

This study explores in detail the structure of group and individual conceptions of interpersonal interaction in various environmental settings. It is shown that the conceptualization of the environment is well structured and stable across individuals, and significantly affects expectations of interpersonal behavior.

## **THE PERCEPTION OF INTERPERSONAL BEHAVIOR**

### **Dimensionality and Importance of the Social Environment**

**JOHN ADAMOPOULOS** *is Assistant Professor of Psychology at Indiana University—South Bend. His research interests include the structure of social behavior and the perception of the social environment.*

**The investigation** of the manner in which people perceive their environment has intensified in recent years as a consequence of an increased interest in the situational determinants of behavior. Various theorists have emphasized the need for a more careful examination of the situation in which social behavior occurs, and have called for the development of a taxonomy of social situations (see Fredriksen, 1972; Magnusson, 1971; Pervin, 1976; Sells, 1976; Triandis, 1975).

Several early theoretical statements of the person-environment interdependence (such as Lewin, 1951) have led to the development and formulation of recent "interactionist" positions in personality research (see Ekehammar, 1974; Endler and Magnusson, 1976a, 1976b), and to the

---

**AUTHOR'S NOTE:** *Requests for reprints should be sent to John Adamopoulos, Department of Psychology, Indiana University—South Bend, South Bend, Indiana 46615.*

ENVIRONMENT AND BEHAVIOR, Vol. 14 No. 1, January 1982 29-44  
© 1982 Sage Publications, Inc.

specification of both attitudinal and situational (normative) variables as predictors of behavior in social psychology (for example, Fishbein and Ajzen, 1975; Triandis, 1977). In general, it is agreed that the investigation of individual perceptions of the social environment is an important component of the analysis of the person-environment interdependence.

In the following discussion, the environment is conceptualized as the matrix of social relationships and situations within which behavior takes place. Three basic constructs are involved in the investigation: (a) an *interpersonal behavior*, referring to an act directed from one person to another, or performed by two persons together; (b) a *role-pair*, defining the social relationship between an actor and the target of the behavior, or between two actors; and (c) a *situation*, defining the particular environment in which a social behavior takes place. This conceptualization distinguishes theoretically among the important components of the social environment, in contrast to other recent investigations of environmental perception (for example, Forgas, 1976). As background to this approach, some of the most important studies of the structure of social behavior, social role relationships, and situations will be reviewed briefly.

### THE STRUCTURE OF SOCIAL BEHAVIOR

Schutz (1958) proposed one of the earliest analyses of the structure of interpersonal behavior. The theory involved three basic dimensions of social interaction: *affection* (that is, the need to maintain affective relationships with other persons), *control* (the need to maintain satisfactory social relationships with respect to power and control), and *inclusion* (the need to maintain associative interpersonal relationships). Other major studies of the period used similar constructs in describing the structure of social behavior (see Freedman et al., 1951; Leary, 1957; Lorr and McNair, 1963; Raush, et al., 1959).

During the last decade there have been a number of studies of the structure of social behavior indicating a substantial convergence of findings. For example, using the models of Leary (1957) and of Schaefer (1965), Benjamin (1974) presented an elaborate theoretical framework of the structure of social behavior based on the dimensions of affiliation and interdependence (control). Similar suggestions have been made by Foa (1961), Foa and Foa (1974), and Osgood (1970). In addition, after a number of cross-cultural investigations (Triandis, 1964; Triandis et al., 1966), Triandis et al. (1972) and Triandis (1975) have concluded that *association-dissociation*, *subordination-superordination*, and *intimacy-formality* appear to be three culture-common dimensions of social behavior.

### THE STRUCTURE OF SOCIAL ROLES

Social roles refer to patterns of learned behaviors which persons perform in interacting with particular others (Triandis et al., 1968). Furthermore, roles designate those behaviors which are considered socially appropriate for persons holding particular positions in a social system (Triandis et al., 1972).

After an extensive investigation of the structure of role relations, Carroll and Wish (1974) isolated the following dimensions: (a) competition and conflict versus cooperation and harmony, (b) equality versus inequality, (c) business orientation (formality) versus personal and informal social interaction, and (d) intense and active relations versus superficial and infrequent contact (see also Wish et al., 1973).

An extensive cross-cultural study of roles by Triandis et al. (1968) yielded dimensions such as *intimacy*, *superordination-subordination*, *conflict*, and *affect*. While the studies of the dimensions of roles are not as extensive as those of the structure of social behavior, the empirical findings are fairly conclusive. It is in the area of *situations* that research in personality and social psychology has been lacking.

## THE STRUCTURE OF SITUATIONS

The manner in which situations are perceived has not been investigated extensively. Little is known about the particular components of the environment which influence social behavior. In recent studies, Price (1974), and Price and Bouffard (1974) established a connection between the perception of environmental constraint and the performance of various behaviors. In addition, an extensive investigation utilizing the approach outlined earlier established that the perception of the environment involves two orthogonal dimensions, constraint and informality-entertainment (Adamopoulos, 1976). In that analysis of the structure of students' conceptions of their social environment, a number of various settings were considered. These settings, or situations, were typical of the types of places college students frequent. In addition, that study considered some of the most important social relationships in which college students typically are involved, and the various behaviors that occur within these social settings.

Subjects had to rate the likelihood that a particular actor, identified in a role relationship, would perform a particular behavior toward or with a target person in a certain situation. All possible combinations of 12 role relationships, 30 situations, and 16 behaviors were considered. The conceptual structure of the stimulus domain was obtained through the use of 3-mode factor analysis (Tucker, 1966).

The large number of stimuli involved in that investigation made the analysis of individual data impossible. The present study is an attempt to replicate the first investigation with a smaller, but representative, number of stimuli. In addition to being a replication of the earlier investigation, this study is aimed toward an analysis of individual cognitive structures with respect to behavior in the social environment. Finally, this study addresses the problem of the relative importance of the components of social interaction (that is, situations, social roles, and behaviors) in the formation of expectations of interpersonal interaction.

## METHOD

### STIMULI

The stimuli used in the present study were selected from earlier investigations (see Adamopoulos, 1976) on the basis of (a) their high loadings on particular factors, and (b) their relevance to the academic environment under investigation. The final sample consisted of all possible combinations of 12 behaviors, 12 roles, and 8 situations. A 12 X 12 X 8 matrix of stimuli was thus formulated (1152 judgments).

### SUBJECTS

Participants were 5 male and 5 female undergraduate students enrolled in an introductory course in social psychology at the University of Illinois. All students were volunteers, and each received \$3.00 for participation in the study. The complete set of 1152 judgments obtained from each participant required about 2 hours.

### PROCEDURE

Subjects were asked to consider each combination of a particular role relationship, situation, and behavior, and to provide an estimate of the likelihood of the first person of the role relationship performing the particular behavior toward (or with) the second person in the situation. Judgments were made on a ten-point scale ranging from *never* (0) to *always* (9).

## RESULTS

### GROUP RATINGS

Mean judgments for all the stimulus combinations were computed for the male and the female participants. Sepa-

rate analyses for the two samples facilitated the confirmation of the stability of the derived factor structures.

All of the following analyses were performed on the deviation scores from the grand mean of all the observations in the 3 stimulus categories. The cross-product matrices of the 3 stimulus classes were analyzed by principal axes analyses as a first step toward a 3-mode factor analysis (Tucker, 1966). After plotting the eigenvalues, it was decided to retain 3 behavior factors for both male and female samples. For the male sample, these factors accounted for 48.95%, 28.57%, and 10.13% of the variance, or a total of 87.65% of the total unrotated variance. The respective figures for the female sample were 59.50%, 20.82%, and 10.32%, or a total of 90.64% of the total unrotated variance.

There were 3 role factors also retained for both male and female groups after plotting the respective eigenvalues. For the male participants, the first factor accounted for 66.86% of the variance, while the second and third factors accounted for 17.39% and 6.42% of the variance, respectively (a total of 90.67% of the total unrotated variance). For the female sample, the respective figures were 73.31%, 13.38%, and 5.27%, or a total of 91.96% of the total unrotated variance.

Finally, 2 situation factors were retained from each sample after plotting the eigenvalues. For the male judges, these factors accounted for 70.54% and 21.36%, or a total of 91.90% of the unrotated variance. For the female judges, the first factor accounted for 75.94% of the variance, while the second factor accounted for 15.16% (a total of 91.10% of the total unrotated variance). After the selection of the factors the eigenvector matrices were rotated to varimax simple structure.

*Behavior factors.* Table 1 shows the behavior loadings on each factor for both male and female samples. The first factor is Superordination, with the highest loading items being "give orders to" and "shout at." The second factor appears to be Association. The items with the highest loadings for both samples are "laugh with" and "discuss with." The third factor is clearly Intimacy (with some implica-

TABLE 1  
Behavior Factor Loadings After Varimax Rotation

Item	Factor <sup>a</sup>					
	I		II		III	
	M	F	M	F	M	F
1. laugh with	-.00	-.12	.56	.64	-.09	.15
2. give orders to	.53	.40	-.07	-.02	.04	.03
3. discuss with	.05	.16	.44	.59	-.52	-.22
4. shout at	.44	.43	.02	-.06	.23	.07
5. criticize	.41	.47	-.02	-.03	-.04	-.01
6. eat with	.09	.06	.42	.27	.13	.38
7. pet	-.03	.11	.22	-.08	.48	.53
8. hit	.15	.12	-.01	-.25	.41	.31
9. kiss	-.08	-.04	.36	.10	.40	.63
10. use formal form of address	.07	.03	-.35	-.24	-.04	-.03
11. advise	.41	.45	.11	.18	-.28	-.09
12. scold	.39	.41	-.00	-.07	.03	.04

NOTE: M = males; F = females.

a. The order of the extraction of the factors was different for the male and female samples. The order has been adjusted here for comparison purposes.

tion of physical proximity). It is interesting to note that "discuss with" has a high negative loading for the male sample, possibly suggesting that discussion is seen as a more formal behavior. In addition, "hit" is seen as an intimate behavior by both male and female judges.

**Role factors.** The factor loadings for the role factors are presented in Table 2. Factor 1 appears to be Status and Differential Power (with the potential for conflict). Factor II represents Formal and Academic roles. There seem to exist some small differences between the male and female samples with respect to this factor. The factor from the male sample may include a notion of formality that is absent from the respective female factor. Clearly, however, the

TABLE 2  
Role Factor Loadings After Varimax Rotation

Item	Factor					
	I		II		III	
	M	F	M	F	M	F
1. wife-husband	-.06	.09	.05	.02	.45	.48
2. student radical- university president	.45	.37	.06	.12	-.12	-.19
3. parent-student	.28	.39	-.02	.06	.22	.09
4. student-roommate	.24	.20	-.02	.31	.27	.07
5. member of student disciplinary com- mittee-student demonstrator	.45	.52	-.02	-.15	-.09	-.04
6. coach-football player	.52	.51	-.24	-.04	.12	.08
7. student-student	.07	.03	.08	.37	.34	.15
8. freshman-senior	-.03	.22	.46	.36	.15	.11
9. lover-lover	-.10	-.07	-.12	.02	.56	.64
10. dean-student	.41	.32	.13	.19	-.02	-.06
11. female student- male student	-.05	-.05	.09	.20	.43	.44
12. student-professor	.08	-.14	.82	.73	-.05	-.27

NOTE: M = males; F = females.

factors are very similar in general. The third role factor seems to reflect Intimacy.

*Situation factors.* Table 3 presents the loadings of the situations on the two dimensions for the male and female samples. Clearly, Factor I reflects Informal (and possibly entertaining) situations, and is described by "actor's room," "bar," and "party." The second factor reflects Constraining situations, with the items "church," and "large lecture hall" having the highest loadings.

*Similarity of male and female factor structure.* Coefficients of congruence were computed in order to examine the



TABLE 3  
Situation Factors After Varimax Rotation

Item	Factors			
	I		II	
	M	F	M	F
1. actor's room	.50	.50	.10	-.03
2. bar	.44	.47	.06	.06
3. church	-.11	-.15	.52	.54
4. large lecture hall	.10	.02	.43	.51
5. party	.50	.51	-.01	-.00
6. professor's office	.01	.02	.54	.54
7. park	.53	.48	-.04	.02
8. library	.01	.11	.49	.40

NOTE: M = males; F = females.

similarity of the factor structure for both samples. As can be seen in Table 4, the correspondence of the factors is very high. This suggests that the obtained structure is very stable—especially with respect to the conceptualization of the physical environment.

*Core matrices.* The most important function of the three-mode factor analysis is the transformation of the core matrix corresponding to the unrotated factor solution following the orthogonal rotation of the factors. Table 5 presents the transformed core matrices for the male and female samples. The core matrix provides an index of the relationships among the factors extracted from the three modes. The entries in Table 5 can be seen as “interactions” of the three modes or stimulus categories (situations X behaviors X roles). The magnitude of the value of each entry can be conceptualized as the strength of the interaction.

Informal situations seem to be generally associated with friendly, associative behaviors. Intimate behaviors are not associated with either informal or constraining environments. Female participants, however, seem to view inti-

TABLE 4  
Coefficients of Congruence for Male and Female Behavior,  
Role, and Situation Factors

Mode	Factor		
	I	II	III
Behaviors	.83	.85	.97
Roles	.94	.84	.92
Situations	.99	.99	_____ <sup>a</sup>

a. Only two situation factors were extracted in the present analysis.

mate behaviors as associated with intimate roles in informal settings. Superordinate behaviors appear to be associated with roles involving persons with differential power, especially in informal settings. Intimate roles, on the other hand, do not seem to exclude superordinate behaviors.

In general, constraining environments are characterized by the absence of any strong positive relationships with roles or behaviors. There appear to be strong negative relationships, however, especially with respect to intimate and associative behaviors. Furthermore, some interesting sex differences appear in the perception of these relationships. Female judges see rather positive relationships between both informal and constraining environments and friendly, associative behaviors, whereas the male judges indicate relatively more constraint in the relationships among the factors.

#### INDIVIDUAL DIMENSIONS

An important question which the present study was designed to investigate concerned the extent to which the dimensions obtained from the analyses of the group data represented dimensions that can also be found in individual data. In the present study it was possible to perform analyses of *individual* judgments, since complete data were obtained from each participant. Table 6 presents the means, medians, and modes of the coefficients of con-

TABLE 5  
Transformed Core Matrices

Role Factors		Situation Factors					
		I			II		
		Informality			Constraint		
		Behavior Factors <sup>a</sup>					
		I	II	III	I	II	III
I	Differential Power (Status)	13.38 <sup>b</sup>	24.04	-15.22	6.79	9.61	-22.26
		14.15 <sup>c</sup>	7.18	-27.08	6.86	-10.62	-29.24
II	Academic (Formal)	-4.74	32.39	-7.75	-9.66	12.72	-21.76
		-6.22	6.64	-12.26	-10.11	-7.74	-14.67
III	Intimate	1.51	29.87	13.89	-3.75	16.63	-11.19
		3.60	35.87	-8.10	-6.88	3.08	-25.49

a. Behavior factors: I = Superordination; II = Association; III = Intimacy.

b. Females.

c. Males.

gruence which were computed in order to compare the 10 sets of factors derived from these individual analyses.

Despite a few conceptual differences among the 10 judges, there seems to be a general agreement in the manner in which these individuals perceive their environment. Interestingly, the judges seem to agree *most* in their perception of situations, and *least* in their perception of social relationships.

#### RELATIVE INFLUENCE OF STIMULUS CATEGORIES ON LIKELIHOOD ESTIMATES

Percentages of variance, indicating the extent to which the variance in the likelihood ratings was attributable to perceived differences among behaviors, roles, situations, and their interactions, are presented in Table 7. All three factors were assumed to be fixed. Clearly, behaviors account for the major portion of the variance, followed by the interaction of roles with behavior. Situations, and their

**TABLE 6**  
**Mean, Medians, and Modes for Coefficients of Congruence**  
**of the Factor Structures of 10 Judges**

Factors	Mean	Median	Mode
Behavior			
I	.75	.82	.90
II	.80	.84	.87
III	.77	.78	.85
Role			
I	.61	.67	.89
II	.57	.61	.71
III	.86	.90	.91
Situation			
I	.95	.96	.95
II	.95	.96	.97

interaction with behaviors, also account for a substantial portion of the variance.

### DISCUSSION

The present investigation has extracted the behavioral, role, and situational dimensions that individuals use in perceiving their social environments. It was shown that these dimensions are relatively unambiguous and replicable. Furthermore, this study has indicated that the obtained dimensions can be used to describe group as well as individual judgments.

The factors obtained in this study closely resemble dimensions reported by other investigators. The behavioral dimensions of superordination, association, and intimacy replicate, as intended, the three pancultural factors reported by Triandis (1975). They are also similar to dimensions reported by Benjamin (1974), Forgas (1976), and

TABLE 7  
 Percentage of Variance Accounted for by Roles, Situations,  
 Behaviors, and Their Interactions

Source	% Variance
Roles (A)	1.2
Situations (B)	5.5
Behaviors (C)	29.6
A X B	1.2
A X C	11.5
B X C	6.2
A X B X C	2.7

Forgas et al. (1979) in investigations involving quite different methodologies. The three role dimensions replicate to some extent dimensions reported by Triandis et al. (1968). They are also very similar to some of the dimensions reported by Carroll and Wish (1974).<sup>1</sup>

As was pointed out earlier, there has been very little work of this nature in the area of the perception of situations. In several theoretical contributions, however, situational constraint was considered the major situational dimension (see Bellows, 1963; Price and Bouffard, 1974). A careful reexamination of Price's (1974) results also indicates that constraint and openness are two basic dimensions of the perception of situations. The present study supports this observation.

In addition to defining perceptual dimensions, this investigation has provided a systematic description of the relationships that exist among these dimensions. It appears that, for the most part, these relationships are consistent across groups and individuals. Any differences that exist among individuals, however, should be examined more systematically in future studies, within the context of social attitudes, personality differences, and value systems.

Magnusson (1971) has suggested that particular individuals share common perceptual dimensions, but may interpret these dimensions differently. Similar conclusions can be reached on the basis of the present study. In addition, this study suggests that individuals may differ not only in their interpretation of some dimensions, but also in their perception of the *relationships* that exist among these dimensions.

The major relationships among the social-interaction dimensions are: (1) Intimate behaviors are negatively associated with constraining environments, regardless of the role context. In general, it appears that intimate behaviors are not likely to occur very often in any setting. (2) Associative behaviors are strongly related to informal situations in general. They are also usually positively related to constraining environments for females, but less so for males. (3) Superordinate behaviors are likely to occur within the context of differential-power roles, regardless of setting. It is interesting to note that they are not negatively associated with intimate roles. Also of interest is the negative relationship between superordinate behaviors and academic, formal roles, regardless of situation. This finding suggests that certain unique combinations of roles and behaviors are important determinants of the likelihood judgments, a conclusion which received further support from the analysis of variance.

In general, it appears that behaviors and situations are the strongest determinants of the likelihood judgments. Roles do not seem to have the same general effect that behaviors seem to have. However, the interaction of roles and situations with behaviors is very important. This impression is also supported by the analysis of variance results.

This investigation has described the perceived structure of a particular social environment. While some of the evidence from other studies suggests that most of the dimensions obtained generalize to other settings, there is a clear need for more studies of other environments. Furthermore, there is a need for studies that will attempt to

establish the cross-cultural generality of the situational dimensions, much in the same manner that the behavior and role-dimension generality has been established (see Triandis et al., 1972).

### NOTE

1. There is, clearly, a conceptual similarity between the behavioral and role structures. Attempts to interpret this similarity have generally relied on the definition of the construct "role" in terms of behavioral appropriateness (see Triandis et al., 1968). It should be remembered, however, that the two structures are theoretically independent of each other, and may affect differentially the perception of interpersonal interaction (as suggested by their relative contributions to the variance of the likelihood estimates).

### REFERENCES

- ADAMOPOULOS, J. (1976) "Perceptual dimensions of the social environment." A. M. thesis, University of Illinois.
- BELLOWS, R. (1963) "Toward a taxonomy of social situations," in S. B. Sells (ed.) *Stimulus Determinants of Behavior*. New York: Ronald.
- BENJAMIN, L. S. (1974) "Structural analysis of social behavior." *Psych. Rev.* 81: 392-425.
- CARROLL, J. D. and M. WISH (1974) "Differences in conceptions of interpersonal relations," in D. H. Krantz et al. (eds.) *Contemporary Developments in Mathematical Psychology* (Vol. 2). San Francisco: W. H. Freeman.
- EKEHAMMAR, B. (1974) "Interactionism in personality from a historical perspective." *Psych. Bull.* 81: 1026-1048.
- ENDLER, N. S. and D. MAGNUSSON [eds.] (1976a) *Interactional Psychology and Personality*. Washington, D.C.: Hemisphere.
- (1976b) "Toward an interactional psychology of personality." *Psych. Bull.* 83: 956-974.
- FISHBEIN, M. and I. AJZEN (1975) *Belief, Attitude, Intention, and Behavior: an Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- FOA, U. G. (1961) "Convergences in the analysis of the structure of interpersonal behavior." *Psych. Rev.* 68: 341-353.
- and FOA, E. B. (1974) *Societal Structures of the Mind*. Springfield, IL: Charles C Thomas.
- FORGAS, J. P. (1976) "The perception of social episodes: categorical and dimensional representations in two different social milieus." *J. of Personality and Social Psychology* 34: 199-209.
- M. ARGYLE, and G. P. GINSBURG (1979) "Social episodes and person perception: the fluctuating structure of an academic group." *J. of Social Psychology* 109: 207-222.

- FREDERIKSEN, N. (1972) "Toward a taxonomy of situations." *Amer. Psychologist* 27: 114-123.
- FREEDMAN, M. B., T. F. LEARY, A. G. OSSORI, and H. S. COFFEY (1951) "The interpersonal dimensions of personality." *J. of Personality* 20: 143-161.
- LEARY, T. (1957) *Interpersonal Diagnosis of Personality*. New York: Ronald.
- LEWIN, K. (1951) *Field Theory in Social Science: Selected Theoretical Papers*. New York: Harper & Row.
- LORR, M. and D. M. McNAIR (1963) "An interpersonal behavior circle." *J. of Abnormal and Social Psychology* 67: 68-75.
- MAGNUSSON, D. (1971) "An analysis of situational dimensions." *Perceptual and Motor Skills* 32: 851-867.
- OSGOOD, C. E. (1970) "Speculation on the structure of interpersonal intentions." *Behavioral Sci.* 15: 237-254.
- PERVIN, L. A. (1976) "A free-response description approach to the analysis of person-situation interaction." *J. of Personality and Social Psychology* 34: 465-474.
- PRICE, R. H. (1974) "The taxonomic classification of behaviors and situations and the problem of behavior-environment congruence." *Human Relations* 27: 567-585.
- and D. L. BOUFFARD (1974) "Behavioral appropriateness and situational constraint as dimensions of social behavior." *J. of Personality and Social Psychology* 30: 579-586.
- RAUSH, H. L., A. T. DITTMAN, and T. J. TAYLOR (1959) "The interpersonal behavioral of children in residential treatment." *J. of Abnormal and Social Psychology* 58: 9-26.
- SCHAEFER, E. S. (1965) "A configurational analysis of children's reports of parents' behavior." *J. of Consulting Psychology* 29: 552-557.
- SCHUTZ, W. C. (1958) *FIRO: A Three-Dimensional Theory of Interpersonal Behavior*. New York: Holt, Rinehart & Winston.
- SELLS, S. B. (1963) "Dimensions of stimulus situations which account for behavior variance," in S. B. Sells (ed.) *Stimulus Determinants of Behavior*. New York: Ronald.
- TRIANDIS, H. C. (1977) *Interpersonal Behavior*. Monterey, CA: Brooks/Cole.
- (1975) "Social psychology and cultural analysis." *J. for the Theory of Social Behaviour* 5: 81-106.
- (1964) "Exploratory factor analyses of the behavioral component of social attitudes." *J. of Abnormal and Social Psychology* 68: 420-430.
- Y. TANAKA, and A. V. SHANMUGAM (1966) "Interpersonal attitudes among American, Indian, and Japanese students." *Int. J. of Psychology* 1: 177-206.
- TRIANDIS, H. C., V. VASSILIOU, and M. NASSIAKOU (1968) "Three cross-cultural studies of subjective culture." *J. of Personality and Social Psychology, Monograph Supplement* 8, No. 4: 1-42.
- TRIANDIS, H. C., V. VASSILIOU, G. VASSILIOU, Y. TANAKA, and A. V. SHANMUGAM (1972) *The Analysis of Subjective Culture*. New York: John Wiley.
- TUCKER, L. R. (1966) "Some mathematical notes on three-mode factor analysis." *Psychometrika* 31: 279-311.
- WISH, M., S. J. KAPLAN, and M. DEUTSCH (1973) "Dimensions of interpersonal relations: preliminary results." *Proceedings of the Eighty-First Annual Convention of the American Psychological Association*.