

IMPRESSION FORMATION AND CONSTRUCT SYSTEM ORGANIZATION*

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Research into the changes in construing associated with impression formation has focused on the content of the cognitive dimensions used. Such an approach has ignored the structural organization of such cognitive dimensions. This study used the repertory grid to explore the structural correlates of the impression formation process. Forty nine first year university students completed repertory grids based upon well known and newly met acquaintances. Consistent with theoretical expectation, newly met acquaintances were construed with more construct independence, less construct integration, and less meaningfulness than persons who had been known for a longer period of time. Upon retesting 10 weeks later, newly met acquaintances were seen in a more meaningful and integrated manner. Additionally, it was found that subjects had difficulties in applying constructs elicited around well known persons to newly met acquaintances. The implications of these findings for the study of impression formation and repertory grid methodology are discussed.

Researchers have studied extensively how changes in the content of the dimensions used to construe others accompany the process of impression formation. For example, well known persons are more likely to be construed with personality and abstract constructs than are people who are less well known (Fiske & Cox, 1979; Park, 1986). Further, working from a personal construct perspective, Duck (1973) has described

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how, during the early stages of friendship formation, others are construed with constructs concerned with issues such as physical characteristics and social roles. However, as others come to be better known, constructs associated with personality begin to be utilized.

While the changes in construct content that accompany impression formation are well understood, the same cannot be said of the structure of construct systems. This seems to be a considerable gap because structural factors have been found to play an important role in many interpersonal phenomena, including person perception (Leitner & Klion, 1986), interpersonal attraction (Duck, 1972; Neimeyer & Neimeyer, 1983), and marital satisfaction (Neimeyer, 1984).

ASSESSMENT OF CONSTRUCT SYSTEM STRUCTURE

In order to describe the structure of construct systems, personal construct researchers often have utilized three types of measures. The first type assesses the *independence* of construct dimensions. These measures describe the degree to which constructs are used similarly to each other within the system (Adams-Webber, 1979). The use of a relatively large number of independent constructs has been linked to psychological fragmentation and difficulties in being understood by others while the use of a limited number of dimensions has been associated with an inability to understand the world in a complex manner (Adams-Webber, 1979; Landfield, 1977).

A second type of measure assesses the level of *integration* within the construct system (Landfield, 1977; Landfield & Cannell, 1988; Landfield & Schmittiel, 1983). Integration represents the individual's ability to organize construing at a superordinate level. It is especially important that integration accompany high levels of construct independence. A high level of construct independence coupled with a high level of construct integration has been related to interpersonal empathy; however, a high level of construct independence lacking in integration is associated with a fragmented and schizophrenic construction of the world (Klion, 1988; Landfield, 1977).

The third set of measures is concerned with the *meaningfulness* of constructs and persons within the subject's world (Bonarius, 1977). Constructs elicited from subjects are described as more personally relevant and used more meaningfully than constructs provided by experimenters (Bonarius, 1977; Landfield, 1977; O'Donovan, 1965). Further, individuals respond more extremely to people who are particularly salient to them. For example, persons who provoke strong emotions in others (i.e., hate or love) are construed more meaningfully than those who do not (Leitner & Klion, 1986).

IMPRESSION FORMATION AND STRUCTURAL CHANGE

By considering this structural approach to the assessment of construct systems, several hypotheses can be generated regarding the structural changes expected to

accompany impression formation. First, it is predicted that, as people become better known, the constructs used to understand them will be applied with greater similarity (i.e., less independence). Since construct similarity has been found to increase as one's knowledge about a particular domain increases (Bodden & James, 1976), it is expected that the degree of construct independence will decrease as others become better known.

While many people may find this first hypothesis to be counterintuitive as greater familiarity should lead to greater complexity in understanding others, it should be kept in mind that construct independence *alone* does not equate to complexity in understanding others. Rather, as discussed above, high levels of construct independence absent construct system integration is associated with a fragmented, confused, non-complex understanding of the world; true complexity must be understood as involving construct system integration. Thus, the second hypothesis is that, as people become better known, the constructs used to understand them will become more integrated. This prediction is based upon Landfield's (1977, 1980s) argument that highly integrated construct systems are well organized at a superordinate level. Since abstract and superordinate constructs are used with greater frequency as people become better known (e.g., Duck, 1973, 1977, 1985; Park, 1986), an increase in hierarchical organization is likely to accompany the process of impression formation.

Finally, it is hypothesized that others will come to be construed more meaningfully as they become better known. This prediction is based upon the premise that subjects know little about new acquaintances. As a result, such new acquaintances do not serve as validators of constructs important to the perceiver (Duck, 1973, 1977, 1985) and, therefore, are not viewed as being particularly meaningful figures.

These hypotheses will be examined both cross-sectionally and longitudinally. Cross-sectional data will be derived by comparing the construct organization of new acquaintances with that of persons who are better known. Longitudinal data will be gathered by measuring changes in the construction of new acquaintances as they become better known.

METHOD

PROCEDURE

Initial session During the first week of the Fall semester, 53 first year university students were recruited from introductory psychology classes. They were asked to participate in a two part study; the first part was completed during the first week of class and the second part 10 weeks later.

Participants were asked to nominate 10 peers who they knew well before coming to college (Old Targets - OT) and 10 fellow students who they had just met upon arriving at college and expected to know better as the year progressed (New Targets - NT).

Using Landfield's (1971, 1977) modifications of Kelly's (1955) Role Construct Repertory Grid, subjects elicited one construct for each of these 20 people. Specifically, the participant was asked to describe an important characteristic of each target person and the opposite of that characteristic. For example, a target person may have been described as "kind" with its opposite being "mean."

Alternating between OT and NT, each subject produced 10 constructs based upon OT (Old target Constructs - OTC) and 10 constructs based upon NT (New target Constructs - NTC), one for each target person. Subjects then rated each person upon the 20 different constructs using 13-point scales that ranged from -6 to +6 with 0 as a midpoint. Ratings of OT and NT were alternated. Finally, subjects rated how well they knew each person on a 13-point scale ranging from "do not know person at all" to "know person very well." At the end of the session, each subject made an appointment to return 10 weeks later.

Second session A week before the second session, subjects were mailed a note reminding them of their appointments. Forty nine of the original 53 subjects returned for the second testing session. At this time, subjects were given the list of 20 persons they had nominated during the first part of the study. Since it is expected that people alter their construing over time (Kelly, 1955), new constructs were elected at the second session. This procedure allowed for the testing of the structural hypotheses using those constructs currently relevant to subjects. Thus, subjects elicited a construct for each stimulus person and then rated each person on the 20 newly elicited constructs as they *presently* saw him or her using 13-point scales. Subjects also re-rated how well they felt they presently knew each person.

REPERTORY GRID MEASURES

Each subject completed a 20 x 20 repertory grid during each session. Each of these 20 x 20 grids was divided into four separate 10 x 10 grids in order to explore independently the impact upon construing of type of stimulus person (OT vs. NT) and the source of construct (OTC vs. NTC) (i.e., OT rated on OTC, OT rated on NTC, NT rated on OTC, NT rated on NTC). Each 10 x 10 repertory grid was analyzed with Landfield's (1983) Repertory Grid Scoring Program as it is commonly used to derive measures of construct independence, construct system integration, and meaningfulness.

Construct independence. Construct independence was assessed with Landfield's (1971, 1977; Landfield & Cannell, 1988) measure of Functionally Independent Construction (FIC). This measure is based upon an analysis of pairwise similarity in construct application. Ratings made upon each construct are collapsed into a binary scale where only the sidedness of a rating is considered. Pairwise comparisons are

made among constructs, and a count is made of both the number of positive similarities (the frequency with which the same side of the two constructs is used) and negative similarities (the frequency with which opposing sides of the two constructs are used). The number of concordant 0 (midpoint) ratings is added to the greater of the positive or negative relationship counts. If either the total positive or negative similarity is greater than a specified criterion level (in the present study, 90%), the two constructs are considered to be functionally equivalent. This pairwise analysis is used to determine which constructs are interrelated and form clusters. The number of independent construct clusters identified is the FIC score for constructs. This analysis then is used to assess the clustering of persons. Thus, on a 10 x 10 grid, total FIC can range from 2 to 20.

Construct integration Construct system integration was measured with Landfield & Schmittiel's (1983) chi-square measure. This measure is based upon the assumption that the greater the number of discriminations an individual can make, the greater the superordinate organization that exists within the construct system. Superordinate organization has been linked to the person's ability to integrate diverse experiences (Landfield, 1977). The chi-square measure is derived by calculating the degree to which an individual's ratings deviate from the theoretical ideal of an equal number of elements placed on each scale point. Thus, the lower the chi-square score, the greater the amount of ordination present in the construct system. On a 10 x 10 grid, the total chi-square score can range from approximately 24 to 1200.

Meaningfulness Meaningfulness was assessed with Bonarius' (1977) measure whereby the more extreme a rating, the more meaningful a role that figure is assumed to have within the construct system. The meaningfulness of the constructs and persons was calculated by adding the absolute values of all ratings on a grid. This measure can range from 0 (a 0 rating on each of the 10 constructs for all 10 people) to 600 (a 6 or -6 rating on each of the 10 constructs for all 10 people).

RESULTS

MANIPULATION CHECK

As a manipulation check, a 2 x 2 repeated measures ANOVA (Session x Target) was conducted upon the subjects' ratings of how well they judged themselves to know each of the nominated target persons. Cell means for these ratings were: Session 1 OT = 101.3, Session 2 OT = 94.6, Session 1 NT = 55.3, Session 2 NT = 79.0. (For this and all following analyses, only data for the 49 subjects who completed the experiment are included.) Main effects for both Session, $F(1,48) = 33.65$, and Target, $F(1,48) = 444.16$, as well as the Session x Target interaction, $F(1,48) = 107.18$, were statistically

significant ($p < .001$). Further, the simple main effects for Target at both the first session, $F(1,48) = 187.10$, and the second session, $F(1,48) = 29.08$, as well as for both OT, $F(1,48) = 16.21$, and NT, $F(1,48) = 87.27$, were statistically significant beyond the .001 level. The only unexpected finding was that OT were considered to be slightly less well known at the second testing session compared to the first. While not anticipated, such a shift is understandable given the transition involved in moving away from hometown friends. As expected, though, NT are much better known at the second session than at the first session. This clearly indicates that subjects continued and deepened their relationships with NT during the 10 week period between the sessions.

REPERTORY GRID ANALYSIS

Construct independence It was hypothesized that better known persons would be construed with less construct independence (i.e., greater similarity in usage) than new acquaintances. Table 1 summarizes the mean FIC scores that were analyzed with a repeated measures 2 x 2 x 2 ANOVA (Session x Target x Construct). The main effect for Target was statistically significant, $F(1,48) = 9.40$, $p < .01$; this supports the cross sectional test of the hypothesis as better known persons were construed with greater construct similarity than newer acquaintances. However, the longitudinal test of the hypothesis was not supported as the Session x Target interaction was statistically non-significant, $F(1,48) = 0.12$, indicating that the degree of construct similarity with which NT were construed did not decrease over time.

TABLE 1
CONSTRUCT INDEPENDENCE

	<i>OTC</i>	<i>NTC</i>	<i>Mc</i>
<i>OT</i>			
<i>Session 1</i>	6.35	6.53	6.44
<i>Session 2</i>	5.88 (6.11)	6.47 (6.51)	6.17 (6.31)
<i>NT</i>			
<i>Session 1</i>	8.47	7.12	7.80
<i>Session 2</i>	7.10 (7.79)	7.57 (7.35)	7.34 (7.57)
<i>Mt</i>			
<i>Session 1</i>	7.41	6.83	7.12
<i>Session 2</i>	6.49 (6.95)	7.02 (6.93)	6.78

Note: OT = Old targets. NT = New Targets. OTC = Old target Constructs. NTC = New Target Constructs. Mc = Mean across OTC and NTC. Mt = Mean across OT and NT. Cell means are within parentheses.

In addition, the Target x Construct interaction approached statistical significance, $F(1,48) = 3.79, p < .06$. Thus, people may be construed in the most organized manner upon those constructs elicited around them (i.e., OT on OTC and NT on NTC). The Session x Construct interaction also was statistically significant, $F(1,48) = 6.87, p < .01$. Analysis of the simple main effects indicated that subjects were better able to organize their construing on OTC during the second session than during the first, $F(1,48) = 9.52, p < .01$, while there was no change in the amount of organization imposed upon NTC between the sessions, $F(1,48) = 0.42$. The main effects for Session, Construct, as well as the Session x Target x Construct interaction all were statistically non-significant, F 's(1,48) = 1.05, 0.01, and 2.75, respectively.

Construct integration The second hypothesis stated that persons who are well known would be seen in a more integrated manner than newer acquaintances. The mean chi square integration scores can be found in Table 2 and were analyzed with a repeated measures 2 x 2 x 2 ANOVA. The main effect for Target was statistically significant, $F(1,48) = 9.22, p < .01$; this supported the cross sectional test of the hypothesis as OT were construed in a more integrated fashion than NT. Further, the Session x Target interaction provided longitudinal support for the same hypothesis, $F(1,48) = 14.07, p < .001$. Analysis of the simple main effects indicated an increase in integration for NT between Session 1 and Session 2, $F(1,48) = 45.90, p < .001$, but no such change for OT, $F(1,48) = 1.15, ns$.

TABLE 2
CONSTRUCT INTEGRATION

	<i>OTC</i>	<i>NTC</i>	<i>Mc</i>
<i>OT</i>			
<i>Session 1</i>	233.2	220.8	227.0
<i>Session 2</i>	214.6 (223.9)	222.5 (221.7)	218.6 (222.8)
<i>NT</i>			
<i>Session 1</i>	320.4	259.0	289.7
<i>Session 2</i>	252.8 (286.6)	219.9 (239.5)	236.4 (263.0)
<i>Mt</i>			
<i>Session 1</i>	276.8	239.9	258.4
<i>Session 2</i>	233.7 (255.3)	221.2 (230.6)	227.5

Note: OT = Old targets. NT = New Targets. OTC = Old Target Constructs. NTC = New Target Constructs. Mc = Mean across OTC and NTC. Mt = Mean across OT and NT Cell means are within parentheses. Scores are inversely related to the degree of construct integration utilized.

The target x Construct interaction was statistically significant, $F(1,48) = 19.26$, $p < .001$. Analysis of the simple main effects indicated that the type of construct used had an effect for the construing of NT but not OT, $F_s(1,48) = 31.17$, $p < .001$ and 0.07, *ns*, respectively. In other words, the type of construct had little impact upon the construction of OT while NT were construed in a more integrated manner upon those constructs elicited specifically around them. There also was a trend for a Session x Construct interaction, $F(1,48) = 3.51$, $p < .07$. Further, the main effect for Session was statistically significant, $F(1,48) = 9.71$, $p < .01$, as well as the main effect for construct, $F(1,48) = 16.24$, $p < .001$. The Session x Target x Construct interaction was statistically nonsignificant, $F(1,48) = 0.16$.

Meaningfulness It was hypothesized that better known persons would be construed in a more meaningful manner than new acquaintances. These data, summarized in Table 3, were analyzed by means of a repeated measures 2 x 2 x 2 ANOVA.

TABLE 3
MEANINGFULNESS

	<i>OTC</i>	<i>NTC</i>	<i>Mc</i>
<i>OT</i>			
<i>Session 1</i>	386.2	378.0	382.1
<i>Session 2</i>	391.1	371.1	381.1
	(388.6)	(374.6)	(381.6)
<i>NT</i>			
<i>Session 1</i>	304.7	342.7	323.7
<i>Session 2</i>	330.0	247.3	338.7
	(317.4)	(345.0)	(331.2)
<i>Mt</i>			
<i>Session 1</i>	345.5	360.4	352.9
<i>Session 2</i>	360.6	359.2	359.9
	(353.0)	(359.8)	

Note: OT = Old targets. NT = New Targets. OTC = Old Target Constructs. NTC = New Target Constructs. Mc = Mean across OTC and NTC. Mt = Mean across OT and NT. Cell means are within parentheses.

Cross sectional support for the hypothesis can be found in the main effect for Target, $F(1,48) = 56.74$, $p < .001$, as better known persons were construed more meaningfully than newly met acquaintances. Longitudinal support for the same hypothesis can be found in the Session x Target interaction, $F(1,48) = 4.66$, $p < .05$. The simple main effect for Session was statistically significant for NT, $F(1,48) = 12.72$

$p < .01$, but not OT, $F(1,48) = 0.06$. Thus, NT were construed more meaningfully as they became better known while there was no change for the persons who had been well known at the time of first testing.

The Target x Construct interaction was statistically significant, $F(1,48) = 112.69$, $p < .001$. The simple main effects were statistically significant for both OT and NT, $F_s(1,48) = 20.74$ and 79.73 , respectively, as well as for both OTC and NTC, $F_s(1,48) = 531.56$ and 91.64 , respectively, all at the .001 confidence level. This indicates that OT are construed more meaningfully on OTC and that NT are more meaningfully construed on NTC.

Further, the Session x Target interaction was statistically significant, $F(1,48) = 9.00$, $p < .01$. As might be inferred from the table, the simple main effect for Construct at Session 1 was statistically significant, $F(1,48) = 19.80$, $p < .01$, while at Session 2 it was not, $F(1,48) = 0.17$, *ns*. This indicates that, during the first session, OTC could not be used as meaningfully as NTC but, by the second session, OTC became equally meaningful as NTC.

Additionally, the main effect for Session was statistically non-significant, $F(1,48) = 1.33$, while the main effect for Construct, $F(1,48) = 5.23$, $p < .05$, was statistically significant. The statistically significant main effect should be interpreted in the context of the Target x Construct and Session x Construct interactions discussed above. The three way interaction was statistically non-significant, $F(1,48) = 1.28$.

DISCUSSION

To recapitulate, this study provided both cross sectional and longitudinal tests of several hypotheses concerning structural differences in the construction of newly met as opposed to better known persons. According to cross sectional data, well known individuals are perceived with greater similarity in construct usage and higher levels of construct integration and meaningfulness than persons who have just been met. These results are consistent with theoretical predictions. Further, as newly met acquaintances become better known, they are construed in an increasingly integrated and meaningful manner. However, the longitudinal data were not consistent with the hypothesis that newly met acquaintances would be construed with greater construct similarity as they became better known.

This negative finding contrasts with the cross sectional data that clearly show that well known persons are construed with lower levels of construct independence than people who have been newly met. It is likely that, with sufficient time, constructs used to subsume newly met acquaintances would have come to be used more similarly. It is quite possible that the 10 week period was too short for this to occur. Future research

should examine when in the impression formation process construct independence begins to decrease.

It also is important to consider the Target x Construct interactions found in this study. The organization of construing appears to be dependent upon both the “type” of person construed and the “source” of the construct utilized. For instance, newly met acquaintances were construed in a more integrated and meaningful manner when perceived with constructs elicited around them than when they were perceived with constructs elicited around well known targets. There also was a strong trend ($p < .06$) in this direction for the construct independence variable.

Such findings highlight the need for researchers to be cognizant of potential limitations in the range of applicability of interpersonal constructs. For example, it appears that the constructs used to construe relatively intimate friends are not used in the same way structurally when they are applied to recent acquaintances. Thus, the constructs used to understand intimates may not be particularly relevant in the context of new relationships. This is consistent with research documenting how the content of construct systems changes as a function of friendship formation.

As a result, it seems important that researchers attend to the potential relevance of a set of constructs to the target persons they request subjects to describe. As Adams-Webber (1979) and Bonarius (1977) point out, it is vital that the interaction between construct and element be considered. To simply ask subjects to rate persons upon some general set of dimensions that may be neither specific to the context of the relationship (e.g., newly met acquaintances versus well known intimates) nor elicited around the targets in question likely will be unable to provide an accurate picture of how subjects actually construe others outside the realm of the laboratory.

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