ETHNIC STEREOTYPES: THE ROLE OF CONTACT[1]

R. C. GARDNER, D. M. TAYLOR, AND EMMA SANTOS
Language Study Center
Philippine Normal College

An interpretation is proposed which considers ethnic stereotypes as inferences about groups made from information obtained. Contact is viewed simply as one way of obtaining information and its role in stereotype change is seen as depending upon the nature of the contact. It is hypothesized that consensus in the stereotype will develop when many members of the stereotyping group share common information about the stereotyped group; heterogeneity of experiences will result in a lack of consensus. This interpretation was supported with data obtained from two groups of American teachers; one which lived in the Philippines for nine weeks (Contact group), and one which did not (No Contact group).

Ethnic stereotypes are beliefs people have about the characteristics of groups of people. In research on ethnic stereotypes, however, emphasis is usually placed on those attributes which most people agree characterize another group, thus emphasizing consensus in the definition of the stereotype (Gardner, Wonnacott, & Taylor, 1968; Katz & Braly, 1933; Triandis & Vassiliou, 1967). Such stereotypes probably develop because of common experiences among members of one group with reference to the stereotyped group. It is possible, nonetheless, to also consider personal stereotypes which are beliefs that an individual has about some group which he does not share with members of his own group (Fishman, 1956). Such beliefs would presumably develop from idiosyncratic experiences with reference to the particular group (Gardner & Taylor, in press).

Some researchers hypothesize that intercultural contact would reduce stereotypes (Fishman, 1956) while others (Triandis & Vassiliou, 1967) suggest that it would result in a clearer (more consensual) stereotype. The present interpretation, however, suggests that intercultural contact could have differing effects, depending upon the nature of the contact. Stereotypes, whether they are valid or invalid (that is not the question here), presumably develop from information acquired by an individual (Gardner & Taylor, in press). Consensus results when many individuals have the same information at their disposal, or at least make similar judgments about a group based on the information they have acquired. The term "contact" is in itself equivocal. It can refer to direct interpersonal experiences with a large number of individuals from an ethnic group, or to the contact provided by information acquired through mass media such as newspapers, movies, television, etc. Regardless of the type of contact, however, its effects on stereotypes would appear to depend upon whether it is consistent with previous information. If for example, an individual has a stereotype of Canadians as "French-speaking," experience with many French-speaking Canadians probably would not modify it; meeting a large number of Canadians who cannot speak French may, however. This example does not ignore the role of stereotypes in person perception since presumably information from one representative can be considered as insufficient (see for example, Tajfel, Sheikh, & Gardner, 1964) or possibly incongruous or incredible (Gardner &

Taylor, 1968; Taylor & Gardner, in press). Immersion in the culture, however, would produce more information than could easily be ignored. To the extent that a group of individuals living in a culture share similar experiences, and thus obtain similar information, it would seem reasonable to assume that this contact will result in greater consensus in the stereotype. If their experiences are different, however, such contact would result in a lack of consensus.

This analysis of the potential effects of intercultural contact differs from that suggested by Triandis and Vassiliou (1967). They hypothesize that contact would result in greater clarification (more consensus) of the stereotype. This hypothesis appears to be based on the assumption that a stereotype involves a "kernel of truth" and contact with the stereotyped group results in more knowledge and hence a clearer impression about the group. Their results for American Ss tended to confirm their hypothesis. Americans working in Greece among Greeks tended to evidence more consensus in their stereotypes of both Greeks and Americans than American Ss having less contact. Their results for Greek Ss on the other hand did not confirm the hypothesis. Greek students studying in the U.S.A. did not evidence greater consensus in their stereotypes of either Americans or Greeks. Triandis and Vassiliou (1967) interpret this difference as due to the different effects of the mass media in a small country as opposed to a large one. In small countries, mass media such as movies are often foreign produced, so that residents of small countries have more information about other groups, than residents of large countries. A more parsimonious interpretation, however, is suggested by the analysis presented above. The high-contact Americans working in Greece lived in a relatively circumscribed environment (Triandis & Vassiliou, 1967), while the high-contact Greeks were in a more heterogeneous environment (students at a university). It seems probable, therefore, that more similar (not necessarily valid) information was consequently provided to the American sample. Their

similar experiences could result in greater consensus of the stereotype.

The present investigation bears directly on the adequacy of this interpretation concerning the role of contact on ethnic stereotypes. Two groups of American teachers, enrolled in NDEA summer institutes on teaching English as a second language, rated four concepts: two associated with their own group, *Americans* and *American Students*, and two associated with outgroups, *Filipinos* and *Filipino Students*. One group of Ss, the No Contact (NC) group, were students in a 7-week institute in Arizona. Although they were away from home, and experiencing intercultural contact, they had no direct contact with Filipinos. The second group, the Contact group (C) were members of a 9-week summer institute in Manila living with Filipino families.

METHOD

Subjects

Two groups of subjects (Ss) took part in this investigation. One group, the No Contact (NC) group consisted of 30 American teachers who were members of a 7-week NDEA summer institute concerned with the teaching of English as a second language. This institute was held in Arizona, and although this group experienced intercultural contact, it was with American Indian groups and not Filipinos. The other group, the Contact (C) group, was composed of 38 American teachers attending a 9-week NDEA institute on the teaching of English as a second language in Manila. Both groups were selected for their respective institutes after considerable screening, and both groups received similar training and teaching experience in their new environment. Members of the C group lived with Filipino families rather than in dormitories.

Materials

On two separate occasions, Ss in both groups completed a questionnaire consisting of a number of word association task, semantic differential ratings, and attitude scales. This study is concerned, however, only with their ratings of our concepts, *Americans*, *American Students*, *Filipinos*, and *Filipino Students* on 33 semantic differential scales, as well as one scale indicating how easy or difficult they found each particular rating task.

The instructions for the rating task were similar to those suggested by Osgood, Suci, and Tannenbaum (1957) except they were modified slightly to refer to ethnic groups. The 33 scales were selected for their potential relevance to the majority of the concepts. Every attempt was made to sample as many

behavioral areas as possible, as well as evaluative connotations. The concepts were presented to Ss in a booklet with the concepts arranged in a different order for each S. The ordering of the scales was different for each concept, and was also different in the first and second testing.

Procedure

In both groups, the questionnaire was administered on two occasions: at the beginning of the institute, and just prior to the end. The test-retest interval was approximately 6 1/2 weeks for the NC group, and 8 1/2 weeks for the C group.

RESULTS

The major data to be presented in this report concern the Ss' reactions to the four concepts, *Americans, American Students, Filipinos,* and *Filipino Students.* For each group of Ss independently, two analyses were performed: one, a polarity analysis of the ratings separately for the pre- and posttesting conditions, and the other a t test of the change in ratings of each concept on each scale from the pre- to the posttest. In the discussion to follow, the data will be presented separately for each concept with those from the No Contact group (NC) preceding those for the Contact group (C).

The polarity analysis used in this study involves the t statistic defined by the formula $t = (X-U)N/S$. If a scale is unrelated to a particular concept, the population mean (U) would equal 4, the neutral position. Using the statistic t as a measure of consensus emphasizes both the extent to which the mean ratings depart from 4, and the agreement (i.e., lack of variability in the ratings). The magnitude of the t value reflects both departures from neutrality toward one end of the scale, and relative agreement in this departure. Previous research (Gardner, et. al., 1968) has demonstrated that scales with t values greater than ±7.0 appear to reflect a clear stereotype. A t of ±7.0 generally indicates that about 75% of the Ss agree in rating a group toward one or the other end of the scale. A factor analysis indicated that scales defined in this manner as being stereotypical about an ethnic group formed one factor which was independent of factors made up of scales not

evidencing this consensus. Furthermore, the stereotype was found to influence the perception of an ethnic group member, even in situations where his statements contradicted the stereotype (Gardner & Taylor, 1968; Taylor & Gardner, in press).

Reactions to Americans

No Contact group. Table 1 presents the summary statistics for ratings of the concept, *Americans,* by the Arizona group. It will be noted, for this group, that few traits would be classified as highly stereotypical about Americans in either the pretest or posttest. For the pretest, only three traits yield t values with an absolute magnitude greater than 7.0 (cf. Gardner, et. al., 1968). Furthermore, there is no indication that the stereotype became any more or less clear in the posttest. A comparison of the absolute magnitude of corresponding t statistics in the pre- and posttesting, by means of a correlated sign test, indicates that there were no consistent shifts in the degree of polarization. Sixteen scales evidenced greater polarity in the pretesting, 17 less.

Examination of the traits comprising the stereotype of Americans in the pre- and posttests suggests that there is moderate change in content (only one attribute is common) but that the image is nevertheless similar. Moreover, the assessment of mean shifts in ratings demonstrates that reactions to "Americans" were generally similar. Only one scale, "modern-primitive," yielded a significant t statistic. Americans were rated less "modern" in the posttest, even though the ratings were still significantly polarized in the "modern" direction.

Contact group. Table 2 presents the summary statistics of the ratings of the concept, *Americans,* by the Manila group. The results are similar to those presented above, though the ratings are in general more polarized. On the pretest, there were nine attributes evidencing high consensus, while on the posttests 19 attributes obtained t values greater than ±7.0. This increase in consensus appears to result, however, from only moderate or slight changes on the part of a few Ss, primarily on

TABLE 1

SUMMARY STATISTICS FOR RATINGS OF THE CONCEPT AMERICANS
NO CONTACT GROUP

Scale		Pretest			Posttest			Comparative tests		
		Mean	t	Rank	Mean	t	Rank	Mean Difference	t	N
1. modern	— primitive	1.76	—9.71	1	2.62	—6.31	6	—0.86	—3.49**	29.
2. inhospitable	— hospitable	5.00	3.11	21.5	5.03	3.91	15	—0.03	—0.11	29.
3. talkative	— quiet	2.04	—6.24	6	2.18	—9.80	1	—0.14	—0.48	28.
4. light	— dark	3.55	—2.04	30	3.24	—3.86	16	0.31	1.36	29.
5. inartistic	— artistic	4.86	3.30	18	4.79	2.85	26	0.07	0.19	29.
6. happy	— sad	3.14	—2.83	23.5	3.10	—3.33	24	0.03	0.14	29.
7. undependable	— dependable	4.79	2.73	26	5.00	3.81	17.5	—0.21	—0.57	29.
8. dishonest	— honest	4.72	2.76	25	5.07	4.23	13	—0.34	—1.22	29.
9. sensitive	— insensitive	3.10	—3.23	19	3.59	—1.42	31	—0.48	—2.00	29.
10. reliable	— unreliable	2.97	—3.98	16	2.66	—6.02	7	0.31	0.96	29.
11. unpleasant	— pleasant	5.17	4.63	13	5.17	3.64	21	0.00	0.00	29.
12. religious	— irreligious	3.31	—2.53	29	3.62	—1.41	32	—0.31	—1.07	29.
13. poor	— wealthy	4.41	1.59	31	4.48	2.46	27	—0.07	—0.31	29.
14. ignorant	— knowledgeable	5.31	5.17	10	5.10	4.60	12	0.21	0.64	29.
15. humble	— proud	5.38	4.96	11	5.14	3.95	14	0.24	0.62	29.
16. industrious	— lazy	2.66	—4.85	12	2.28	—8.45	2	0.38	1.43	29.
17. unlikable	— likable	5.59	7.23	3	5.34	5.50	9	0.24	1.13	29.
18. truthful	— untruthful	2.93	—4.31	14	3.14	—3.73	20	—0.21	—0.73	29.
19. trustworthy	— untrustworthy	2.45	—8.81	2	2.55	—7.64	5	—0.10	—0.57	29.
20. irresponsible	— responsible	5.00	3.19	20	4.93	3.32	25	0.07	0.25	29.
21. unsociable	— sociable	5.72	5.97	7	5.31	4.81	11	0.41	1.02	29.
22. selfish	— unselfish	3.97	—0.11	33	4.31	0.99	33	—0.34	—0.91	29.
23. clean	— dirty	2.86	—3.84	17	2.59	—6.00	8	0.28	0.97	29.
24. friendly	— unfriendly	2.39	—6.76	4	2.86	—3.48	22	—0.46	—1.49	28.
25. intelligent	— stupid	2.52	—5.90	8	2.93	—3.81	17.5	—0.41	—1.53	29.
26. ambitious	— unambitious	2.29	—6.31	5	2.25	—7.88	4	0.04	0.13	28.
27. active	— passive	2.69	—4.02	15	2.28	—8.21	3	0.41	1.18	29.
28. inconsiderate	— considerate	4.24	0.74	32	4.55	1.92	28	—0.31	—0.98	29.
29. courteous	— discourteous	3.14	—2.83	23.5	3.17	—3.40	23	—0.03	—0.12	29.
30. uneducated	— educated	5.41	5.43	9	5.21	5.14	10	0.21	0.66	29.
31. rugged	— delicate	3.21	—3.11	21.5	3.10	—3.74	19	0.10	0.38	29.
32. excitable	— calm	3.21	—2.69	27	3.52	—1.85	29	—0.31	—0.98	29.
33. emotional	— rational	3.31	—2.58	28	3.52	—1.76	30	—0.21	—0.66	29.
34. easy	— difficult	3.36	—1.92		3.57	—1.26		—0.21	—0.62	28.

Comparing absolute t tests: 16 greater on pretest than posttest, 17 less. #34 not counted.

** p <.01

TABLE 2

SUMMARY STATISTICS FOR RATINGS OF THE CONCEPT AMERICANS
CONTACT GROUP

	Scale		Pretest			Posttest			Comparative tests		
			Mean	t	Rank	Mean	t	Rank	Mean Difference	t	N
1. modern	—	primitive	1.89	—12.88	2	2.18	—11.39	2	—0.29	—1.81	38.
2. inhospitable	—	hospitable	4.63	2.31	28	5.00	4.62	25	—0.37	—1.39	38.
3. talkative	—	quiet	2.37	—7.48	8	2.18	—9.47	7	0.18	0.68	38.
4. light	—	dark	2.92	—5.92	12	3.24	—4.71	24	—0.32	—2.09*	38.
5. inartistic	—	artistic	4.29	1.16	31	4.71	3.28	27	—0.42	—1.57	38.
6. happy	—	sad	2.95	—5.06	17	3.03	—4.79	23	—0.08	—0.33	37.
7. undependable	—	dependable	5.34	5.99	11	5.66	9.11	8	—0.32	—1.34	38.
8. dishonest	—	honest	5.03	4.77	19	5.55	8.46	11	—0.53	—2.19*	38.
9. sensitive	—	insensitive	3.58	—1.46	29	3.47	—1.92	30	0.11	0 31	38.
10. reliable	—	unreliable	2.79	—5.75	14.5	2.34	—8.42	12	0.45	1.77	38.
11. unpleasant	—	pleasant	5.11	4.65	20	5.34	6.81	20	—0.24	—0.91	38.
12. religious	—	irreligious	4.16	0.63	33	4.08	0.35	33	0.08	0.40	38.
13. poor	—	wealthy	4.61	2.86	26	5.05	6.10	22	—0.45	—1.88	38.
14. ignorant	—	knowledgeable	5.21	5.84	13	5.47	7.56	15	—0.26	—1.20	38.
15. humble	—	proud	5.34	5.75	14.5	5.89	11.02	3	—0.55	—2.24*	38.
16. industrious	—	lazy	2.42	—8.27	7	2.18	—10.30	6	0.24	1.00	38.
17. unlikable	—	likable	5.26	5.01	18	5.39	7.05	19	—0.13	—0.52	38.
18. truthful	—	untruthful	3.03	—4.11	23	2.82	—6.43	21	0.21	0.85	38.
19. trustworthy	—	untrustworthy	2.95	—4.53	22	2.55	—7.43	17	0.39	1.49	38.
20. irresponsible	—	responsible	5.34	6.47	10	5.63	8.75	9	—0.29	—1.13	38.
21. unsociable	—	sociable	5.53	7.18	9	5.53	7.18	18	0.00	0.00	38.
22. selfish	—	unselfish	3.11	—3.54	25	3.42	—2.38	29	—0.32	—1.07	38.
23. clean	—	dirty	2.21	—9.86	5	2.05	—10.34	4.5	0.16	0.75	38.
24. friendly	—	unfriendly	2.82	—5.10	16	2.53	—7.70	14	0.29	1.05	38.
25. intelligent	—	stupid	2.47	—10.20	4	2.71	—7.48	16	—0.24	—1.09	38.
26. ambitious	—	unambitious	2.03	—12.89	1	2.05	—10.34	4.5	—0.03	—0.13	38.
27. active	—	passive	2.08	—11.28	3	1.97	—12.85	1	0.11	0.50	38.
28. inconsiderate	—	considerate	4.38	1.42	30	4.68	2.90	28	—0.30	—0.91	37.
29. courteous	—	discourteous	3.11	—4.58	21	3.34	—3.34	26	—0.24	—0.94	38.
30. uneducated	—	educated	5.58	9.00	6	5.50	8.16	13	0.08	0.37	38.
31. rugged	—	delicate	3.08	—3.99	24	2.37	—8.58	10	0.71	2.59*	38.
32. excitable	—	calm	3.37	—2.57	27	3.61	—1.62	31	—0.24	—0.84	38.
33. emotional	—	rational	3.74	—0.97	32	4.21	0.74	32	—0.47	—1.42	38.
34. easy	—	difficult	3.41	—2.01		3.12	—3.71		0.29	0.92	34.

Comparing absolute ts. 11 greater on pretest than posttest, 21 less (one tied) N.S.
*p <.05

TABLE 3

SUMMARY STATISTICS FOR RATINGS OF THE CONCEPT AMERICAN STUDENTS

NO CONTACT GROUP

	Scale		Pretest			Posttest			Comparative tests		
			Mean	t	Rank	Mean	t	Rank	Mean Difference	t	N
1. ignorant	—	knowledgeable	5.13	3.50	20	5.47	5.81	6	—0.33	—1.28	30.
2. likable	—	unlikable	2.43	—7.02	3	2.63	—5.34	10	—0.20	—0.95	30.
3. excitable	—	calm	2.53	—6.56	4	3.17	—2.85	28	—0.63	—1.66	30.
4. quiet	—	talkative	5.72	6.06	6	5.62	—6.35	3	0.10	0.29	29.
5. active	—	passive	2.27	—5.87	8	2.57	—5.40	8	—0.30	—1.09	30.
6. artistic	—	inartistic	2.93	—3.57	18	2.90	—4.56	13	0.03	0.10	30.
7. religious	—	irreligious	3.33	—2.25	28	3.13	—3.07	24	0.20	0.70	30.
8. inhospitable	—	hospitable	5.23	5.40	9	4.97	3.43	23	0.27	0.85	30.
9. poor	—	wealthy	4.60	2.90	24	4.47	2.63	29	0.13	0.55	30.
10. courteous	—	discourteous	3.45	—1.95	31	3.10	—2.88	27	0.34	0.93	29.
11. rugged	—	delicate	3.20	—3.53	19	3.13	—3.63	21	0.07	0.34	30.
12. humble	—	proud	5.03	3.27	22	5.07	3.52	22	—0.03	—0.08	30.
13. modern	—	primitive	2.30	—6.25	5	2.47	—5.35	9	—0.17	—0.60	30.
14. intelligent	—	stupid	2.47	—7.59	2	2.33	—6.53	2	0.13	0.63	30.
15. undependable	—	dependable	4.83	2.85	25	5.17	4.23	14	—0.33	—1.00	30.
16. happy	—	sad	3.13	—2.98	23	2.53	—6.28	4	0.60	1.68	30.
17. unsociable	—	sociable	5.00	3.38	21	5.20	4.04	16	—0.20	—0.62	30.
18. truthful	—	untruthful	2.90	—5.09	10	2.80	—4.78	12	0.10	0.34	30.
19. trustworthy	—	untrustworthy	2.60	—8.97	1	2.93	—4.07	15	—0.33	—1.33	30.
20. irresponsible	—	responsible	4.71	2.42	26	4.57	1.69	31	0.14	0.32	28.
21. industrious	—	lazy	3.27	—2.33	27	2.67	—5.22	11	0.60	1.73	30.
22. dishonest	—	honest	5.13	3.80	17	4.93	3.82	17.5	0.20	0.68	30.
23. selfish	—	unselfish	3.60	—1.46	32	4.30	0.91	32	—0.70	—2.15	30.
24. clean	—	dirty	2.80	—4.54	13	2.47	—7.02	1	0.33	1.24	30.
25. sensitive	—	insensitive	2.93	—4.07	16	3.37	—2.08	30	—0.43	—1.27	30.
26. reliable	—	unreliable	2.83	—4.59	12	2.90	—3.81	19	—0.07	—0.25	30.
27. uneducated	—	educated	5.27	4.47	15	5.07	3.82	17.5	0.20	0.64	30.
28. pleasant	—	unpleasant	2.67	—5.88	7	2.93	—3.71	20	—0.27	—0.83	30.
29. unambitious	—	ambitious	5.13	4.49	14	5.60	5.76	7	—0.47	—1.68	30.
30. inconsiderate	—	considerate	4.57	2.10	29	4.90	2.96	26	—0.33	—1.54	30.
31. emotional	—	rational	3.70	—0.98	33	4.00	0.0	33	—0.30	—0.79	30.
32. light	—	dark	3.60	—1.99	30	3.27	—3.00	25	0.33	1.41	30.
33. friendly	—	unfriendly	2.80	—5.07	11	2.63	—5.88	5	0.17	0.72	30.
34. easy	—	difficult	3.26	—2.36		3.63	—1.01		—0.37	—1.12	27.

Comparing absolute ts: 16 greater on pretest than posttest, 17 less.

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TABLE 4

SUMMARY STATISTICS FOR RATINGS OF THE CONCEPT AMERICAN STUDENTS

CONTACT GROUP

		Pretest			Posttest			Comparative tests		
Scale		Mean	t	Rank	Mean	t	Rank	Mean Difference	t	N
1. ignorant	— knowledgeable	5.08	3.99	23	5.55	9.05	5	—0.47	—2.07*	38.
2. likable	— unlikable	2.84	—4.05	22	2.71	—6.15	16	0.13	0.48	38.
3. excitable	— calm	2.79	—5.00	16	3.03	—4.53	23	—0.24	—0.70	38.
4. quiet	— talkative	6.08	11.16	4	5.84	10.53	4	0.24	1.36	38.
5. active	— passive	1.82	—12.68	1	1.87	11.05	3	—0.05	—0.23	38.
6. artistic	— inartistic	3.50	—2.25	29	3.39	—3.00	25	0.11	0.38	38.
7. religious	— irreligious	4.95	4.19	21	3.95	—0.22	33	1.00	4.09**	38.
8. inhospitable	— hospitable	4.03	0.11	32	4.97	3.61	24	—0.95	—3.96**	37.
9. poor	— wealthy	4.74	3.85	24	4.53	2.60	26	0.21	0.88	38.
10. courteous	— discourteous	4.03	0.09	33	3.68	—1.16	31	0.34	1.11	38.
11. rugged	— delicate	2.79	—6.53	10.5	2.68	—5.65	18	0.11	0.37	38.
12. humble	— proud	5.87	11.96	3	5.47	6.36	14	0.39	1.86	38.
13. modern	— primitive	2.16	—7.67	6	2.05	—12.19	1	0.11	0.44	38.
14. intelligent	— stupid	2.66	—6.26	12	2.63	—8.95	6.5	0.03	0.12	38.
15. undependable	— dependable	4.82	3.19	26	5.13	4.57	22	—0.32	—1.28	38.
16. happy	— sad	2.74	—7.55	7	2.74	—6.37	13	0.00	0.00	38.
17. unsociable	— sociable	5.63	7.27	9	5.61	6.86	11	0.03	0.10	38.
18. truthful	— untruthful	3.00	—4.76	19	2.76	—5.85	17	0.24	0.74	38.
19. trustworthy	— untrustworthy	2.79	—5.13	15	2.58	—6.70	12	0.21	0.80	38.
20. irresponsible	— responsible	4.92	3.84	25	4.18	4.80	21	—0.26	—1.00	38.
21. industrious	— lazy	2.89	—4.97	17	2.71	—6.25	15	0.18	0.73	38.
22. dishonest	— honest	5.21	5.94	14	5.24	5.43	20	—0.03	—0.10	38.
23. selfish	— unselfish	3.53	—1.65	30	3.82	—0.73	32	—0.29	—1.07	38.
24. clean	— dirty	2.03	—12.17	2	2.03	—11.85	2	0.00	0.00	38.
25. sensitive	— insensitive	3.29	—2.57	28	3.68	—1.28	30	—0.39	—1.16	38.
26. reliable	— unreliable	2.61	—7.32	8	2.63	—7.34	10	—0.03	—0.13	38.
27. uneducated	— educated	5.55	6.53	10.5	5.63	8.94	8	—0.08	—0.37	38.
28. pleasant	— unpleasant	2.78	—4.78	18	2.68	—5.47	19	0.11	0.43	37.
29. unambitious	— ambitious	5.95	10.26	5	5.89	8.95	6.5	0.05	0.29	37.
30. inconsiderate	— considerate	4.63	2.70	27	4.63	2.46	28	0.00	0.00	38.
31. emotional	— rational	3.79	—0.79	31	4.55	2.24	29	—0.76	—2.79**	38.
32. light	— dark	3.05	—4.52	20	3.55	—2.55	27	—0.50	—2.05*	38.
33. friendly	— unfriendly	2.58	—6.14	13	2.39	—7.97	9	0.18	0.65	38.
34. easy	— difficult	3.06	—2.95		3.65	—1.11		—0.59	—1.24	34.

Comparing absolute *t*s: 16 greater on pretest than posttest; 17 less.

** $p < .01$

* $p < .05$

TABLE 5

SUMMARY STATISTICS FOR RATINGS OF THE CONCEPT FILIPINOS
NO CONTACT GROUP

Scale		Pretest			Posttest			Comparative tests		
		Mean	t	Rank	Mean	t	Rank	Mean Difference	t	N
1. selfish	— unselfish	5.07	3.94	21	4.46	2.10	26	0.61	1.86	28.
2. dirty	— clean	4.89	3.59	23	4.39	1.95	27	0.50	1.85	28.
3. uneducated	— educated	4.07	0.22	31.5	4.39	1.43	28	—0.32	—0.83	28.
4. undependable	— dependable	5.18	4.58	15	5.07	4.67	15	0.11	0.52	28.
5. honest	— dishonest	2.68	—4.77	14	2.79	—5.23	9	—0.11	—0.46	28.
6. light	— dark	5.07	3.43	24	5.11	4.55	16	—0.04	—0.08	28.
7. intelligent	— stupid	2.71	—5.35	8	2.93	—4.79	14	—0.21	—0.88	28.
8. inartistic	— artistic	5.79	8.33	2	5.11	4.04	20	0.68	2.23*	28.
9. modern	— primitive	4.00	0.0	33	3.79	—0.92	30	0.21	0.80	28.
10. unfriendly	— friendly	5.36	5.06	10	5.32	5.13	11	0.04	0.16	28.
11. religious	— irreligious	2.61	—4.84	13	2.64	—5.06	12	—0.04	—0.15	28.
12. unpleasant	— pleasant	5.43	5.62	7	5.29	4.82	13	0.14	0.60	28.
13. unambitious	— ambitious	5.00	4.15	19	5.14	5.14	10	—0.14	—0.57	28.
14. active	— passive	3.00	—2.87	26	3.00	—3.55	23	0.00	0.00	28.
15. knowledgeable	— ignorant	3.36	—2.08	27	3.11	—4.29	17	0.25	0.86	28.
16. industrious	— lazy	2.86	—4.08	20	3.11	—3.76	21	—0.25	—1.27	28.
17. happy	— sad	2.32	—7.11	3	2.39	—6.76	1	—0.07	—0.26	28.
18. poor	— wealthy	2.75	—5.63	6	3.39	—2.83	25	—0.64	—2.59*	28.
19. courteous	— discourteous	2.07	—9.11	1	2.89	—3.62	22	—0.82	—2.21*	28.
20. proud	— humble	2.82	—3.31	25	2.93	—4.17	18	—0.11	—0.27	28.
21. unlikable	— likable	5.52	4.92	12	5.52	6.30	3	0.00	0.00	27.
22. sensitive	— insensitive	2.52	—5.74	5	2.81	—5.73	4	—0.30	—1.16	27.
23. reliable	— unreliable	2.41	—6.98	4	2.70	—5.46	5	—0.30	—1.09	27.
24. untruthful	— truthful	5.33	5.10	9	5.15	4.16	19	0.19	0.61	27.
25. trustworthy	— untrustworthy	2.70	—4.45	16	3.00	—3.31	24	—0.30	—1.05	27.
26. irresponsible	— responsible	5.33	5.00	11	5.11	5.32	6.5	0.22	0.82	27.
27. unsociable	— sociable	5.26	4.34	17	5.33	6.45	2	—0.07	—0.24	27.
28. hospitable	— inhospitable	2.67	—4.28	18	2.70	—5.32	6.5	—0.04	—0.13	27.
29. talkative	— quiet	3.44	—1.47	28	3.78	—0.68	32	—0.33	—1.07	27.
30. emotional	— rational	3.89	—0.34	30	4.07	0.26	33	—0.19	—0.62	27.
31. considerate	— inconsiderate	2.85	—3.88	22	2.85	—5.26	8	0.00	0.00	27.
32. delicate	— rugged	4.30	1.05	29	4.22	0.81	31	0.07	0.20	27.
33. excitable	— calm	3.93	—0.22	31.5	3.70	—1.19	29	0.22	0.64	27.
34. easy	— difficult	4.48	1.16		4.11	0.26		0.37	0.68	27.

Comparing absolute ts: 16 greater on pretest than posttest; 17 less.   #34 not counted.

*p < .05

R. C. GARDNER, D. M. TAYLOR, AND E. SANTOS

TABLE 6

SUMMARY STATISTICS FOR RATINGS OF THE CONCEPT FILIPINOS
CONTACT GROUP

Scale		Pretest			Posttest			Comparative tests		
		Mean	t	Rank	Mean	t	Rank	Mean Difference	t	N
1. selfish	— unselfish	6.24	11.06	6	4.41	1.42	26	1.84	5.46**	37.
2. dirty	— clean	5.31	5.19	23	4.31	0.98	31	1.00	2.88**	36.
3. uneducated	— educated	5.25	5.28	22	4.28	1.06	29	0.97	3.04**	36.
4. undependable	— dependable	5.43	7.04	17.5	4.54	2.04	22	0.89	2.70*	37.
5. honest	— dishonest	2.95	—3.74	26	3.54	—1.68	24	—0.59	—1.69	37.
6. light	— dark	4.65	2.82	29	5.05	5.81	7	—0.41	—1.50	37.
7. intelligent	— stupid	2.30	—8.99	9	3.11	—5.05	11	—0.81	—3.83**	37.
8. inartistic	— artistic	4.70	3.03	27	4.49	1.65	25	0.22	0.64	37.
9. modern	— primitive	3.41	—2.47	31	4.24	1.04	30	—0.84	—3.32**	37.
10. unfriendly	— friendly	6.30	11.89	5	5.35	5.88	6	0.95	3.49**	37.
11. religious	— irreligious	2.32	—8.16	11	2.27	—8.34	3	0.05	0.23	37.
12. unpleasant	— pleasant	6.22	10.25	8	5.27	5.57	9	0.95	2.92**	37.
13. unambitious	— ambitious	5.35	6.57	19	4.03	0.09	33	1.32	4.03**	37.
14. active	— passive	2.78	—5.45	21	4.49	1.90	23	—1.70	—4.98**	37.
15. knowledgeable	— ignorant	2.49	—8.82	10	3.70	—1.32	27	—1.22	—5.22**	37.
16. industrious	— lazy	2.62	—7.06	16	3.46	—2.34	19	—0.84	—3.24**	37.
17. happy	— sad	2.30	—7.55	14	3.08	—3.78	14	—0.78	—2.86**	37.
18. poor	— wealthy	2.89	—4.92	24	2.65	—7.76	4	0.24	1.36	37.
19. courteous	— discourteous	1.54	—17.88	1	2.38	—5.96	5	—0.84	—3.10**	37.
20. proud	— humble	2.89	—4.23	25	3.95	—0.19	32	—1.05	—2.84**	37.
21. unlikable	— likable	6.00	7.96	12	5.24	5.64	8	0.76	2.65*	37.
22. sensitive	— insensitive	2.03	—10.51	7	2.32	—9.01	2	—0.30	—1.32	37.
23. reliable	— unreliable	2.51	—7.58	13	3.46	—2.31	20	—0.95	—3.15**	37.
24. untruthful	— truthful	5.38	5.60	20	4.62	2.56	17	0.76	—2.36*	37.
25. trustworthy	— untrustworthy	2.57	—7.04	17.5	3.22	—3.15	15	—0.65	—2.18*	37.
26. irresponsible	— responsible	5.49	7.30	15	4.59	2.38	18	0.89	2.76**	37.
27. unsociable	— sociable	6.16	13.73	3	5.24	5.18	10	0.92	3.48**	37.
28. hospitable	— inhospitable	1.54	—16.61	2	1.89	—11.93	1	—0.35	—1.62	37.
29. talkative	— quiet	3.05	—2.96	28	4.38	1.27	28	—1.32	—3.30**	37.
30. emotional	— rational	3.73	—0.92	33	2.89	—4.14	12	0.83	2.13*	37.
31. considerate	— inconsiderate	1.76	—13.14	4	2.89	—4.01	12	—1.14	—3.40**	37.
32. delicate	— rugged	3.30	—2.59	30	3.35	—2.25	21	—0.05	—0.14	37.
33. excitable	— calm	3.65	—1.29	32	3.05	—3.26	15	0.59	1.50	37.
34. easy	— difficult	4.06	0.16		4.03	0.10		0.03	0.08	35.

Comparing absolute ts: 28 greater on pretest than posttest, 5 less; # 34 not counted, $z = 3.83$ corrected for continuity.
** $p < .01$
* $p < .05$

TABLE 7

Summary Statistics for Ratings of the Concept Filipino Students
No Contact Group

Scale		Pretest			Posttest			Comparative tests		
		Mean	t	Rank	Mean	t	Rank	Mean Difference	t	N
1. proud	— humble	3.53	—1.24	28	4.23	0.74	31	—0.70	—1.78	30.
2. responsible	— irresponsible	2.80	—4.21	21	2.93	—4.37	20	—0.13	—0.55	30.
3. light	— dark	4.90	2.29	25	5.00	3.30	23	—0.10	—0.20	30.
4. unreliable	— reliable	5.53	5.97	6	5.20	5.07	15	0.33	1.12	30.
5. insensitive	— sensitive	5.40	4.58	15	5.23	5.66	12.5	0.17	0.54	30.
6. passive	— active	4.27	0.75	29	4.47	1.61	28	—0.20	—0.50	30.
7. talkative	— quiet	4.23	0.65	30	3.97	—0.11	33	0.27	0.59	30.
8. intelligent	— stupid	2.47	—5.59	8	2.83	—4.86	17	—0.37	—1.43	30.
9. excitable	— calm	4.00	0.00	33	3.70	—1.04	30	0.30	1.03	30.
10. delicate	— rugged	4.13	0.38	31	4.43	1.86	27	—0.30	—0.94	30.
11. untruthful	— truthful	5.33	4.38	17	5.20	5.68	11	0.13	0.49	30.
12. unselfish	— selfish	2.87	—3.95	22	3.30	—2.86	24	—0.43	—1.14	30.
13. primitive	— modern	4.63	2.19	26	4.40	1.53	29	0.23	0.84	30.
14. educated	— uneducated	3.41	—1.73	27	3.38	—2.35	26	0.03	0.10	29.
15. lazy	— industrious	5.63	6.27	4.5	5.23	6.12	8	0.40	1.46	30.
16. considerate	— inconsiderate	2.87	—3.70	23	2.77	—5.66	17.5	0.10	0.41	30.
17. irreligious	— religious	5.40	4.76	13	5.30	5.11	14	0.10	0.42	30.
18. inartistic	— artistic	5.60	5.30	10	5.37	6.01	9	0.23	0.76	30.
19. untrustworthy	— trustworthy	5.47	5.12	11	5.47	7.48	2	0.00	0.00	30.
20. discourteous	— courteous	5.67	5.85	7	5.20	4.47	19	0.47	1.41	30.
21. wealthy	— poor	5.17	4.36	18	4.83	3.70	22	0.33	1.02	30.
22. hospitable	— inhospitable	2.30	—8.82	1	2.63	—7.24	3	—0.33	—1.72	30.
23. dirty	— clean	5.20	4.47	14	4.60	2.47	25	0.60	2.23*	30.
24. honest	— dishonest	2.57	—5.31	9	2.60	—7.17	4	—0.03	—0.13	30.
25. dependable	— independable	2.63	—4.32	19.5	2.83	—4.59	18	—0.20	—0.84	30.
26. knowledgeable	— ignorant	2.93	—3.25	24	3.03	—4.25	21	—0.10	—0.32	30.
27. rational	— emotional	3.97	—0.11	32	3.90	—0.35	32	0.07	0.20	30.
28. unlikable	— likable	5.37	4.32	19.5	5.50	6.17	7	—0.13	—0.46	30.
29. ambitious	— unambitious	2.59	—4.42	16	2.72	—5.91	10	—0.14	—0.49	29.
30. unpleasant	— pleasant	5.77	6.88	3	5.43	6.28	6	0.33	1.47	30.
31. sociable	— unsociable	2.31	—6.93	2	2.79	—5.03	16	—0.48	—2.09*	29.
32. sad	— happy	5.47	4.98	12	5.33	6.88	5	0.13	0.49	30.
33. friendly	— unfriendly	2.37	6.27	4.5	2.30	—7.90	1	0.07	0.28	30.
34. easy	— difficult	4.43	1.12		4.11	0.26		0.32	0.62	28.

Comparing absolute ts: 13 greater on pretest than posttest; 20 less. #34 not counted.

*p < .05

TABLE 8

Summary Statistics for Ratings of the Concept Filipino Students

Contact Group

Scale		Pretest			Posttest			Comparative tests		
		Mean	t	Rank	Mean	t	Rank	Difference	t	N
1. proud	— humble	4.00	0.00	33	4.68	2.44	26	—0.68	—1.64	38.
2. responsible	— irresponsible	2.97	—3.95	18	2.84	—5.08	17	0.13	0.35	38.
3. light	— dark	4.55	2.06	28	5.08	6.34	14	—0.53	—1.78	38.
4. unreliable	— reliable	4.83	3.61	22	5.33	6.44	13	—0.50	—1.70	36.
5. insensitive	— sensitive	5.45	5.56	7	5.76	10.89	5	—0.32	—1.03	38.
6. passive	— active	3.92	—0.29	32	3.87	—0.49	32	0.05	0.14	38.
7. talkative	— quiet	4.18	0.58	31	4.45	1.82	30	—0.26	—0.69	38.
8. intelligent	— stupid	2.89	—5.04	10	2.66	—7.71	10	0.24	1.01	38.
9. excitable	— calm	4.21	0.84	30	4.05	0.20	33	0.16	0.48	38.
10. delicate	— rugged	3.26	—3.86	19	3.18	—3.47	23	0.08	0.23	38.
11. untruthful	— truthful	4.95	4.13	17	4.55	2.42	27	0.39	1.15	38.
12. unselfish	— selfish	2.89	—4.97	11	2.82	—5.32	16	0.08	0.27	38.
13. primitive	— modern	4.47	2.13	27	4.21	1.00	31	0.26	0.98	38.
14. educated	— uneducated	3.11	—3.58	23.5	3.47	—2.37	28	—0.37	—1.21	38.
15. lazy	— industrious	4.97	4.84	13	5.32	6.47	11.5	—0.34	—1.23	38.
16. considerate	— inconsiderate	2.41	—7.11	3	2.46	—10.07	7	—0.05	—0.23	37.
17. irreligious	— religious	5.16	5.38	8	5.84	10.29	6	—0.68	—3.06**	38.
18. inartistic	— artistic	4.61	2.86	26	4.68	2.94	24	—0.08	—0.30	48.
19. untrustworthy	— trustworthy	4.95	3.71	21	5.37	6.47	11.5	—0.42	—1.35	38.
20. discourteous	— courteous	5.66	6.84	4	5.87	8.47	8	—0.21	—0.77	38.
21. wealthy	— poor	4.82	3.43	25	5.50	7.84	9	—0.68	—2.44**	38.
22. hospitable	— inhospitable	2.13	—9.50	1	2.16	—11.35	4	—0.03	—0.12	38.
23. dirty	— clean	4.97	3.75	20	5.11	4.53	19	—0.13	—0.42	38.
24. honest	— dishonest	2.95	—4.31	16	3.05	—3.88	20	—0.11	—0.32	38.
25. dependable	— undependable	2.82	—5.95	6	2.95	—4.86	18	—0.13	—0.49	38.
26. knowledgeable	— ignorant	3.03	—4.60	14	3.50	—2.08	29	—0.47	—1.35	38.
27. rational	— emotional	3.79	—0.89	29	4.74	3.65	22	—0.95	—3.49**	38.
28. unlikable	— likable	5.76	7.97	2	5.97	12.17	1	—0.21	—0.92	38.
29. ambitious	— unambitious	3.21	—3.58	23.5	3.34	—2.72	25	—0.13	—0.45	38.
30. unpleasant	— pleasant	5.53	6.77	5	5.92	11.57	3	—0.39	—1.62	38.
31. sociable	— unsociable	2.74	—4.85	12	2.76	—5.67	15	—0.03	—0.08	38.
32. sad	— happy	5.05	4.42	15	4.86	3.66	21	0.19	0.67	37.
33. friendly	— unfriendly	2.61	—5.05	9	2.16	—11.67	2	0.45	1.52	38.
34. easy	— difficult	4.46	1.10		3.29	—2.67		1.17	2.91**	35.

Comparing absolute ts: 10 greater on pretest than posttest, 23 less.

** p < .01

traits for which there were already considerable consensus. Despite the apparent increase in consensus, a correlated sign test of the difference in the absolute magnitude of corresponding t statistics, indicates that only 21 t statistics increased in magnitude, 11 decreased, and one remained the same ($z = 1.59$, $p < .11$). Furthermore, a comparison of the means for ratings on each scale in the pre- and posttest conditions, indicates that on only four scales did Ss evidence a significant change in their reactions.

Reactions to American Students

No Contact group. Table 3 presents the summary statistics. Initially, there were only three scales which evidenced appreciable polarization, and there was little change in he posttest. This stability in polarization is exemplified in a comparison of the absolute values of the t statistics of which only 16 of the 33 were greater on the pretest than in the posttest. Furthermore, Ss showed little consistent change in their mean reactions to American students. Only one scale evidenced a significant change. On the posttest, Ss rated the concept, American Students, slightly more unselfish than on the pretest.

Contact group. The summary of the ratings of the experimental group (see Table 4) reveals that a pattern similar to that described above was obtained also for these Ss. Nine scales evidence appreciable polarity in the pretest, and 10 scales are considerably polarized in the posttest. This consistency in the degree of polarization is further indicated by a comparison of the absolute values of the t statistics since 16 were greater in the pretest while 17 were less. Mean shifts on these scales also were not pronounced. Significant effects were obtained on only five scales.

Reactions to Filipinos

No Contact group. The summary statistics presented in Table 5 indicate little consensus in the ratings of the concept, Filipinos, in the pretest for the Arizona group, and little change in this regard in the posttest. Three scales evidence high consensus in the pretest,

while nine do in the posttest. This stability in the t values is also reflected in a comparison of the absolute values of the t statistics; 16 were greater for the pretest and 17 less. Mean changes also were not pronounced; only three scales demonstrated significant shifts.

Contact group. The data summariezd in Table 6 for the ratings of the concept, Filipinos, by the Contact group shows a marked contrast to that for the No Contact group (Table 5). Eighteen scales evidence high consensus in the pretest while only four do in the posttest. Furthermore, a comparison of the absolute values of the t statistics by sign test for related samples indicates that consensus decreased for 28 of the 34 scales ($z = 3.83$, $p < .01$). Furthermore, significant mean shifts were obtained for 24 of the 33 scales indicating a general tendency on the part of all Ss to change their reactions in a consistent manner on most scales.

Reactions to Filipino Students

No Contact group. The 7 indicates that the NC group did not have a marked stereotype of Filipino students in either the pretest or posttest conditions. Although there was a slight increase in polarity during the posttest, this was not pronounced ($z = 1.05$, not significant). Also, only two scales evidenced significant changes, indicating that these Ss tended to maintain consistent reactions to Filipino students.

Contact group. In Table 8, the summary statistics for the ratings of the concept, Filipino Students, by the Contact group indicate that the stereotype initially was not pronounced (three scales) while consensus was obtained on appreciably more scales (10) in the posttest. This increased clarity of the stereotype is mirrored in a general increase in polarity on many scales. Twenty-three scales became more polarized on the posttest ($z = 2.09$, $p > .05$). This increased polarization resulted primarily from moderate shifts by some Ss, and not a consistent shift by many, as evidenced by the fact that only three scales showed significant mean changes. One additional significant mean change is specially noteworthy. Ss reported that it was signi-

ficantly easier to rate the concept Filipino students, in the posttest than in the pretest.

DISCUSSION

The hypothesis of this study was that ethnic group stereotypes would be influenced by inter-group contact to the extent that the information produced by the contact was different from that available prior to contact. Furthermore, it was predicted that to the extent that all *S*s of a group had similar experiences, the stereotype would become clearer in the sense that *S*s would evidence more agreement in assigning attributes to a group; dissimilar experiences should result in dissimilar information resulting in a lack of consensus.

The data obtained in this study with reference to two concepts, *Filipinos* and *Filipino Students*, tend to support this hypothesis. The students in the Contact group evidenced less consensus in their stereotype of Filipinos after having lived in Manila for 8 1/2 weeks than previously. Contact in this instance had the effect of blurring the stereotype. Although all *S*s would have had similar contact with Filipinos as reflected in the mass media, their interpersonal experiences were highly dissimilar. These students lived with Filipino families, some in the Makati suburbs, complete with car and driver, others in more modest homes with the jeepney or bus as their chief means of transportation. Their experiences were clearly different, and possibly as a result, their initial agreement concerning attributes of Filipinos decreased. Admittedly, many of the traits initially ascribed to Filipinos were highly positively evaluative, but their experience tended to dull this initial (probably unrealistic) evaluation. The stereotype about Filipino students, on the other hand, showed increased clarity. These *S*s were all teachers, their contacts with Filipino students were under the relatively controlled and standard context of the school and the classroom. In such situations, clarity was increased. The *S*s showed greater agreement in their tendency to rate Filipino students probably because of the similar information they obtained. It appears, further, that these *S*s felt

they had more information to work with in the posttest. They found it easier to rate the concept, *Filipino Students*, after their contact with them.

The No Contact group showed no changes in their stereotype about either Filipinos or Filipino students, which is udnerstandable because they had no opportunity to gain any "new information" about them.

The same interpretation appears applicable to the stereotypes about Americans and American students for both samples. It seems quite reasonable to assume that neither group had the opportunity to gain new information about "American students" since they were not in a situation where they could meet many, and this group is not consistently referred to in the mass media, so that the stablity of consensus with respect to the stereotype about "American students" is predictable from the model proposed. Similarly, the stereotype of the No Contact group about Americans should not evidence any appreciable change in clarity. They would not have any different contacts with Americans as a group of people, and although they were in a new cultural environment, they were nevertheless still in their own country with access to the same mass media sources as in their home environment. For the contact group, there was a slight tendency ($p < .11$) for the stereotype about Americans to become clearer following their bicultural experiences. This somewhat equivocal finding in itself offers considerable support for the model. It seems quite probable that information sources such as the mass media in the Philippines provide a somewhat different picture of Americans than that provided by U.S. mass media. Since all members of the Contact group were presumably exposed to this similar information it would be predicted that, if the information were different, greater consensus in the stereotype would develop. At the same time, however, their contacts with Americans in the Philippines would differ depending upon their opportunities to meet them which in turn would depend upon the socio-economic conditions of the Filipino families with which they lived. Further-

more, their contacts with their own friends and relatives through correspondence from home would serve to reinforce their idiosyncratic beliefs with respect to Americans. The net effect would be the slight but not significant increase in consensus in the stereotype obtained.

The model proposed in this paper provides a parsimonious interpretation of the results obtained by Triandis and Vassiliou (1967). Moreover, it suggests a possible explanation of both stereotype development and stereotype change. Further research is required to test its implications and limitations, but at least putting stereotypes into an information-processing paradigm yields many suggestions for further study.

REFERENCES

Fishman, J. A. An examination of the process and function of social stereotyping. *Journal of Social Psychology*, 1956, 43, 27-64.

Gardner, R. C. & Taylor D. M. Ethnic stereotypes: Their effects on person perception. *Canadian Journal of Psychology*, 1968, 22, 267-276.

Gardner, R. C. & Taylor, D. M. Ethnic stereotypes: Meaningfulness in ethnic group labels. *Canadian Journal of Behavioral Science*, in press.

Gardner, R. C., Wonnacott, E. Joy, & Taylor, D. M. Ethnic stereotypes: A factor analytic investigation. *Canadian Journal of Jsychology*, 1968, 22, 34-44.

Katz, D. & Braly, K. W. Racial stereotypes of 100 college students. *Journal of Abnormal and Social Psychology*, 1933, 28, 289-290.

Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. *The measurement of meaning.* Urbana, Illinois: University of Illinois Press, 1957.

Tajfel, H., Sheikh, A. A., & Gardner R. C. Content of stereotypes and the inference of similarity between members of stereotyped groups. *Acta Psychologica*, 1964, 22, 191-201.

Taylor, D. M. & Gardner, R. C. Ethic stereotypes: Their effects on the perception of communicator of varying credibility. *Canadian Journal of Psychology*, in press.

Triandis, H. & Vassilliou, V. Frequency of contact and stereotyping. *Journal of Personality and Social Psychology*, 1967, 7, 316-328.