGRATION				
Zero-Order	—.37**	—.25*	—.40**	—.10
	df=37	df=38	df=37	df=39
Partial@ (df=22)	—.33*	—.04	—.44**	.08

* p = .05   ** p = .01   *** p = .001

@ Controlling for Aggression Satisfaction Potential, Aggression Socialization Anxiety, Fear of Human Beings, Fear of Spirits, Fear of Ghosts, Fear of Animal Spirits, Extended Familialism, Patrilocality, Agriculture, and Stratification. When Societal Openness was the independent variable, Level of Political Integration was introduced as an additional control; and when Level of Political Integration was the independent variable, Societal Openness was introduced as an additional control. N is less than 44 as information for some variables is not available.

interval statistical techniques. He generated 20 scoring systems randomly on a computer with scores ranging from 1 to 10,000 conforming to a monotonic function. These scoring systems, when applied to 36 occupations classified by NORC prestige scores (ordinal rankings) correlated very highly with each other. Of 190 correlations, all were .90 or better, and 157 were .97 and better.

in-group antagonism, and warfare, and the fourth best predictor of aggression in humour. Political integration is the best predictor of the remaining dependent variable, aggression in humour and the second best predictor of ethnocentrism. The eleven independent variables are able to explain the following percentages of the variance (Multiple R^2) in these dependent variables: aggression in humour (48%); in-group antagonism (47%); ethnocentrism (39%); and for warfare a disappointing 24%. Thus 76% of the variance in the occurrence of warfare is not explained by these variables, social psychological variables have little explanatory role[4], and future research should focus on political and economic variables.

TABLE IV

STEPWISE MULTIPLE REGRESSION OF SELECTED INDEPENDENT
VARIABLES AGAINST ETHNOCENTRISM

Independent Variables in Order of Stepwise Multiple Regression	Multiple R	Multiple R^2	R^2 Change*	Zero-Order Correlation
Societal Openness	.39	.15	.15	.39
Political Integration	.51	.26	.10	—.37
Patrilocality	.54	.29	.03	.12
Fear of Spirits	.56	.32	.03	—.01
Agriculture	.57	.33	.01	—.04
Fear of Animal Spirits	.59	.34	.01	.37
Aggression Satisfaction Potential	.60	.36	.02	.12
Fear of Human Beings	.61	.37	.01	.20
Extended Familialism	.61	.38	.01	—.11
Stratification	.62	.38	.00	—.06
Fear of Ghosts	.62	.39	.01	.02

* R^2 change does not decline smoothly in this and subsequent tables due to statistical rounding.

[4] It may be of help to future researchers to know that these psychological variables from Whiting and Child explained less than 1% of the variance in any aggression variable: future studies should focus more on political and economic aspects of cross-cultural aggression. Satisfaction Potential (oral, anal, sexual, dependence): Socialization Anxiety (oral, anal, sexual, dependence); age at weaning; age at beginning toilet training, modesty training, heterosexual play inhibition, independence training; explanations of illness (oral, anal, sexual, dependence, aggression); performance therapy (oral, anal, sexual, dependence, aggression); avoidance therapy (oral, anal, sexual, dependence, aggression). Aggression and Fear variables were good predictors of the aggression indices.

TABLE V

STEPWISE MULTIPLE REGRESSION OF SELECTED INDEPENDENT
VARIABLES AGAINST IN-GROUP ANTAGONISM

Independent Variables in Order of Stepwise Multiple Regression	Multiple R	Multiple R^2	R^2 Change	Zero-Order Correlation
Societal Openness	.47	.22	.22	.47
Patrilocality	.60	.36	.14	—.37
Fear of Spirits	.64	.40	.04	—.29
Agriculture	.65	.42	.02	—.35
Fear of Human Beings	.66	.44	.02	.18
Fear of Ghosts	.67	.45	.01	—.15
Aggression Satisfaction Potential	.68	.45	.00	—.15
Political Integration	.68	.46	.01	—.25
Extended Familialism	.68	.46	.00	—.19
Stratification	.68	.47	.01	—.21
Aggression Socialization Anxiety	.68	.47	.01	—.21

TABLE VI

STEPWISE MULTIPLE REGRESSION OF SELECTED INDEPENDENT
VARIABLES AGAINST AGGRESSION IN HUMOR

Independent Variables in Order of Stepwise Multiple Regression	Multiple R	Multiple R^2	R^2 Change	Zero-Order Correlation
Political Integration	.40	.16	.16	—.40
Patrilocality	.48	.23	.07	.20
Fear of Human Beings	.57	.32	.09	—.15
Societal Openness	.63	.40	.08	.28
Fear of Ghosts	.65	.42	.02	—.20
Fear of Spirits	.66	.43	.01	—.06
Extended Familialism	.67	.45	.02	—.21
Aggression Socialization Anxiety	.68	.46	.01	—.06
Agriculture	.68	.46	.00	—.08
Fear of Animal Spirits	.68	.47	.01	.05
Aggression Satisfaction Potential	.69	.49	.01	.17
Stratification	.70	.48	.01	—.13

TABLE VII

STEPWISE MULTIPLE REGRESSION OF SELECTED INDEPENDENT
VARIABLES AGAINST WARFARE

Independent Variables in Order of Stepwise Multiple Regression	Multiple R	Multiple R^2	R^2 Change	Zero-Order Correlation
Societal Openness	.35	.12	.12	.35
Aggression Satisfaction Potential	.37	.14	.02	.18
Aggression Socialization Anxiety	.42	.18	.04	—.07
Fear of Ghosts	.46	.21	.03	.09
Fear of Human Beings	.47	.22	.01	.13
Stratification	.48	.23	.01	—.06
Fear of Spirits	.48	.23	.00	—.06
Fear of Animal Spirits	.49	.24	.01	—.06
Political Integration	.49	.24	.00	—.10
Agriculture	.49	.24	.00	—.17
Patrilocality	.49	.24	.00	—.03
Extended Familialism	.49	.24	.00	—.15

Discussion

It has been shown that closed societies have the highest socialization anxiety over the expression of aggression. We argue that this is because in a closed society the expression of aggression must of necessity occur mainly towards in-group members, and therefore, must be carefully controlled through socialization in infancy if the group is to survive. Open societies, however, need be less concerned about socializing their members to limit the expression of their aggression, as targets for the expression of aggression can be found in either verbal or physical attack on members of out-groups. This approach is confirmed by the findings related to the third hypothesis which showed that open societies felt freer to express aggression towards out-group members, towards members of the in-group (presumably because any tension generated by in-group aggression can be abstracted by projecting the aggression on out-group members at crucial times), and in aggressive humour towards in-group members.

Another political variable, political integration, appears to have a different effect on the expression of aggression. It has been shown that societies with high political integration control the expression of aggression, whether towards members of out-groups, towards the in-group, or towards the in-group in the form of aggressive humour. Otterbein (1970: 22-29) has shown that the more centralized a society, the less likely war can be initiated by any member of the community, the more likely it is to be conducted by professionals, and to involve subordination. Otterbein (1968: 287) has commented that "a strong relationship between war and the absence of feuding was found in centralized political systems... Apparently officials in centralized political systems interfere to prevent the development of feuding only when the society is engaged in war..." (cf. also Otterbein and Otterbein 1965: Table 13,1478). We argue similarly that not merely do politically integrated societies limit aggression in the form of feuding, but they also limit expressions of ethnocentrism, in-group antagonisms, and aggressive humour directed towards the in-group.

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