

PERSONALITY AND LANGUAGE STRUCTURE IN TWO LANGUAGES¹

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The relation between the structure of experience and language structure can be stated in terms of how language molds or shapes experience, or in terms of how different people express their differing life styles or habitual modes of perceiving, anticipating, and remembering through their selective use of language.

By comparing language usage of Spanish-English bilinguals with English monolinguals, this study will explore the relation between personality differences and language usage both through within-language variance and between-language variance by observing which aspects of the two languages are selectively used by individuals of similar and dissimilar personality structures. The particular concern of this study is to explore the possible relation between personality differences and language structure rather than language content; that is, molar grammatical and syntactic structure which serves as a vehicle for communicative content is the principal concern.

Diaz-Guerrero, at the Ninth Congress of the Inter-American Society of Psychology (1964), characterized the Mexican (and Iberian), compared to the Anglo, as expressing a life-style of passive acceptance rather than active confrontation in the face of *el destino*. The attitude of *mañana*, of *que será será*, as well as the *being* vs. *doing* mode of orientation may stem from this kind of life-style. The latter contrast is also frequently made between Americans and Europeans. To the extent that such differences in attitude in the two American culture groups exist, are they reflected in the two languages? Which of the grammatical differences between English and Spanish reflect more strongly these life-style or personality differences? Within either language, how do those who manifest different personality styles express themselves?

If I see my destiny as largely fixed both in terms of route as well as goal, will I show differences in semantic structure of the first person pronouns *I* and *me* compared to one who sees his destiny more within his own power? Does the more frequent use of such

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grammatical structures as active rather than passive voice, indicative rather than subjective mode, transitive rather than intransitive sentences reflect a more active-potent life-style? These are the general questions for investigation.

SITES AND SUBJECTS

Puerto Rico, which is neither racially nor culturally homogeneous, is chosen as one site partly because of the large number of bilinguals. Spanish is the first language of the native Puerto Rican and, even after he has developed considerable bilingual skill, it remains his preferred means of communication. Nevertheless, he has been exposed to English and the U. S. culture more than any other Spanish-speaking group. During the past 25 years, under the impact of Operation Bootstrap, he has also shown that he can shape his destiny. Therefore, from this brief sketch, it can be seen that Puerto Rico provides a stringent test for the language-mold hypothesis as well as the specific notion of a Spanish character of fatalism carried through the language. To increase the stringency of the test, younger and better educated students at the University of Puerto Rico were studied on the assumption that fatalism is stronger among the older and those with less educational advantage.

A volunteer sample of 201 from classes in the social sciences, mainly psychology, was obtained at the University of Puerto Rico.³ Since the bilinguals in this case were native Spanish speakers, a test of spoken English fluency was used to obtain more or less fluent English speakers. Florida was selected as the other site, and 162 English monolinguals were chosen from introductory courses in psychology at the University of Florida. Educational level was similar, mostly sophomores and juniors, and age range was limited to 18-25 for both groups.

PERSONALITY MEASURES (LIFE-STYLE)

1. *I-E Scale*. This scale, developed by Rotter and others (Rotter, 1966), measures a generalized expectancy or belief that rewards are contingent on one's own doing (Internal) or outside one's own control (External). The dimension seems to contrast self-potency with luck or chance or fate. The similarity to Diaz-Guerrero's *passive acceptance* versus *active confrontation* may be noted. There are 24 forced choices between an internal and external orientation. A high score represents a stronger external orientation.

2. *Attribution of Responsibility*. This scale, developed by Shaw

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and Sulzer (1964), consists of a series of brief stories about a boy engaged in one of four levels of acts: accidental, unpremeditated, coerced, and intentional. The stories are also constructed to have major or minor consequences, and praiseworthy or blameworthy outcomes. The student is asked to judge whether the boy is responsible for what happened in each story and, if so, to indicate degree of responsibility on a 5-point scale. More differentiated attributions among the four levels imply that the rater believes that the individual has some ability to control his actions, resist pressure, and foresee consequences rather than being either unrealistically impervious or completely subject to situation and impulse. The scale is included here in an adapted form mainly to assess the relation between locus of control and degree of attribution when confronted with a situation of external coercion compared to lack of foresight (unpremeditated level).

PROCEDURES FOR STUDYING LANGUAGE

1. *Making up Sentences.* Forty common verbs of similar meaning in English and Spanish served as stimuli for making up sentences. The verb, expressing action, occurrence and mode of being, is the language structure which clearly expresses control and intentionality or their lack, describing both our actions and intentions toward others as well as theirs toward us. Since the verb in its infinitive form specifies neither subject nor object, tense, mood, nor any of the conjugated forms, it is a language structure which permits the greatest freedom and potential for structuring.

Measures of language usage derived from the 40 sentences include classification of each sentence in terms of mode, voice, transitivity, person (of subject and predicate), and tense.

The verbs which served as stimuli for making up sentences were selected from the 500 most common English words in the Thorndike-Lorge (1944) frequency list which also appeared in a similar frequency list in *Recuento de Vocabulario Español* (Rodriguez-Bou, 1952). Further selection was based on the requirement that one of the common meanings of the word was translatable with a single word in each language. Keniston's *Spanish Syntax List* (1937) was also consulted in making selections in order to insure a good representation of Spanish verbs which are frequently used in reflexive constructions.

(Since the measure of English fluency used was the grammatical correctness of the 40 English sentences, two of the 40 verbs, *to raise* and *to seat*, were selected mainly because they are often confused with *to rise* and *to sit*.)

The instructions given to the student as he sat before a tape re-

order were as follows: "I have a set of cards here, and each card has a different word written on it. The word will always be a verb and the verb will always be written in the infinitive form. For example, the first card says 'to go,' the second 'to look,' and so on. I want you to look at the cards one at a time, say the word written on the card, and then use that word in a sentence in any form except the infinitive form. That is, make up a sentence using that word in any of its conjugated forms. Say whatever first comes to mind most easily and naturally with each particular word. Don't try to relate one sentence to another and don't worry about the form of the verb except to avoid the infinitive form shown on the card."

The complete list of verbs, in the order of presentation, is as follows: to go, look, fall, see, do, give, turn, run, write, find, let, live, enter, speak, raise, hear, come, read, call, bring, sleep, believe, meet, earn, treat, think, carry, begin, die, walk, feel, stay, serve, put, pay, seat, answer, lose, leave and throw. The Puerto Ricans were shown both English and Spanish lists in alternating order from person to person.

2. *Personal Pronouns.* A comparison of the semantic structure of the first person subject and object pronouns in the two languages may yield interesting information since the referents are identical whereas the grammatical structures for expressing the I-me relation often differ. Thus, the English subject pronoun "I" in "I will go" is most frequently rendered in Spanish by the inflectional ending of the verb. The first person object pronoun in Spanish may also be used in constructions which would call for the subject pronoun in English, e.g., *me caí* (I fell down), *se me olvidó* (I forgot).

The distinguishing attributes of the first person singular subject and object pronouns were determined by an adaptation of the Semantic Differential Technique (Osgood, Suci and Tannenbaum, 1957). First, both pronouns are assessed in a reflexive sentence form of identical grammatical structure in both English and Spanish: I was talking to myself (*Yo me hablaba*). Next the subject pronoun is presented in a transitive sentence form in English (I dropped the book) which is rendered by an indirect object pronoun in Spanish (*Se me cayó el libro*). Lastly, the same pronoun was presented in intransitive form in English (I fell down) which is expressed reflexively in Spanish (*Me caí*).

Each sentence model was followed by 19 five-point polar scales with instructions to judge the meaning of the relevant pronoun in that sentence by marking each of the 19 scales. In making up the scales an effort was made to emphasize pairs of terms relevant to Osgood's activity and potency dimensions. In order to include denotative as well as connotative meaning, both noun and verb pairs

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as well as adjectives were used. The pairs of terms were as follows: subject-object, follower-leader, speaker-listener, observed-observer, active-passive, careful-careless, conscious-unconscious, controlled-controller, emotional-rational, thoughtful-impulsive, free-regulated, sensitive-unfeeling, strong-weak, acts-plans, answers-calls, chooses-chosen, directed-directs, gives-receives, judged-judges.

SPANISH AND ENGLISH ADMINISTRATION PROCEDURES

All measures and instructions were translated into Spanish independently by a native Puerto Rican and a native Cuban and then differences were compromised in conference. Next the I-E Scale and Attribution of Responsibility were administered to a group of University of Puerto Rico (UPR) students in Spanish and English in counterbalanced order. No differences were found. Therefore, the presently reported group of UPR students was given only the Spanish form of these two measures, and the University of Florida (UF) group was given the English form.

Making up Sentences and Personal Pronouns were administered in both English and Spanish, in counterbalanced order, to all UPR students. Each of the 40 transcribed English sentences was later checked for grammatical correctness. Those making errors on 6 or more of the 40 sentences, 117 students, were called monolingual, and those making less than 6 errors, 84, were called bilingual. In the analyses to be reported the English language data of the UPR students is that of the Bilinguals alone.

FINDINGS

1. *Comparison of English and Spanish Groups*

A. *I-E scale.* Both groups were decidedly internally oriented and not significantly different from each other. Mean scores of the UF and UPR groups were 9.11 and 8.27 with standard deviations of 4.55 and 4.01 respectively. Sex differences were significant at the .05 level for the UF group only, males being somewhat more internally oriented (7.91) than females (9.75).

B. *Attribution of Responsibility.* Table 1 shows that there is approximately one point in mean difference at all levels except the level of coerced acts which shows a significant difference (at the .01 level) of 7.16 scale points. There was a nonsignificant tendency for UPR females to attribute less responsibility (14.76) for coerced acts than males (16.06).

C. *Making Up Sentences.* Frequency of use of the various grammatical categories in English by UF and UPR bilinguals showed no differences. Likewise there was no difference in Spanish between

TABLE I

Comparison of UF and UPR Students on Attribution of Responsibility at Four Levels of Acts, I (Accidental), II (Unpremeditated), III (Intentional), IV (Coerced)

	I		II*		III		IV*	
	M	S. D.	M	S. D.	M	S. D.	M	S. D.
UF	4.20	2.78	19.63	5.95	19.40	1.45	22.55	7.87
UPR	3.32	3.14	18.41	6.52	18.47	2.29	15.39	7.62

* These mean scores are based on sums of ratings on 8 stories. Hence, the mean scores for levels I and III, based on 4 stories, should be approximately doubled when comparing levels.

the bilinguals and monolinguals. There were no sex differences. One of the grammatical categories, transitivity, is presented in Table II

TABLE II

Mean Frequency of Use of Transitive, Intransitive, and Reflexive Sentences in English and Spanish

	M	S. D.	M	S. D.	M	S. D.
	Transitive		Intransitive		Reflexive	
UF English	21.08	4.42	18.21	3.72	.25	.58
UPR English	20.75	3.34	18.78	2.90	.10	.66
Spanish Bilingual	16.42	1.95	18.90	2.47	4.16	1.66
Spanish Monolingual	16.78	1.91	18.04	2.65	4.32	1.47

for illustration. It may be observed that, as might be expected, the reflexive is more frequently used in Spanish. It is also interesting to note that this difference, compared to the English, is at the expense of the transitive rather than the intransitive. These differences, however, are not relevant here except to suggest that the Spanish of these Puerto Ricans is structurally and idiomatically Spanish, and not Spanish words fitted into an English language structure. Likewise, the bilinguals speaking English, speak as the English monolinguals do; and when speaking Spanish, are indistinguishable from the Spanish monolinguals.

D. *Personal Pronouns.* The semantic differential ratings of the personal pronouns were factor analyzed by principal components analysis. Limits of 2, 4, and 6 factors to be rotated to simple structure by Varimax criterion (Kaiser, 1958) resulted in a two factor solution the first of which reasonably resembles the activity-potency dimension sought. A cluster of 13 of the 19 scales showed high load-

ings on this bipolar factor: subject, leader, speaker, observer, active, controller, free, strong, calls, chooses, directs, gives, judges. The second residual factor is less coherent (careful, conscious, rational, thoughtful, sensitive, plans) and will not be considered in further analyses.

An Activity-Potency scale based on the first factor of 13 scales was calculated by a simple count of the number of scales on which each person follows the factor pattern. That is, each rating on the activity-potency side of the midpoint of each of the 13 scales was counted. Thus, a maximum score of 13 was possible for each of the personal pronoun ratings. As a more refined measure, the mean rating of each scale was also calculated for each language group for each pronoun and these mean ratings were scored, as above, to obtain a measure of goodness to fit to the activity-potency pattern. Using this measure, some rather interesting differences were observed which are shown in Table III. Sentence 1, which was chosen as a control sentence for the subject and object pronouns in which the grammatical structure is identical, does in fact show a similar activity-potency structure in both English and Spanish for the subject pronoun; and the structure of the English subject pronoun is rated similarly by the UF and UPR groups. The object pronoun (Sentence 1b) in this reflexive grammatical structure is also similarly rated by the three groups and appears almost uniformly as a reversal pattern, that is, it is rated as an object rather than subject, follower rather than leader, etc.

The second sentence, a transitive construction in English using the subject pronoun is a kind of impersonal reflexive in Spanish using the indirect object pronoun. Since it is impersonal and indirect the UPR raters appropriately rate around the midpoint as neither active-potent nor passive weak. Yet, in rating the English subject pronoun, they rate it generally as active-potent but not so much as do the UF raters.

The third sentence, intransitive in English, is a simple reflexive in Spanish. Here the object pronoun in Spanish is given a somewhat active-potent rating by the UPR group suggesting that the raters are not clearly distinguishing subject and object. This suggestion is reinforced by their rating the English subject pronoun as similar to the Spanish object pronoun whereas the UF raters consistently give an active-potent rating.

There was no sex difference in the UF group and only a non-significant trend for UPR females to use the midpoint ratings less frequently than UPR males in both English and Spanish.

TABLE III

Activity-Potency Scores of First Person Subject and Object Pronouns in English (E) and Spanish (S)

Factor Pattern	Sentence I ¹			Sentence I ²			Sentence II ³			Sentence III ⁴		
	UF-E	UPR-E	UPR-S	UF-E	UPR-E	UPR-S	UF-E	UPR-E	UPR-S	UF-E	UPR-E	UPR-S
Factor Pattern	13	11	11	0	0	0	13	9	0	12	8	7
Reversal	0	0	0	12	12	12	0	0	0	0	0	0
Midpoint	0	2	2	1	1	1	0	4	13	1	5	6
Total	13	13	13	13	13	13	13	13	13	13	13	13

¹ I was talking to myself (*Yo me hablaba*)² I was talking to *myself* (*Yo me hablaba*)³ I dropped the book (*Se me cayó el libro*)⁴ I fell down (*Me caí*)

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2. *Locus of Control and Attribution of Responsibility*

These two measures were not significantly related in either the UF or UPR sample. Upper and lower thirds of both distributions are shown in Table IV. None of the extreme groups differed

TABLE IV

Comparison of UF and UPR High and Low I-E Groups on Four Levels of Attribution of Responsibility

	ATTRIBUTION OF RESPONSIBILITY							
	I		II		III		IV	
	UF	UPR	UF	UPR	UF	UPR	UF	UPR
Lo I-E	4.28	2.86	19.84	17.96	19.12	19.20	20.33	14.64
Hi I-E	4.24	3.49	19.38	17.35	19.19	18.23	23.38	14.89

significantly on attribution of responsibility when compared with the total sample (Table 1). The difference in attribution of responsibility between UF and UPR at Level IV (coerced acts) shown in Table 1 persists here in the extreme groups; but there is no significant difference as a function of internal or external locus of control.

3. *Comparison of Personality and Language Differences*

Because of restricted range of scores or highly skewed distributions on several of the language measures, a correlational analysis was abandoned in favor of a comparison of means of the upper, middle, and lower thirds of each distribution.

Separate comparisons were made of UF students, UPR bilinguals in English and Spanish and UPR monolinguals. Further comparisons were made by comparing males and females within each group. In no case did any comparison approach significance at the .05 level. Table V, presented as a typical sample, shows UPR bilingual (English) Activity-potency scores for high (External), me-

TABLE V

English Subject Pronoun Activity-Potency Scores of High, Medium, and Low I-E Subgroups of UPR Bilinguals

I-E	ACTIVITY-POTENCY			
	Males		Females	
	M	S. D.	M	S. D.
High (0-5) M=14; F=12	22.43	8.03	26.10	8.31
Medium (6-9) M=12; F=18	22.42	6.25	29.22	7.06
Low (10-19) M=12; F=16	26.25	8.10	28.69	5.46

dium and low (Internal) Locus of Control subgroups divided by sex. The Activity-Potency scores shown are for the English subject pronoun and are obtained by summing factor pattern agreement for the three sentences rated. It may be noted that slight trends in means are quite insignificant when viewed in terms of the variance of the means. Similar non-significant differences were obtained in comparing Attribution of Responsibility and Activity-Potency. The several grammatical categories derived from Making Up Sentences likewise failed to show variances related to either Locus of Control or Attribution of Responsibility. A total of 264 comparisons were made.

DISCUSSION

The most significant finding of the study is the failure, in 264 comparisons, to find a single significant relation between personality measures and measures of grammatical and semantic structure. In some of these comparisons this failure may be plausibly attributed to limited score range or to highly skewed distributions. Thus, the passive voice was practically non-existent in this sample of oral language; and the upper half of the total score range (0-24) of the I-E Scale was used by less than 20% of the sample. In many comparisons, however, there was sufficient variance, despite considerable skewness, for a gross upper and lower third comparison. As illustrated in Table V, the variances of the measures simply do not relate to each other.

It was hoped that, compared to simple word counts and ratios, some of these more molar grammatical units might more adequately reflect a person's habitual linguistic structure which would, in turn, permit a more adequate test of the possible relation between structural language style and life-style. This study suggests that, to the contrary, these units may be even less sensitive than word units such as verb-adjective ratios which have been more often used and which have typically led to few reliable personality-language relations when age, intelligence, and educational level have been controlled (Brodsky, 1964; Doob, 1958; Jennings, 1967; Osgood and Walker, 1959; Seelye, 1966). By contrast, studies of language content or expression, as in psychotherapeutic interviews (Raimy, 1948), or achievement motivation (Atkinson, 1958) have been much more productive. Perhaps, because grammatical structure is itself invariant while lending itself to an almost limitless variety of expressions and content, it serves as a common matrix and reflects individual differences only to the extent that severe functional limits are imposed, as in controlled association or fluency tests, or the structure itself limits function, as in aphasic speech. Certainly in this study the ability of the individual to shape his language to express

his purposes is more impressive than the limits language imposes on his expression.

A second significant finding of this study is that the attitude of passive acceptance of *el destino* is clearly not an immutable part of "the Spanish character," nor is the Spanish language necessarily a shaper of such an attitude. A matched group of young, educated, aspiring young Floridians and Puerto Ricans equally and overwhelmingly subscribed to the belief that, while their destiny is not wholly in their hands, they can through their own activity be a potent force in shaping their destiny.

A third finding, not directly related to this study but of potential cultural significance, is the tendency of UPR students to attribute considerably less responsibility for actions carried out under coercion than those which are carried out without forethought (unpremeditated), whereas UF students attribute slightly more for actions carried out under coercion. These results for Florida students confirm the earlier finding of Shaw and Sulzer (1964). More recently Garcia-Esteve (1967) reports data with elementary and high school students in Puerto Rico similar to our UPR students' data, thus the pattern difference is apparently a cultural one.

REFERENCES

- Atkinson, J. W. (Ed.) *Motives in fantasy, action, and society*. Princeton: Van Nostrand, 1958.
- Brodsky, S. L. Language patterns of repressors and sensitizers in personal and impersonal description. Unpublished doctoral dissertation, University of Florida, 1964.
- Diaz-Guerrero, R. The active-passive dichotomy. Paper presented at the Ninth Congress of the Inter-American Society of Psychology, Miami, Florida, 1964.
- Doob, L. W. Behavior and grammatical style. *Journal of abnormal and social psychology*, 1958, 56, 398-401.
- Garcia-Esteve, J. Rural and urban patterns of attribution of responsibility in Puerto Rico. Unpublished masters thesis, University of Florida, 1967.
- Jennings, B. S. Some cognitive control variables and psycholinguistic dimensions. Unpublished doctoral dissertation, University of Florida, 1967.
- Kaiser, H. F. The varimax criterion for analytic rotation in factor analysis. *Psychometrika*, 1958, 23, 187-200.
- Keniston, H. *Spanish syntax list*. New York: Henry Holt, 1937.
- Osgood, C. E., Suci, G., and Tannenbaum, P. *The measurement of meaning*. Urbana: University of Illinois Press, 1957.
- Osgood, C. E., and Walker, E. G. Motivation and language behavior. *Journal of abnormal and social psychology*, 1959, 59, 58-67.
- Raimy, V. C. Self-reference in counseling interviews. *Journal of consulting psychology*, 1948, 12, 153-163.
- Rodriguez-Bou, I. *Recuento de vocabulario español*. Rio Piedras: University of Puerto Rico, 1952.
- Rotter, J. B. Generalized expectancies for internal-external control of reinforcement. *Psychological monographs*, 1966, 80, No. 1, whole No. 609.
- Seelye, H. N. The Spanish passive: a study in the relation between linguistic form and world-view. *Hispania*, 1966, 49, 290-292.
- Shaw, M. E., and Sulzer, J. L. An empirical test of Heider's levels of attribution of responsibility. *Journal of abnormal and social psychology*, 1964, 69, 39-46.
- Thorndike, E. L., and Lorge, I. *A teachers' word book of 30,000 words*. New York: Teachers College, Columbia University, 1944.

ARSTRACT

The relation between personality and differential use of various grammatical structures was studied in a group of 162 Florida and 201 Puerto Rico college students of both sexes. The personality measures included the Internal-External Scale and an experimental scale adapted to this study, Attribution of Responsibility. The language measures were derived from (1) an adaptation of Semantic Differential technique to assess the active-potent dimension of meaning of first person subject and object pronouns, and (2) the use of 40 selected verbs with instructions to use these in making up 40 oral sentences which were recorded and later transcribed and analyzed according to various grammatical categories. No significant relation between personality measures and measures of grammatical or semantic structure was obtained.

RESUMEN

Utilizando estudiantes universitarios de ambos sexos de la Florida (162) y Puerto Rico (201) se estudió la relación existente entre medidas de personalidad y el uso diferencial de varias estructuras gramaticales. Dos escalas, de orientación Interna-Externa, y de Atribución de Responsabilidad, constituyeron las medidas de personalidad. Las medidas de lenguaje se obtuvieron de: 1) una adaptación de la técnica de diferenciación semántica para determinar la dimensión Activa-Potencial del significado del pronombre de primera persona como sujeto y como objeto; y 2) el uso de 40 verbos con instrucciones de ser usados en oraciones verbales que fueron grabadas y más tarde transcritas y analizadas de acuerdo a varias categorías gramaticales. No se obtuvo ninguna relación significativa entre las medidas de personalidad y las medidas de estructura gramatical o semántica.

RESUMO

Aproveitando-se de dois grupos de estudantes universitários de ambos sexos da Flórida (162) e de Porto Rico (201), estudou-se a relação existente entre medidas de personalidade e o emprêgo diferencial de várias estruturas gramaticais. As medidas de personalidade constituíram-se de duas escalas: uma de orientação interna-externa e outra de caráter experimental denominada "Atribuição de Responsabilidade." As medidas de linguagem foram derivadas de 1) uma adaptação da técnica semântico-diferencial para determinar a dimensão ativo-potencial do significado do pronome da primeira pessoa usado tanto como sujeito e como objeto; e 2) utilização de 40 verbos com instruções para serem empregados em orações orais que foram gravadas e mais tarde transcritas e analizadas conforme várias categorias gramaticais. Não se obteve nenhuma relação significativa entre as medidas de personalidade e as medidas de estrutura gramaticais ou semânticas.