

Validity and the PAS Since 1973

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There have been concerns expressed about the "validity" of the PAS in places such as Matarazzo's book on the Wechsler tests (1972) and in the *Mental Measurements* (1978) as well as by practitioners interested in using the PAS as a diagnostic technique. In 1973 two monographs were published on the PAS which contained a great deal of information about validity (Winne & Gittinger, 1973; Krauskopf & Davis, 1973). Winne & Gittinger cite 111 PAS related papers which have been reported in some public forum. Unfortunately, many of them have not been in easily accessible places or even where psychologists could easily retrieve them with common literature search techniques. Since the publication of the two monographs, there have been 18 studies reported which have some information on validity and the PAS. It is the purpose of this paper to review these studies and summarize their results.

Much of this review follows the organization of **Standards for Educational and Psychological Tests** (Guion, 1974) which is the professionally accepted standard for reporting validity of psychological assessment methods. These standards include the validity categories of face, content, criterion related and construct. The category "face validity" is simply an answer to the question, "Does the measure look like it

what it claims?" For the PAS, we would have to answer no.

Content validity is a category more useful for achievement tests, but it has some applicability to personality measures. It is the answer to the question, "Is the set of test behaviors a representative sample of the behavior to be measured?" In the case of the PAS, the theory says that preferential or habitual behavior, personality, is systematically related to aptitude or cognitive ability in that people will basically avoid behaviors that require them to use relatively weak aptitudes and seek out situations requiring them to use their relatively strong aptitudes. Content validity of the PAS using the Wechsler scales rests on the sampling of the cognitive domain by Wechsler. A simple index of this is not possible, but Wechsler's intention was to sample cognitive abilities broadly in order to arrive at a global measure (Matarazzo, 1972). Some idea can be seen in the paper by Klingler and Saunders (1975) where they summarize the results of many factor analyses of Wechsler items and scales. One might summarize this evidence by saying that there is good coverage of a large part of the variance, but also evidence of additional factors in the measure of currently unknown importance.

Saunders and Gittinger (1968) have suggested the possibilities of expansion of the PAS by better measures of these currently "minor" factors. Two of these possible additional measures have, of course, been reported to this group by Saunders and elaborated by Heyman and Krauskopf (1981). Factor analyses show other intriguing possibilities within the domain of the Wechsler, and theoretically there are others which the Wechsler does not tap. The system currently covers content which is important, but not complete.

Criterion related validity is, perhaps, what most psychologists think of first when the question arises, "Is this technique valid?" Criterion related validity is usually divided into two parts, concurrent and predictive. There are several studies that give evidence of criterion related validity for the PAS. Like most psychological measures, there is more concurrent evidence than predictive. The following section of the paper is an annotated bibliography of concurrent and predictive validity studies.

CONCURRENT VALIDITY

Schaefer, S. L. (1972). **Identification of process and reactive schizophrenics**. Unpublished doctoral dissertation, University of Missouri, Columbia.

The basic idea was to see if one could differentiate process and reactive schizophrenic diagnoses in a mental health center population. The general PAS hypotheses were that process schizophrenics should be more IRU, that reactives should be more compensated, and that a combination of the PAS and MMPI should significantly differentiate the groups.

Statistically the MMPI differentiates better than the PAS alone, but does so primarily by level of score, not shape. On the PAS, reactives score higher on arithmetic, picture completion,

and picture arrangement. Process show higher similarities and digit symbol. Both categories are more I and U than the WAIS standardization sample.

Henrichs, T. F., Krauskopf, C. J., & Amolsch, T. J. (1982). Personality description from the WAIS: A comparison of systems. **Journal of Personality Assessment**, 46, 544-549.

Would the PAS identify a group of psychiatric patients who has been previously identified using a d2 technique to classify profiles into highly similar groups? Further, would the PAS descriptors resemble the patient characteristics identified at intake?

The PAS easily identified the group and further divided the group into two. There was a, "...distinct resemblance between PAS descriptors and intake information."

Dees, J. F. (1977). Gittinger's Personality Assessment System: An empirical analysis **Dissertation Abstracts International**, 38 (5-B), 2358.

A large collection (1,500) WAIS's from the University of Southern Mississippi and from a VA hospital (400) were used to test the hypothesis that psychiatric patients could be differentiated from a normal group (mostly students) and the hypothesis that clusters of student majors would be identifiable from their PAS patterns.

Differentiation of students and psychiatric patients was primarily by Normal Level and not by pattern. He could not find any PAS patterns that matched college majors. His findings are not surprising to some of us. There is really no theoretical reason to believe that there will be a sharp differen-

tiation between psychiatric patients and normals. There will be some patterns that will have high percentages of abnormal folks, but in general most patterns can find some general environmental press that will allow them to function. The Martin and Saunders (1968) study is a better approach to occupations or college majors. From their results one would expect quite a variety of patterns within one major, each using his own style. There probably should be some patterns that would rarely be found in some occupations, and some patterns that favor some occupations. But, one should not expect the PAS to resemble the Strong inventories.

It is not that the student given WAIS's in Dees' sample are deficient. A re-analysis of part of his data easily identified a paranoid group, a schizophrenic group, and a psychopathic group. Dees is asking the PAS to do things that it probably won't do.

Novotny, R. W. (1974) **A validation of the A-U Dimension of the Personality Assessment System.** Unpublished doctoral dissertation, American University.

In this study it was hypothesized that in a group of prisoners there would be more Auu's in those who had elevated 4-9 scales on the MMPI than in those with no 4-9 elevation. The MMPI sign and being in prison were used to define a psychopathic group. The psychopathic group was more Auu. There was a significant correlation between Auu and the Social Presence scale on the California Psychological Inventory, but no correlation with the Socialization scale. This result is consistent with Saunders' reference groups showing groups identified as psychopaths to be Auu.

DeClue, G. S. (1983). **Patterns of intellec-**

tual functioning: Ability, personality and problem solving style. Unpublished doctoral dissertation, University of Missouri-Columbia.

Two groups of 17 individuals each who were self-identified by Heppner's Problem Solving Inventory as good or poor interpersonal problem solvers were sorted by two judges using the PAS. The sort correctly placed 68%. Correlations of the Problem Solving Inventory with WAIS subtests suggest OA as the most related.

Meyers, B. A. (1973). **Personality characteristics of higher rated and lower rated policemen.** Unpublished master's thesis. University of Missouri-Columbia.

There was some tendency for higher rated patrolmen in the University Police and the Sheriff's Department to be e* and a.

PREDICTIVE VALIDITY

Dunst, L. W. (1980). **An investigation of the Personality Assessment System.** Unpublished master's thesis, University of Missouri-Columbia.

Predictions were made about Euu and Euc and distractibility. No statistical relations were found, primarily due to the lack of uncompensated E's in the sample. However, the only two Eu's in the sample of 42 were the only ones who did not notice the last page of the test task. Correlations were also done between PAS variables and Jackson's PRF. The only significant correlation was +.49 ($p < .01$) between (DS-NL) and PRF Achievement.

Mojonnier, T. G. (1971). **A study of self choice and the PAS.** Unpublished master's thesis, University of Missouri-Columbia.

This study was a successful replication of the Thetford and Schucman study of people's agreement with theory generated descriptions. People were generally expected to agree with descriptions, or to pick the "correct" one, and they did. The most interesting hypothesis in the two studies is that f would be more accurate than f* and specifically that f* would prefer the f description to their own. The descriptions were prejudged for social desirability.

Krauskopf, C. J., & Bielefeld, M. O. (1981). Prediction of achievement in a senior level course. **Academic Psychology Bulletin**, 3, 245-249. Sixteen students in a class in psychological testing were administered a WAIS by a research assistant. Rank order of course achievement was predicted by two clinicians using PAS. Rho was + .51 (< .05). WAIS IQ correlations with course grade was + .03.

DESCRIPTIVE STUDIES

Saunders, D. R., Kaplan, S. J., & Rodd, W. G. (1980). Implications of PAS for marital counseling: A pilot study. **Psychological Reports**, 46, 151-160.

A small sample from two marriage counselors using divorce/separation vs. remaining married as a dependent variable. Several PAS consistent results were found. Among them a poor prognosis for one high and one low on information; low comprehension male with high comprehension female; one low and one high on picture arrangement; either low on similarities.

Saunders, D. R. (1981). Sex differences in Wechsler subtest profiles as seen through the PAS. **Psychological Reports**, 48, 683-688. Sex differences are primarily at the basic level.

CONSTRUCT VALIDITY

Klinger, DE., & Saunders, D. R. (1975). A factor analysis of the items of nine subtests of the WAIS. **Multivariate Behavioral Research**, 10, 131-154.

On a sample of 916 college students, 15 factors were found. Most are PAS consistent.

Saunders, D. R. (1982). Canonical analysis of PAS and MBTI. Paper presented to PASF Conference, Princeton, NJ.

Demonstrates that while far from identical, the PAS and MBTI share significant common variance.

Turner, R. G., Willerman, L., & Horn, J. M. (1976). A test of some predictions from the Personality Assessment Systems. **Journal of Clinical Psychology**, 32, 631-643.

Concluded mostly nonsupport for PAS. However, the major hypotheses were based on misinterpretation of PAS (see Saunders' re-analysis).

Saunders, D. R. (1982). On Turner's assessment of the Personality Assessment System. **Journal of Clinical Psychology**, 38, 616-623.

Turner et al. results with the MMPI are entirely consistent with expectation when the MMPI is used with a sample of "normals." The compensation-tension results reported by Turner et al. are, in fact, supportive of PAS. Their error was in the direction of their prediction.

In general, Turner et al's results provide considerable global support for the idea that the PAS and 16PF are measuring simi-

lar things.

Frank, H., & Tubbs, R. (1973). Relationship of rod and frame test performance to two dimensions of the PAS. **Perceptual and Motor Skills**, *37*, 747-752. Another demonstration that R-F is highly related to field dependence/independence, and that I-E is also related.

Malever, M. C. (1980). **The relation of cognitive style to pain responses**. Unpublished doctoral dissertation. University of Missouri-Columbia.

Hypothesized that R-F would be related to pain tolerance in a cold pressor test, because work indicating that field dependent people had a higher pain tolerance. He found males more pain tolerant, higher normal levels more pain tolerant, but R-F was unrelated to more pain tolerance. Field dependence as measured by the Embedded Figures Test was also unrelated. The unexpected correlation of Embedded Figures and Normal Level of $-.61$ may indicate that this small sample of 40 was unusual.

Mojonnier, T. G. (1975). **The PAS and reflective eye movements**. Unpublished doctoral dissertation, University of Missouri-Columbia.

A sample of 46 subjects were asked 40 questions designed to elicit eye movement responses to verbal and spatial tasks. Responses were videotaped. It was hypothesized that up vertical and left lateral movement would be related to primitive I, F, and A. Down and right movement were hypothesized to be related to E, R, and U.

The strongest relation found was R-F with vertical eye movements in the hypothesized direction. Some relations were found in the

hypothesized direction between E-I and some of the eye movement measures in both vertical and lateral movements. A-U was not related to lateral movements and only weakly related to vertical movement ($p < .07$).

In this study there were no people in the subjects' visual field. The presence of people might change the relationships, especially in the A-U dimension.

Gray, G. V. (1975). An investigation of the personality characteristics of heroin addicts utilizing the Personality Assessment System of John W. Gittinger. **Dissertation Abstracts International**, *36*, 579B-5792B.

The general hypothesis was that the PAS could be used to differentiate addicts, prisoners, and normals. Six of seven hypothesis were not supported. Gray notes that this need not be taken as proof of the theory's inadequacy. One explicit premise of the study, that addicts are a homogeneous population, may be false.

A system like the PAS is not validated or invalidated by a single study or even a group of them. It is possible that someone might demonstrate that a fundamental postulate is wrong, for example, a demonstration that most people actually enjoy using the skills in which they are weakest. This is very unlikely. Validity comes in pieces and probably needs to be reviewed periodically to see if the overall still looks the same.

The studies reported here are of varying quality. The measurements used are sometimes not advanced by majority vote, but by repeatable demonstrations of the power of a theory to explain and sometimes predict events. The PAS has been used in a wide variety of situations with some success.

Occasionally it has made successful predictions where the conventional wisdom would have said something else. Sometimes it has ventured hypothesis that other personality theory could not even make. Sometimes it has proven as good as a predictive scheme created for the specific situations. It has also had its failures which show that it is not perfect. We need to look at this whole situation to decide if the failures are failures of theory, unreliability of measures, or misunderstanding of our own theory.

My personal conclusions are that there is a lot of evidence of validity, at least concurrent and construct validity, and some demonstration of predictive validity. Reliability of measurement problems really do get in the way. It really is a handicap in studying interactions, and the PAS specifically assumes multiple interactions.

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