Social Behavior and Personality, 5 (2):229-40 (1977)

CONSTRUCT INDIVIDUALITY, COGNITIVE COMPLEXITY, AND THE FORMATION AND REMEMBERING OF INTERPERSONAL IMPRESSIONS

BARBARA J. O'KEEFE
Wayne State University
JESSE G. DELIA
University of Illinois at Urbana-Champaign
DANIEL J. O'KEEFE
University of Michigan

Subjects differing in cognitive complexity formed impressions from either (1) three positive and three negative experimenter-selected traits, (2) three traits of each evaluation generated by the subject in a preliminary session, or (3) three experimenter-selected traits of one valence and three subject-generated traits of the opposite valence. Additionally, subjects reconstructed their impressions from memory after eight weeks. Impressions were dominated in content and evaluation by information tied to subjects' own constructs. The strength with which subjects attributed the stimulus qualities to the other was greater for self-generated traits. While all subjects organized inconsistency in their impressions at similar levels when receiving self-generated positive information, high and low complexity subjects differed in the organization of their impressions in the other conditions largely owing to the greater utility of negative information to high-complexity subjects.

George Kelly's (1955) conception of the organization and functioning of a perceiver's system of interpersonal constructs has been widely used in explaining the manner in which information about another person is processed in forming interpersonal impressions (*e.g.*, Bannister and Mair, 1968; Bieri *et al.*, 1966; Crockett, 1965). In applying Kelly's ideas, however, few impression formation researchers have recognized the importance of Kelly's Individuality Corollary.

CONSTRUCT INDIVIDUALITY AND IMPRESSION FORMATION

Delia *et al.* (1971) have shown, however, that when a subject receives evaluatively bivalent information in which one valence is expressed through his own previously elicited constructs and the opposite through experimenter-selected constructs, the impression formed is dominated in both content and evaluation by inferences from information in his own constructs. In interpreting their results, Delia

et al. advanced the hypothesis that personal construct-specific information is more easily ordered to the construct system. The present study was designed to test rigorously this ease of ordering explanation while replicating and extending the previous findings. In this regard we reasoned that: if information corresponding to one's own constructs is more easily ordered to the construct system, then the subjects' judgment of whether the stimulus person possesses the stimulus qualities should reflect greater belief strength for the information tied to his own constructs than for that wed to experimenter-selected dimensions.

In addition to differences in content and extensiveness, impressions formed from potentially contradictary information can also differ in the degree to which ambivalence is represented and resolved. Kaplan and Crockett (1968) have proposed a developmental ordering of such impressions according to the extent to which inconsistency is recognized or differentially reconciled. In seeking to replicate the results of Delia *et al.*, we hypothesized that impressions organized at a higher level would be formed by subjects receiving the bivalent information presented wholly in either their own or normative constructs. Under such conditions both sides are of approximately equal weight; as a result, the subject is forced to deal directly with the contradictions and, if possible, to reconcile them. When only one valence of the stimulus information is tied to the subject's own constructs, many more qualities of that valence should be inferred, thus minimizing the contradiction and lessening the need to provide an explanation for the ambivalence.

Cognitive Complexity and Impression Formation

A variety of studies have shown that the differentiation and resolution of inconsistency in impressions vary with the complexity of the perceiver's system of interpersonal constructs (*e.g.*, Nidorf and Crockett, 1965; Delia *et al.*, 1974). In the present study, however, we predicted that when subjects receive bivalent information with one valence corresponding to their own constructs, high as well as low complexity subjects should find it easier to minimize the inconsistency by extending that side of the information than to conceptually represent and reconcile the contradiction. Thus we expected an interaction between cognitive complexity and the nature of the stimulus information, such that the differences between complex and noncomplex subjects would be less extensive when only one side of the information was presented in their own constructs.

We also predicted that high complexity subjects would produce more differentiated impressions in all conditions. However, the greater number of implications among the constructs of more complex perceivers (Crockett, 1965) should facilitate their making inferences beyond the stimulus information when it is tied directly to their cognitive system. Thus there should be an interaction between complexity and the individuality of information in which the difference in the

impression differentiation of complex and noncomplex subjects is greater when all or a part of the information is tied to their own constructs. Delia, Gonyea and Crockett's ease of ordering hypothesis is thus also indirectly tested by this predicted interaction.

THE REMEMBERING OF INTERPERSONAL IMPRESSIONS

Bartlett (1932) and Paul (1959) have shown in remembering tasks analogous to the formation and reporting of an interpersonal impression that subjects typically generate a schema to which peripheral details are assimilated. The present study examined the hypothesis that the presence of information corresponding to a subject's own constructs would facilitate the generation of such a schema and later reconstruction of the impression. Such facilitation was expected to be reflected in a smaller decline in both the differentiation of aspects of the impression based on individual information and in the level of organization of impressions formed solely or in part from subject-generated constructs.

In addition, although Mahood (1971) found a similar decline for high and low complexity subjects in both the differentiation and level of organization of reconstructed impressions, we reasoned that the presence of information relevant to the subjects' own constructs would lead to less decline for high complexity subjects on these dimensions. Given a match between the stimulus information and his constructs, the complex subject should be capable of elaborating a more extensive and clearly articulated schema around which his impression can later be reconstructed.

Even in the absence of these predicted interactions of information-individuality and cognitive complexity with the time variable, however, separate analyses of the reconstructed impressions should reveal the continued presence of the initial effects.

METHOD

SUBJECTS

Five weeks prior to the main experiment, a version of the Role Category Questionnaire (Crockett, 1965) was administered to 341 student volunteers enrolled in a freshman-level speech course at the University of Illinois. The cognitive complexity of a subject was defined as the number of constructs generated over four descriptions (a liked and disliked peer of each sex). The scores were broken into thirds and the middle third was dropped, thus defining high and low complexity groups. Approximately equal numbers of subjects in each complexity group were randomly assigned to one of the four experimental information conditions described below. Owing to absence from the experimental session, only 75 low complexity (44 males, 31 females) and 101 high complexity (42 males, 59 females) subjects completed the two experimental tasks and hence were included in the analyses.

Experimental Paradigm

The experimental paradigm was identical in all conditions and closely paralleled that employed by Delia *et al.* (1971). Subjects received an experimental communication consisting of six personality traits or characteristics, three positive and three negative, describing a college student named Howard M. The descriptions, with positive and negative traits presented in alternation, were attributed to six different individuals who knew Howard well. After reading over the qualities, subjects wrote an impression of Howard explaining what they would tell a friend desiring to know as much as possible about Howard. Subsequently they answered on 11-point scales several questions about their impression and evaluation of Howard and rated the degree to which he possessed each stmulus quality, using four semantic differential belief scales identified by Fishbein and Raven (1962) — probable-improbable, likely-unlikely, true-false, possible-impossible. After eight weeks, subjects completed an experimental booklet identical to their original one (save for the omission of the initial stimulus information) in which they were instructed to reconstruct as nearly as possible their initial impressions.

Experimental Conditions

The same four experimental information conditions employed by Delia *et al.* (1971) were employed in the present investigation. The conditions were:

Normative-only. All subjects were presented with the same six traits: *confident, conforming, idealistic, sarcastic, polite,* and *nosy.* The evaluation of the six traits taken together is approximately neutral (Anderson, 1968a).

All-own. Each subject received three positive and three negative traits selected from his previously completed Role Category Questionnaire.

Own-positive and own-negative. Three of the subjects' own positive or negative constructs, as determined above, were presented in alternation with the negative or positive traits from the normative-only condition.

Dependent Measures

Evaluation. Evaluations of Howard were made on an 11-point liking scale.

Belief Strength. The summation of ratings on the four seven-point belief scales for each trait, totaled across the three traits of each valence, yielded within-valence belief strength scores.

Differentiation. The degree of differentiation of the impression was defined as the total number of attributes in a subject's description of

Howard. This score was decomposed into traits of positive, negative, and ambiguous valence.

Level of Organization. Impressions were scored for their level of organization by an extension of the developmental scheme described by Kaplan and Crockett (1968). In the system,* described in Delia (1972), impressions are scored at one of 15 levels depending upon the extent to which the contradiction is represented and reconciled. Two coders' scorings of 50 randomly selected protocols yielded a Pearson $r = 0.98$.

Utility of Stimulus Information. Subjects listed the two stimulus traits most useful to them in forming their impressions.

RESULTS

The results are discussed in reference to the various dependent measures. The basic analysis used was a $2 \times 2 \times 4 \times 2$ unweighted means ANOVA with repeated measures on the last factor. The between-subject factors were Sex of the subject (which was included as a control for possible interaction with complexity), level of Cognitive Complexity, and the four experimental Information Conditions. Each subject's score for the initial and reconstructed impressions constituted the within-subject factor (Time). To this design, Valence of the constructs in the impression (positive *vs.* negative) was added as a second repeated measures factor for the degree of differentiation analysis. This same analysis was performed on the within-valence belief strength scores. In all instances, means for both the initial and reconstructed impression tasks are included for clarity.

EVALUATION

As expected, the analysis of scores on the liking scale showed a highly significant main effect for Information Conditions ($F(3,160) = 11.49$, $p < 0.001$; see Table 1).

TABLE 1: MEAN INITIAL (T_1) AND RECONSTRUCTED (T_2) EVALUATIONS OF THE STIMULUS PERSON BY SUBJECTS IN INFORMATION CONDITIONS

Information Condition	T_1	T_2
Normative	5.5	5.5
Own-Positive	7.3	6.6
Own-Negative	3.6	4.7
All-Own	5.5	5.7

*A manual describing this scoring system is available from Walter H. Crockett, Department of Psychology, University of Kansas, Lawrence, Kansas 66044, U.S.A.

TABLE 2: MEAN WITHIN VALENCE DIFFERENTIATION AND BELIEF STRENGTH SCORES ON INITIAL (T_1) AND RECONSTRUCTED (T_2) IMPRESSIONS BY SUBJECTS IN EXPERIMENTAL CONDITIONS

Information Condition		*Normative-Only*				*Own-Positive*				*Own-Negative*				*All-Own*			
Complexity		*High*		*Low*		*High*		*Low*		*High*		*Low*		*High*		*Low*	
Valence		+	—	+	—	+	—	+	—	+	—	+	—	+	—	+	—
Differentiation	T_1	3.6	3.7	3.0	2.3	5.5	4.2	5.7	2.5	3.6	7.8	1.8	5.1	4.7	6.2	3.7	3.1
	T_2	2.9	3.3	3.0	1.5	4.1	2.6	3.6	1.4	2.3	4.8	1.1	2.6	3.6	4.6	2.2	2.6
Belief Strength	T_1	58.1	61.4	63.7	67.6	63.9	64.9	74.4	68.0	65.4	71.1	60.7	65.8	62.8	75.6	64.3	64.8
	T_2	55.2	58.6	58.9	60.8	63.5	60.4	64.7	59.8	61.2	69.1	64.2	62.6	60.6	72.8	61.7	62.2

BELIEF STRENGTH

In support of the ease of ordering hypothesis, the analysis of belief strength scores yielded a significant interaction between Information Conditions and Evaluative Valence ($F(3,160) = 4.33$, $p < 0.005$; see Table 2). The only cell deviating from the expected pattern was a somewhat lower belief strength score than was expected for the own-positive information in the All-Own Condition. In addition to this effect, an interaction between Complexity and Evaluative Valence ($F(1,160) = 7.35$, $p < 0.005$; see Table 2) showed that complex subjects accorded greater belief strength to negative information, while noncomplex ones gave greater belief strength to positive information. An interaction involving Complexity, Information Conditions and Evaluative Valence which approached significance ($F(3,160) = 2.28$, $p < 0.08$) indicates that this effect may in part be due to the greater belief strength high complexity subjects give to information tied to own-negative constructs.

DIFFERENTIATION

The prediction that differentiation should be highest when information was in the subject's self-generated constructs was confirmed by a highly significant interaction between Information Conditions and the Evaluative Valence of the elements in the written impressions ($F(3,160) = 17.81$, $p < 0.001$; see Table 2). Also as predicted, there was a highly significant main effect for Complexity ($F(1,160) = 48.66$, $p < 0.001$; see Table 2). An unanticipated finding was a highly significant ($F(1,160) = 6.14$, $p < 0.01$) interaction between Complexity and Evaluative Valence reflecting the greater differentiation of impressions of high complexity subjects on the negative side (see Table 2). The only significant effect in the analysis of total differentiation scores (which included the elements of neutral or ambivalent valence) not reflected in the repeated measures analysis was an Information Conditions × Complexity interaction ($F(3,160) = 2.65$, $p < 0.05$), showing that while high complexity subjects excelled over low complexity ones in all conditions, this difference was much greater in the Own-Negative and All-Own Conditions (see Table 3).

TABLE 3: MEAN TOTAL DIFFERENTIATION AND LEVEL OF ORGANIZATION OF INITIAL (T_1) AND RECONSTRUCTED (T_2) IMPRESSIONS BY SUBJECTS IN EXPERIMENTAL CONDITIONS

Information Condition		*Normative-Only*		*Own-Positive*		*Own-Negative*		*All-Own*	
Complexity		*High*	*Low*	*High*	*Low*	*High*	*Low*	*High*	*Low*
Total Differentiation	T_1	9.3	7.2	11.4	8.8	12.5	7.6	13.8	7.9
	T_2	7.3	5.1	7.3	5.6	7.4	4.4	9.1	5.4
Level of Organization	T_1	10.2	8.2	9.0	8.6	10.3	7.9	10.9	6.9
	T_2	6.9	6.6	6.8	8.0	8.6	6.1	8.9	5.9

Level of Organization

As expected, high complexity subjects produced impressions organized at a higher level ($F(1,160) = 19.59$, $p < 0.001$; see Table 3). Also, as predicted, there was an interaction between Information Conditions and Complexity ($F(3,160) = 3.10$, $p < 0.05$; see Table 3). However, this interaction was not a result simply of the expected greater difference in the level of organization of impressions of high and low complexity subjects in the Normative and All-Own conditions. While the difference in these two conditions was substantial, it was also significant in the Own-Negative condition.

Utility of Stimulus-Information

In the Own-Positive and Own-Negative conditions, subjects selected as most useful their own constructs over normative ones at a ratio of approximately 2 to 1 (65% own constructs). In the reconstructed impressions this effect was even greater — over 3 to 1 (77% own constructs). Both these effects were highly significant ($p < 0.01$). In addition, while overall approximately an equal number of positive and negative constructs were selected, high complexity subjects selected a preponderance of negative qualities (64% negative), while low complexity subjects listed more positive qualities (56% positive). The 2×2 chi-square comparison was highly significant ($p < 0.01$).

Effects of the Time Variable and the Analysis of Reconstructed Impressions

For all the dependent variables significant interactions involving the time variable were observed. In all instances these effects reflected a decrease in reconstruction in the magnitude of the significant differences resulting from the other independent variables (see Tables 1, 2 and 3). This, of course, was directly opposed to our expectation that reconstruction would be facilitated by information coded in the subjects' own constructs.

In addition to the major analyses, separate analyses were made of scores from the reconstructed impressions. For every dependent measure the significant effects in the main analysis involving information individuality, complexity, and their interactions were present in reconstruction.

DISCUSSION

Construct Individuality in the Differentiation and Evaluation of Impressions

The results involving individuality of the stimulus information were substantially as anticipated, and directly replicate the findings of Delia *et al.* (1971). In elucidating the construction process, the results give direct support to the ease of ordering hypothesis. This support is reflected in the results for the belief strength measure, although in-

explicably the expected increase in belief-strength as a function of information individuality occurred in only three of the four cells where the effect could be shown, and by the interaction between complexity and information individuality for differentiation showing the difference between high and low complexity subjects to be much greater in two of the three conditions involving own-construct information. Since complex subjects have a greater number of linking pathways among their constructs (Crockett, 1965), they take many more inferences when the stimulus information is ordered directly into the cognitive system.

Cognitive Complexity, Conflict, and Negative Information in the Organization of Impressions

The prediction that more highly integrated impressions would be formed by complex subjects in the Normative and All-Own conditions was, of course, only partially confirmed. While such a result did accrue, the impressions of complex subjects were organized at a similar level in the Own-Negative condition. In understanding these results it must be realized that a number of processes are operative in the integration of conflicting information. One process appears to involve the intensity of conflict in the stimulus information. Schroder *et al.* (1967) have posited an inverted-U relationship between information complexity and the integrative complexity of information processing. At low levels of complexity or conflict there is little need to integrate the information; under extreme conflict, integration becomes more difficult, particularly for individuals with noncomplex cognitive systems. In the present study, for both high and low complexity subjects in the Own-Positive condition, and for low-complexity subjects in the Own-Negative condition, inferences from the subject's own-constructs appear to have dominated the impression, lessened the degree of evaluative conflict, and removed any strong need for integrating the information in a balanced impression. In the Normative and All-Own conditions, approximately an equal number of inferences were made in each valence; hence the impressions of subjects in these conditions involved substantial evaluative conflict. Low complexity subjects, possessing less flexible cognitive schemas, were unable to achieve a conceptual integration of this conflict, while their more complex fellows were motivated to achieve a conceptual integration of it in order to form a subjectively satisfying impression.

But what of the Own-Negative condition in which impressions were also organized at an advanced level by complex subjects? A tentative explanation can be advanced based on the manner in which negative, as opposed to positive, information facilitates the formation of integrated impressions. In this regard, Kenny (1967) and Press (1973) have shown that the level of organization of bivalent information is higher in impressions integrated around negative as opposed to positive, personality information. Pastore (1960a, b) has argued that negative behavior tends to be linked to central motives in an-

other's character since, as Peters (1958, 1969) argues, a "motivational" explanation is required only when behavior deviates from normative conventions. If negative information, in particular when expressed through one's own constructs, is more likely to lead to a motivational understanding of another, then the finding that high complexity subjects form more organized impressions when information is presented in their own-negative constructs is quite understandable since Press *et al.* (1975) have shown that high complexity subjects differ from lows in relying upon motivational attributions to integrate conflicting qualities in their impressions.

In the present study, internal support for this analysis of impression organization is provided by several findings: (1) Organization was highest in the All-Own condition where the role of both stimulus conflict and negative-motivational information in the subject's own constructs would be expected to lead to impression integration among high complexity subjects. (2) The Complexity × Evaluative Valence interactions for differentiation and belief strength and the selection of the most useful traits showed that complex subjects give greater weight to negative information, especially when it is in their own-constructs. (3) Despite the greater preponderance of negative constructs in the impressions of complex subjects, their evaluations of the stimulus person did not differ from those of subjects low in complexity, thus indicating that they arrived at the same evaluative orientation by different cognitive processes.

The Remembering of Interpersonal Impressions

Results directly counter to the expected interactions between information individuality, complexity, and time were obtained. These effects can best be understood as a function of the very substantial differences produced in the initial impressions as a function of information individuality and complexity. Effects produced by these factors were so strong initially that there simply was more room for regression to occur in the cells reflecting information individuality and high complexity. However, the fact that significant effects from these factors persisted in reconstructed impressions should increase our confidence in their importance in impression formation.

Impression Formation or Stimulus Evaluation Pooling?

While in many ways it may be simply a matter of intellectual taste how one goes about studying impression formation, the present study in a very general way suggests a need for moving away from the stimulus pooling model approach that has become so popular (*e.g.*, Anderson, 1968b), since it calls into question the assumption that impressions formed from normatively selected information are analogous to those subjects would spontaneously form. That perceivers who differ in cognitive complexity organize their impressions at different levels

further indicates that impression formation should not be conceptualized as based simply upon evaluative judgment making, especially since high and low complexity subjects do not differ in their impression evaluations.

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BARBARA J. O'KEEFE,
Department of Speech Communication and Theatre,
Wayne State University,
Detroit, Michigan 48202,
U.S.A.