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ABSTRACT

The psychology of personality has always attempted to define the individual in relation to normative data. However, personality theory should be attempting to define individuals from an interactive measurement model, examining the individual in terms of his own subjective impressions about what he does, with a conception of what he does not do. Using a dialectical model, the reasoning process by which individuals formulate and express subjective judgments about personality can be studied. In interactive measurement the focus is on the nature of the psychological process that generates a particular response rather than on the individual's response, per se. The subjective judgment process can be formally represented by an equation (given in the text) which allows the researcher to quantify the subjective judgment into a given value on a + 1.00 range, representing the subject's covert judgment about a particular construct. In discerning the nature of the context for the judgment, dialectical reasoning comes into play. In making the subjective judgment the individual's mind defines the judgment's polar negations and warrants a judgment about them, thus defining the context for the judgment. Empirical research designed to test the interactive measurement model and dialectical reasoning found that, for the majority of subjects, the dialectical model was superior in defining the judgment process. (An exercise illustrating the model and implications for personality theory are included.) (BL)

Dialectical Reasoning and Subjective Impressions of Personality

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A little over two years ago, I contributed an article to the American Psychologist in which I argued that the individual differences research paradigm is fundamentally ill-suited to theoretically based inquiry in the psychology of personality. The reason, in a nutshell, is that while personality theory takes as its focus the individual, individual differences research takes as its focus the spaces between individuals. Consequently, theory and research in this field continue to pass each other in the night, as it were.

In the second half of my article, I outlined an alternative to the individual differences paradigm which, for lack of a better label, I called "idiothetic." As the methodological basis for this alternative paradigm, a formal rationale for what Raymond Cattell (1944) termed interactive measurement was proposed, consistent

with the theoretical notion that scientifically meaningful characterizations of an individual can be achieved by contrasting information about what s/he does with a conception of what s/he does not do. This measurement rationale is quite different from that underlying the traditional individual differences conception of personality, whereby empirically based characterizations of individuals are derived -- in those rare instances when they can legitimately be said to be derived at all -- on a normative basis, i.e., by contrasting information about what one person does with information about what others do (group norms).

In one of the earlier versions of my article that was submitted for publication, I made a tentative effort to discuss what I sensed was a compatibility between what I was proposing and the writings of certain other personality and social psychologists who were emphasizing the concept of dialectic in their work. Perhaps partly for reasons alluded to earlier by Professor Rychlak, and partly as a result of haziness in my own thinking and writing, reviewers of my submission saw little merit in that particular section of my discussion, and urged that it be deleted prior to publication. Being unable at that time to clearly articulate a defense of the position I had taken, I eventually agreed with the review-

ers, and the discussion of dialectic was dropped from the published version.

Nevertheless, the dim idea that I was struggling with at that time continued to intrigue me. As it happened, it was while I was preparing a lecture for my Theories of Personality class, based on Professor Rychlak's Introduction to Personality and Psychotherapy, that a certain clarity began to emerge for me. In the first chapter of that book, Professor Rychlak discusses the distinction between demonstrative and dialectical meaning construction. He notes that the former refers to a process whereby the poles of a construct are joined together from two or more independent and empirically instantiated points of reference. In contrast, he notes, dialectical meaning construction involves a process whereby the poles of a construct are pulled apart from some common core. He goes on to point out that dialectically framed meanings "have the characteristics of oppositionality, duality, and even contradiction" (p. 8).

Placing my own work within the context of these ideas was, in the end, a matter of realizing that the logic of the interactive measurement model I had proposed in my American Psychologist article conformed to Professor Rychlak's description of dialectical reasoning, and that the logic under-

lying the normative and ipsative measurement models with which most of us are more familiar is inherently demonstrative in nature. Not only did this realization enable me to see more clearly why my proposal was compatible with the concept of dialectic, but it also suggested to me a viable methodological approach to the study of a theoretically important issue.

Specifically, if it is true that the subjects of our inquiry -- no less than we ourselves -- can and do reason dialectically, and if the logic underlying the model for personality measurement that I had proposed could indeed be regarded as dialectical in nature, then it should be possible to use that model as a formal representation of the reasoning process by which lay persons formulate and express their own subjective judgments about personality. To the extent that predicted personality ratings derived non-actuarially on this basis more closely approximated subjects' actual ratings than did predicted ratings derived on some other, non-dialectical basis, one would have rather strong evidence for dialectical reasoning on the part of the subjects themselves.

In effect, what I have said thus far provides you with the rationale for my major research efforts in the time since my American Psychologist article appeared. In the limited time

allotted to me today, I cannot hope to provide you with a detailed account of the methods and findings of my research. I would, however, like to at least acquaint you with the major features of that research, and with my own thoughts on the implications of my findings not only for personality theory in particular, but for psychological theory more broadly defined.

To this end, I would like to share with you a simple little exercise that I have often used for illustrative purposes with other colleagues and with students. While it greatly oversimplifies the research I have actually been conducting, it does highlight the critical features of the work in a way that seems to be reasonably intelligible. You may or may not wish to work through the exercise yourself as we go along.

On the first page of the handout that I prepared for this presentation, you can find listed 11 activities, after each of which appears either a "yes" or a "no." This protocol is adapted from one that I obtained when I conducted my doctoral dissertation research on human judgment and adolescent deviance in the community. The respondent in this case is female, and when these data were collected, in 1976,

she was enrolled as a sophomore at Phillipsburg High School in Phillipsburg, Kansas. It is not irrelevant to point out here that Phillipsburg was and remains a farming community of about 2,000, situated roughly halfway between Kansas City, Missouri, and Denver, Colorado.

When I use this exercise, I typically instruct the participants as follows: "Imagine yourself as the parent or guardian of this girl I will call "Joan," that the year is 1976, and that you are situated with your family in Phillipsburg, Kansas. With this in mind, I would like you to consider the information in the behavior protocol shown in the handout as veridical information about Joan's activity pattern over the previous two weeks (there is nothing magic about this time interval). Then, as the parent or adult guardian of Joan, I would like you to judge her behavior pattern for yourself, along a dimension ranging from "rebellious" to "compliant." You would indicate your judgment by circling one of the numbers on the rating scale shown."

Using these instructions, I have found that the vast majority of those who participate in this exercise respond by encircling the number .8. But no matter what number is circled, the question of interest to me is: Why? How is it that of the 11 numbers on the response scale that I provide,

a person selects the particular one that s/he does as an overt, behavioral expression of a covertly framed judgment?

I should perhaps slip in a reminder at this point that neither here nor in my actual research is my overriding concern with rating behavior per se. Ultimately, which is to say theoretically, I don't really care what rating a subject makes, and I rather suspect that you don't either. What I do care about is the nature of the psychological process by which the rating is generated, for it is in this process where one finds important theoretical implications.

My approach to this problem begins with the assumption that the subjective judgment process is, in its initial stages, directly analogous to the procedure by which psychometricians generate "raw" assessments of persons with respect to underlying attributes of behavior. In several different articles, I have pointed out that this procedure can be formally represented by Equation (1) on the second page of your handout:

$$S_{pao} = \sum_{i=1}^{m} f (V_{pio})(R_{iao}) \qquad (1)$$

where

S_{pao} represents the "raw" score assigned to person p on occasion o to index his/her manifestation of some underlying attribute a of a set of m empirical observations,

V_{pio} is one of m variables in terms of which the empirical observations about person p on occasion o are defined or recorded, and

R_{iao} is one of m "relevance values" indicating the degree to which the recording made on a given V on occasion o is presumed to reflect or indicate the underlying attribute a.

In words, Equation (1) simply states that in formal personality assessment, a "raw" score (S) is assigned to person p on occasion o in such a way as to index his/her manifestation of attribute a as some function (traditionally additive) of m empirical statements about person p (symbolized V in Equation 1), each of which is weighted by its presumed relevance to attribute a (symbolized R in Equation 1).

Given this equation, and bearing in mind the analogy suggested above, a formal representation of the subjective judgment process can be achieved by Equation (1a), which also appears on the second page of the handout:

$$J_{tao} = \sum_{i=1}^{m} (V_{tio})(R_{iao}) \qquad (1a)$$

where

J_{tao} represents the covert judgment that a person makes of target t with respect to attribute a on occasion o,

V_{tio} represents one of m items of information given to the person about the target's behavior pattern, and

R_{iao} is one of m subjective "relevance values" reflecting the person's own views concerning the degree to which a particular V_i pertains to some underlying attribute a.

It should be apparent that Equation (1a) is formally identical to Equation (1). The symbol J and the subscript t in Equation (1a) are merely intended to remind us that we are here seeking to represent the judgment (J) that a person makes of a target t, such as "Joan" in our little exercise.

To illustrate the use of these equations, I arbitrarily code as zero (0) all of the "no" items in "Joan's" activity protocol, and as one (1) all of the "yes" items. I have done this on page 3 of the handout. The numerical codes, the 1's and 0's, shown there thus define the (V) component of the equation. And for the purposes of my illustration, I define the "relevance value" of each of the 11 activities with respect to the dimension rebellious vs. compliant as also shown on page 3. These values are the ones actually obtained in my dissertation research, using a multidimensional scaling procedure the details of which need not concern us here. It is sufficient merely to point out that these values are defined on a scale ranging from -1.00 to +1.00, and constitute the (R) component of the equation. With this in mind, and assuming the traditional additive integration function, an application of Equation (1) to "Joan's" activity protocol yields an (S) value of .61.

Of course, this value is not interpretable in and of it-

self. That is, knowing only that "Joan" has been assigned a "raw" score of .61, no psychometrician would be willing to specify her location on the dimension rebellious vs. compliant. In order to achieve such a specification, the psychometrician would insist, the value .61 must be placed into some sort of context.

Continuing with the analogy I have suggested by juxtaposing Equations (1) and (1a), it should be obvious that one who is requested to render a subjective judgment of "Joan's" activity protocol faces the same problem as the psychometrician. More concretely, by analogy to the S value of Equation (1), we can use the value .61 to represent the J value of Equation (1a). As such, .61 constitutes an empirical representation of a person's covert judgment of "Joan's" activity protocol, and we must assume that the response scale rating that the person eventually produces constitutes an overt expression of the meaning of that subjective judgment. The question, therefore, is: What is the nature of the context within which the person discerns the meaning of his/her own subjective judgment? It is here where, in my own theoretical view, the concept of dialectical reasoning comes into play.

Contrary to the view that is implicit throughout the extant literature on intuitive personology, I do not believe that the context for subjective judgments of this sort is

routinely constituted of knowledge about population norms gained from prior experience. Instead, I believe that the most fundamental and perhaps the most commonly employed construct for such judgments is generated dialectically, that is, by a process of mentally negating the information that is to be judged, without concern for whether or not the ideas thus generated are or have ever been instantiated in prior experience. This is precisely the logic that underlies interactive measurement.

In presenting a respondent with "Joan's" behavior protocol, and asking him/her to decide how rebellious or compliant it is, I believe that it is the most natural thing in the world for one to begin considering how rebellious and compliant the protocol is not but might have been given (a) the items of information on which the judgment is to be based, and (b) one's construal thereof with respect to the attribute rebellious vs. compliant. I believe that in this way, images are generated about what "Joan's" protocol would have had to look like, in terms of the pattern of yeses and nos, in order to warrant a judgment of extreme rebelliousness on the one hand, and a judgment of extreme compliance on the other. It is those latter judgments, I would suggest, that provide the reference points -- the context -- in terms of which to frame

a meaningful judgment of the protocol that is in fact presented.

In this view, therefore, a single behavior protocol gives rise not to one judgment but to three: a judgment about the protocol itself and judgments about its polar negations, split apart from their common core along the attribute dimension in question. This theoretical view leads to the prediction that in making his/her rating, the participant in this little exercise does so in such a way that the physical pattern defined by the location of the rating relative to the endpoints of the scale expresses a psychological pattern defined by a covert judgment of the presented protocol relative to covert judgments of its polar negations. I strongly suspect that whatever ideas the rater may have, as a result of prior experiences, about population norms often play no part at all in the judgment/rating process.

For reasons already explained, I have sought to submit these theoretical speculations to empirical scrutiny by formally representing the dialectical reasoning process just described in terms of the interactive measurement model given by Equation (2) on the fourth page of the handout:

$$D_{tao} = \frac{J_{tao} - J'_{tao\ min}}{J'_{tao\ max} - J'_{tao\ min}} \qquad (2)$$

where

D_{tao} represents the dialectically framed judgment of target t with respect to attribute a on occasion o,

J_{tao} is defined as in Equation (1a), and

$J'_{tao\ max}$ and $J'_{tao\ min}$ refer, respectively, to the judgments of polar negations of target t's protocol under the constraints imposed by the V_{tio}s, R_{iao}s, and integration function of Equation (1a).

Let us apply this model within the framework of our little exercise, and see where it leads.

Given the V and R components of Equation (1a) as defined for purposes of this exercise (p. 3 of the handout), it can be seen that the value of J'_{max}, the most extreme possible score in the direction of compliance, would have been obtained had Joan responded "yes" for all of the items with positive relevance values and "no" for all of the items with negative

relevance values. Applying Equation (1a) to such a hypothetical protocol, one obtains the value +1.20.

Had "Joan's" protocol assumed a pattern exactly opposite the one just described, i.e., a pattern of "yes" responses to all items with negative relevance values and "no" responses to all items with positive relevance values, the value of J'_{min}, the most extreme possible score in the direction of rebelliousness, would have been obtained. Applying Equation (1a) to this hypothetical protocol yields a value of -1.78. Bearing in mind that the computed J value for the protocol "Joan" did in fact provide was .61, the simple arithmetic of Equation (2) yields a D value of .802.

Now I think that the reason that so many of the people with whom I have previously conducted my little exercise have responded with a rating of .8 on a 0.00 to 1.00 scale is that Equation (2) happens to be a rather accurate formal representation of the judgment process involved. Consequently, so long as their subjective relevance values can, by virtue of the instructions I give them, be brought into line with those I actually obtained in Phillipsburg, Kansas some 8 years ago, and which were used to carry out the above computations, the location .8 on the rating scale relative to the physical endpoints of that scale would indeed reflect their subjective judgments of the activity protocol I present them with relative to polar negations of that protocol to which they reason

on their own, dialectically. So, by the behavioral response ".8," the subject is not saying "I judge this person to be highly compliant relative to others." Instead, the subject is saying -- i.e., meaning -- "I judge this person to be highly compliant relative to how I would have judged her had her behavior protocol assumed certain patterns other than the one shown."

Of course, a casual exercise such as this would not pass muster as a scientific investigation, which is precisely why I have been pursuing more systematic research along these lines. In the most recent of these efforts, each of 40 college student subjects, studied individually, was presented with stimulus protocols describing the self-reported behavior patterns of 31 targets, one of whom was the subject him/herself. After determining, on an individual basis, the subjective relevance values of Equation (1a), I was able to use that equation in the manner illustrated earlier, and in that way derive quantitative estimates of each subject's covert judgments of each of the 31 targets along each of three attribute dimensions specified by the subject.

By applying Equation (2) in your handout to these quantitative estimates, I was able to generate, nonactuarially, point

predictions for where each subject would literally mark a zero-to-11 response scale in any given instance, under the theoretical assumption that his/her reasoning process conformed to the dialectical logic on which interactive measurement is based. The accuracy of these predicted ratings was then evaluated against the subject's actual ratings, using the index of profile dissimilarity recommended by Cronbach and Gleser (1953). These profile dissimilarity values were in turn compared with those obtained when predicted ratings were generated under the assumption that the subjective judgment process conforms to the normative (and nondialectical) logic of the measurement operations on which the traditional individual differences conception of personality is based. In the interest of thoroughness, two different versions of the normative model were represented, referred to on page 5 of the handout as the "normal curve" and "z-score" versions, respectively.

As mentioned previously, time restrictions preclude me from presenting all of my findings to you in detail. On page 5 of the handout, however, I have provided a concise summary of the results. As you can see, a normative model of the judgment process proved more valid for only one of my 40 subjects. For anywhere from six to 14 subjects, depending on what

comparison you choose to focus on), the analyses failed to reveal a statistically significant difference one way or the other. For all of the remaining subjects, the dialectical model was manifestly superior. I view these findings as strong empirical support for the theoretical speculations I was sharing with you earlier concerning the dialectical nature of the subjective judgment process.

What significance could there possibly be in all of this for psychological theory? Well, for those who happen to be specifically interested in intuitive personology, the evidence suggests that subjective conceptions of personality are not rooted in the logic of the individual differences framework on which we "objective" researchers of personality have so long and so mistakenly relied. For reasons that I do not have time to go into here, the assessment and study of individual differences turns out to be a terrible way of trying to accomplish anything of critical relevance to personality theory. Thus, I would contend that an understanding of how lay persons think about personality is not only interesting in its own right, but important for the clues it provides as to how we as investigators might profitably re-orient the way we think about personality.

Beyond all of this, however, I think that empirical findings such as those I have been discussing say something rather important about the image of humanity that we as psychologists wittingly or otherwise foster. In concluding this talk, I would like to try to convey some sense of what I have in mind here by sharing with you an anecdote tied directly to the research I have been discussing.

About four months ago, I received some personal correspondence from a colleague at another university who questioned me about the theoretical necessity of concerning myself with the concept of dialectical reasoning, and my attendant focus on the subject's perception and construal of alternative possibilities as a way of framing the meaning of his/her own and others' behaviors. Seeking to bolster his own argument by analogy to the physical sciences, he wrote:

"In developing theories about the origin of the universe, the expansion of galaxies from each other, and so on, do we need to talk about alternative possibilities for action? Do we need to understand the interpretation a planet places on its trajectory and velocity? That is, it seems that we can go quite far, both theoretically and empirically, with observer (i.e., investigator) based information."

I replied to my correspondent as follows:

"I am continually astounded by psychologists' penchant for analogizing the subjects of their inquiry -- people -- to the subjects of inquiry in physical science, rather than to the inquirers in physical science. And as to what might emerge were we, as a discipline, more sympathetic to the latter -- and surely more apt -- analogy, I would be hard pressed to come up with anything better than a passage in William Barrett's book entitled The Illusion of Technique."

I continued:

"Since you suggested the analogy of planets, galaxies, etc., consider what Barrett has to say about, of all people, Galileo! Note (I said) that the focus here is not on Galileo's discoveries per se, but on the kind of thinking that gave rise to those discoveries."

I then quoted to my correspondent the relevant passage from Barrett's book, the important part of which runs as follows:

"The chief theoretical part of the new science was to be mechanics -- indeed, it was to continue as the central part of physics until the end of the nineteenth century -- and to establish mechanics mathematically, it was necessary to have a decisive and clear-cut concept of inertia as a fundamental characteristic of moving bodies. What does Galileo do? He does not turn to the 'irreducible and stubborn' facts; rather, he sets up a concept that could never be realized in actual fact. Imagine, he says, a perfectly smooth and frictionless plane; set a ball rolling upon this plane, and it will roll on to infinity unless another body and force interpose to stop it. Well, experience never pre-

sents us with perfectly frictionless surfaces nor with planes infinite in extension. No matter; these conditions supply us with a concept of inertia more fruitful for theory than any that would be yielded by the 'irreducible and stubborn' facts themselves.

"Rationalism does not surrender itself here to the brute facts. Rather, it sets itself over the facts in their haphazard sequence; it takes the audacious step of positing conditions contrary to fact, and it proceeds to measure the facts in the light of these contrafactual conditions. Reason becomes legislative of experience -- this was the decisive point that Kant's genius perceived as the real revolution of the new science and that he, consequently, proclaimed should become the revolution within future philosophy" (emphasis added; this quote appears on pp. 200-201 of Barrett's book).

In citing this quotation, the point that I was trying to draw to the attention of my correspondent was the notion of the scientist (a) reasoning away from what is "out there" in the world of "facts" or "observations," and then (b) proceeding to make sense out of -- i.e., measure or give meaning to -- what is "out there" with reference to ideas about what is not

"out there."

The research that I have been discussing today can be seen as a systematic attempt to discover that little bit of Galileo in subjects that my correspondent would so readily study as if they were planets. For like Galileo -- but quite unlike the objects Galileo studied -- the subjects in my silly little rating experiments seem to reason away, dialectically, from the activity protocols I do present them with to ideas about activity protocols I do not present them with, and they proceed to "measure" or give meaning to the former with reference to the latter. They seem to be calibrating the "facts" not with reference to other "facts," or to the memory traces thereof, but with reference to contrafactuals that are implicit in the very assertion of the facts, and to which can be reasoned dialectically.

So, when I am finished with all of the equations that I have been burdening you with for the past 20 minutes or so, I simply do not see anything that can aptly be analogized to the planets Galileo studied. Instead, I see in my findings the grounds for analogizing my subjects to Galileo himself. The purely actuarial approaches that continue to dominate the study of personality ratings and many other forms of human behavior do not allow us to see this, and in fact make it more

difficult to see this. That is why it seems so reasonable to so many to study people as if they were planets or information processing machines. It is in this sense that an image of humanity is at stake here, and I think that it is in this context where the most important implications of research on dialectical reasoning and subjective personality impressions are to be found.

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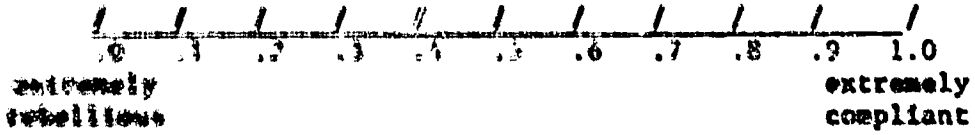
"Jean's" Self-Reported Activity Pattern

1.	Drinking beer/liquor	No
2.	Engaging in premarital sex	No
3.	Studying/reading	Yes
4.	Participating in extracurricular activities	Yes
5.	Engaging in acts of vandalism	No
6.	Doing nothing in particular	Yes
7.	Smoking marijuana	No
8.	Participating in church-related activities	No
9.	Skipping school	No
10.	Shoplifting	No
11.	Participating in volunteer work in the community	Yes



Model of Formal Personality Assessment

$$S_{pao} = \sum_{i=1}^{m} f(V_{pio})(R_{iao}) \qquad (1)$$

where

S_{pao} represents the "raw" score assigned to person p on occasion o to index his/her manifestation of some underlying attribute a of a set of m empirical observations,

V_{pio} is one of m variables in terms of which the empirical observations about person p on occasion o are defined or recorded, and

R_{iao} is one of " "relevance values" indicating the degree to which the recording made on a given V on occasion o is presumed to reflect or indicate the underlying attribute a.

Model of Initial Phase of Subjective Judgment Process

$$J_{tao} = \sum_{i=1}^{m} f(V_{tio})(R_{iao}) \qquad (1a)$$

where

J_{tao} represents the covert judgment that a person makes of target t with respect to attribute a on occasion o,

V_{tio} represents one of m items of information given to the person about the target's behavior pattern, and

R_{iao} is one of m subjective "relevance values" reflecting the person's own views concerning the degree to which a particular V pertains to some underlying attribute a.

	Activity	Response	Arbitrary Coding	"Relevance Value" (R*)
1.	Drinking beer/liquor	No	0	-.24
2.	Engaging in premarital sex	No	0	-.20
3.	Studying/reading	Yes	1	.18
4.	Participating in extracurricular activities	Yes	1	.32
5.	Engaging in acts of vandalism	No	0	-.26
6.	Doing nothing in particular	Yes	1	-.23
7.	Smoking marijuana	No	0	-.28
8.	Participating in church-related activities	No	0	.36
9.	Skipping school	No	0	-.28
10.	Shoplifting	No	0	-.29
11.	Participating in volunteer work in community	Yes	1	.34

*The values shown in this column are defined on a scale ranging from -1.00 to +1.00.

An application of Equation (1) to these data yields an S value of +.61.

Interactive/Dialectical Model of Subjective Judgment:

$$D_{tao} = \frac{J_{tao} - J'_{tao\ min}}{J'_{tao\ max} - J'_{tao\ min}} \qquad (2)$$

where

D_{tao} represents the dialectically framed judgment of target t with respect to attribute a on occasion o,

J_{tao} is defined by Equation (1a), and

$J'_{tao\ max}$ and $J'_{tao\ min}$ refer, respectively, to the subjective judgments of polar negations of target t's protocol, under the constraints imposed by the Vs, Rs, and integration function of Equation (1a).

$J_{tao} = .61$

$J'_{tao\ max} = +1.20$

$J'_{tao\ min} = -1.78$

$$D_{tao} = \frac{.61 - (-1.78)}{1.20 - (-1.78)}$$

$$= \frac{2.39}{2.98}$$

$$= .802$$

Sample-wise Summary of Results Obtained by

Lamiell, Foss, Larsen, and Hempel (1983)

	Type of Statistical Evaluation			
	t - test		chi square	
	Version of Normative Model		Version of Normative Model	
	Normal Curve	Z-score	Normal Curve	Z-score
umber of Ss For Whom Interactive Model Yielded Significantly More Accurate Predictions	33	29	28	26
umber of Ss For Whom the Two Models Differed Nonsignificantly In Accuracy of Predictions	6	11	11	14
umber of Subjects For Whom Normative Model Yielded Significantly More Accurate Predictions	1	0	1	0
Total	40	40	40	40