Prediction of Wechsler/PAS Profiles from Observed Behavior

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The author/predictor was introduced to the Personality Assessment System as it was being formed by John Gittinger and by 1960 was working on a project to find non-Wechsler test indicators of PAS variables. One avenue was observing people in naturally occurring situations to draw a PAS profile which could then be compared with the individual's actual Wechsler profile. The general question being addressed was to what extent can observed behavior be characterized by the theory (using the Wechsler tests), and what is the reversibility of that relation. Predicting Wechsler subtest scatter from observed behavior would also constitute a fairly stringent test of the legitimacy of using Wechsler scatter as a measure of personality.

Numerous studies have been done predicting behavior from PAS profiles. Most of these studies are summarized in Winne & Gittinger (1973) and in Krauskopf & Saunders (1994). Operational assessment of personality in the PAS involves the scatter of Wechsler subtests from a weighted average called Normal Level (NL). PAS theory specifies stylistic behaviors that might be expected from patterns of subtests. In the PAS there are three primitive level dimensions, Internalizer-Externalizer (I-E), Regulated-Flexible (R-F), and role Adaptable-role Uniform (A-U) which yield eight primitive types when each corresponding Wechsler scale is dichotomized. Thresholds for dichotomizing are defined with respect to Normal Level (NL), an estimate of general aptitude highly correlated with IQ. Each of the primitive dimensions can be continued or reversed at the basic level, yielding 64 patterns. Further continuation or reversal at the surface (or contact level) yields 512 possible patterns, modified by the Digit Symbol subtest as a moderator variable. Constructing the PAS pattern from observation implies a specific pattern of Wechsler subtests. Inasmuch as there is a connection between the pattern and behavior it should be possible to approach assessment in reverse, that is to predict Wechsler profiles from observed behavior.

This article covers two series of 10 subjects each. The basic adjustment predictions of the first 10 subjects, covering six subtests, were reported at an American Psychological Association Meeting (York, 1963) and were interesting enough to encourage the collection of 10 additional subjects.

Method

Subjects. Subjects were selected on the basis of opportunity for the observer to be in various situations with each subject during the natural course of working or other situations and the willingness of each subject to either take the Wechsler battery or make available a previously taken test after the observations were made. All but three of the subjects were tested by a psychologist other than the observer. After testing, feedback was offered to the subjects.

Of the 20 subjects, 8 were professionals working in 6 different mental health agencies, four were social friends of the observer, 5 were clients of the observer, one was seen in two assessment interviews, and two were never seen by the observer but were assessed from biographical information from a third party. There were 8 males and 12 females, ranging in age from 12 to 46 with a mean of 26.6 years. PAS Normal Levels (NL) ranged from

8 to 18. The sample is not representative of any particular population, or of the distribution of PAS patterns, but it has sufficient spread, including missing patterns, to provide a challenge for the observer.

Procedure. Wechsler profiles were analyzed using NL29 (Winne, 1966; Couchon, 1983; Krauskopf & Saunders, 1994). A PAS profile was constructed by the observer for each subject and compared to the test profile. X2 was used to assess statistical significance.

A retrospective analysis was also undertaken to see if any systematic observer bias could be found.

Results

NL's were predicted within 1 point in 55% of the cases and within 2 points for 95%, which would be within approximately 7 and 13 IQ points respectively. While this result is reasonably accurate, the focus of the study was on the prediction of the direction of deviation of each subtest score from the thresholds established by NL29.

Figure 1 shows two examples of the graphs that were made for each subject. They are for the worst predicted subject and the best predicted subject. PAS NL29 thresholds are indicated by solid, horizontal lines.

Table 1 displays the number of successful predictions for each Wechsler subtest, separately for the 1963 and 1976 subjects.

Overall there were 129 accurate predictions out of 200 ($X2 = 16.8$, $df = 1$, $p < .001$).

The data were also examined by primitive, basic and surface levels and by dimension to identify different levels of accuracy for different parts of the pattern. In this analysis Digit Symbol was not considered since, interpretively, it serves as a modifying variable for the other nine indicators. Table 2 shows accuracy for levels, primitive, basic and surface, within dimensions.

Overall accuracy of predictions was highest for the primitive indicators, closely followed by the basic level, while the surface level was little better than chance. The table separates the instances where both primitive and basic indicators were correctly predicted from those where the functionally equivalent crossovers were correct basic predictions. That is Eu and Ic were both considered basic e predictions at the basic level. Success with both indicators was notably better for the I-E and R-F dimensions than for the A-U dimension. The 70% accuracy at the surface level for the R-F dimension is partly because the R-F surface indicator, Comprehension, is the only one that does not depend on interaction with the lower levels. A high score is always regulated.

Table 3 presents the differential success depending on the compensation aspect of the basic level.

The R-F and A-U results support the PAS assumption that the uncompensated behaviors would be more readily identified while the I-E results support the allied assumption that in some qualities the primitive orientation will show through the compensation. There was no data in this study to estimate whether these marked dimension differences may have been influenced by sample loading, behavioral salience in observation or the mechanics of measurement.

Using directions on the three major dimensions there are 8 possible primitive patterns, 8 at the basic and 8 at the surface level. Predicting at each level 35% were correct at the primitive level, 25% at the basic level and 20% at the surface level. By chance one would expect 12.5% at each level (NB

the base rates for the sample were unknown when the predictions were made). Looking at partial patterns, 75% were correctly predicted on two of three dimensions at the primitive level and the basic level. 55% were correctly predicted on two of three at the surface level. IFA was most often correctly identified and EFA was completely mispredicted.

Considering combined levels and dimensions, two subjects were accurately predicted on all three levels in all three dimensions, 6 subjects were correctly predicted on all three levels in two dimensions.

Influence of observational conditions and observer biases. Prediction accuracy was shown to vary within and between dimensions. Table 4 was designed to identify possible interaction aspects between dimensions, extent of exposure to subjects and sex.

Degree of exposure, and length of time being observed, was rated for each subject as Minimum, Moderate or Extensive. The 100% prediction accuracy for the Minimum exposure subjects on I-E and R-F dimensions seems remarkable since two of the four were predicted from biographical data only. The A-U dimension was better predicted with more extended exposure. This finding is very compatible with Gittinger's definition of the nature of this dimension. It specifies variation in social adaptability and role performance across situations with a simultaneous attributional-impressionistic response from other persons. Thus the greater the extent of observation, the more opportunity to accurately evaluate this unique aspect of behavior.

A persistent systematic error was found on the A-U dimension, without respect to degree of exposure or sex of subject. A was predicted when the subject tested U in 73% (11 of 15) of all A-U primitive and basic errors. This was possibly due to the observer's bias in projecting onto the subjects the role versatility he lacks but admires. A different trend appears in Table 4 where R-F predictive accuracy decreased with greater exposure, for female subjects only. The common error was predicting F when the subjects tested R, accounting for 67% of the errors of prediction for females. This could be interpreted as a bias where the male observer participated in a cultural stereotype of women, since the PAS calls the Flexible person sensitive, insightful, empathic and emotionally expressive. Success on the I-E dimension was least affected by degree of exposure and involved no apparent bias.

Summary Discussion

This exploratory study used the Personality Assessment System to predict Wechsler subtest scatter from observations of behavior in naturally occurring situations. Predictions were made independently of actual test results. Accurate predictions were made in 129 of 200 directional predictions. ** Taken singly, subtest prediction agreement with test results ranged from 55 to 80% on the 9 subtests constituting the main PAS personality profile. The three primitive level indicators averaged 70% as did the three basic level indicators, and the three surface level 60%. The Digit Symbol subtest was 45%, very close to chance. The range of these percentages are within the range of inter-rater reliability levels commonly found in personality studies.

Analysis of levels within dimensions and patterns across dimensions showed prediction success generally decreased with increasing complexity of interaction among variables. A complete profile of all three levels in all three dimensions was accurately predicted for two of the 20 subjects, from 512 possible PAS patterns. (In these two cases Digit Symbol was also correctly predicted.) A major focus was on the basic level which PAS theory defines as the more stable, enduring behavioral dispositions and skills. Correct predictions for two of the three dimensions were

made for 12 subjects involving 6 of the 9 subtests. Primitive and basic characteristics can be observed in spontaneous behaviors. The method of this study cannot confirm the dynamics of development assumed by the theory.

There were differences in accuracy related to the length of time in observational situations. The role Adaptable-role Uniform dimension indicators were better predicted with more extensive exposure. A contrasting trend was found where prediction accuracy decreased with increased exposure on the Regulated-Flexible dimension, for female subjects only.

Two dimension specific errors were identified. Over-prediction of role Adaptability accounted for 73% of the errors on this dimension. This was assumed to be a function of the U observer's projected bias. Prediction of female subjects to be Flexible when they tested Regulated accounted for 50% of all R-F prediction errors. These errors were assumed to be a culturally conditioned observer bias. The I-E dimension was consistently predicted across exposure categories and sex.

Taken together, these results strongly suggest that sufficient clues can be obtained from observation of spontaneous behaviors to identify correctly a substantial portion of the basic level PAS personality pattern.

Further work with different observers and samples is indicated. Of current practical relevance is DuVivier's (1992) application of PAS impressionistic models in educational settings.

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Figure 1

The Best and Worst Predicted Subjects

Deviation	D	A	I	BD	S	C	PA	PC	OA	DS
				Worst Profile (S #5)						
+4										
+3	x		*							
+2				x		*	*	x		
+1						x				
NL	*	x			*			*		
-1			x	x					*	*
-2										
-3		*			x		x			
-4									x	x
				Best Profile (S #1)						
+3										
+2			*			*				
+1	*x		x		x		*			
NL		*x				x		*		
-1				x				x		
-2				*					*x	*
-3										
-4										x

*=predicted
x=actual

Table 1

Successful Predictions by Subtest for each Series of Subjects

Prediction Series	Primitive			Basic			Surface				Total
	D	BD	PA	A	S	PC	I	C	OA	DS	
1963 n=10	8	9	5	7	8	7	6	7	3	4	64 of 100
1976 n=10	8	6	6	8	5	7	5	7	8	5	65 of 100
% n=20	80	75	55	75	65	70	55	70	55	45	64.5

Table 2

PAS Level Indicators Within Dimensions in Percents

Levels	I-E	R-F	A-U	Three Dimension
Primitive	80	75	55	70
Basic Primitive & Basic	60	55	35	50
Cross-over	05	10	35	17
Total	65	65	70	67
Surface Primitive, Basic & Surf.	35	45	25	35
With cross-overs	10	25	25	20
Total	45	70	50	55

Note: As an example of a cross-over at the basic level, an Ic predicted is counted as accurate for an Eu test since both indicate equivalent e type functional behaviors. At the surface level there can be more crossover combinations. For example, Iuc and Ecu are both surface e indicators.

Table 3

The Compensation Factor in Prediction Success
Number of Correct Predictions

	Primitive		Basic	
Dimension	Compensated	Uncompensated	Compensated	Uncompensated
I-E	12 of 14	4 of 6	10 of 14	3 of 6
R-F	2 of 6	13 of 14	3 of 6	10 of 14
A-U	4 of 10	7 of 10	6 of 10	8 of 10
Totals	18 of 30	24 of 30	19 of 30	21 of 30

Note: The table reads, where Primitive was compensated on the test, the primitive indicator was predicted correctly from observation. For basic level cross-overs counted as accurate.

Table 4

Accuracy of Prediction by Exposure and Sex

Dimension/Level		Minimum	Moderate	Extensive
I-E Primitive	M	3 of 3	3 of 3	1 of 2
	F	1 of 1	3 of 5	5 of 6
Basic M		3 of 3	2 of 3	0 of 2
	F	1 of 1	4 of 5	4 of 6
R-F Primitive	M	3 of 3	2 of 3	2 of 2
	F	1 of 1	5 of 5	2 of 6
Basic M		3 of 3	1 of 3	2 of 2
	F	1 of 1	3 of 5	3 of 6
A-U Primitive	M	2 0f 3	1 of 3	1 of 2
	F	0 of 1	2 of 5	5 of 6
Basic M		0 of 3	2 of 3	2 of 2
	F	1 of 1	3 of 5	5 of 6