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SPECIAL REPORT

PERS 157

PROCEEDINGS OF THE CONFERENCE
ON THE USAGE OF N. I. P. R.
TEST MATERIAL, JUNE 1970.

NATIONAL INSTITUTE FOR PERSONNEL RESEARCH
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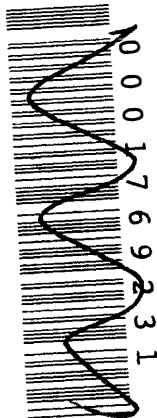
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1. SUMMARY

Many test users and intending test users had on occasion expressed criticism and raised questions about the procedures which controlled the distribution of N.I.P.R. test material and the service available to test users. It was decided to call a conference of current and intending users to discuss their requirements and problems. Speakers known to be interested and involved in specific directions of the application of psychometric instruments were invited to present that view of the situation which their experience had indicated, and this evoked lively discussion from the other conferees. The N.I.P.R. noted all proposals made and a suggested revision of N.I.P.R. policy on the use of test material is appended to this report.

OPSOMMING

Verskeie gebruikers en voornemende gebruikers van toetse het by geleentheid kritiek uitgespreek en vrae geopper oor die prosedures wat die verspreiding van N.I.P.N.-toetsmateriaal beheer, asook oor die hulp beskikbaar aan toetsgebruikers. Toe is dit besluit om 'n konferensie van gebruikers en voornemende gebruikers te belê om hulle behoeftes en probleme te bespreek. Sprekers wat bekend is vir hulle belangstelling en gemoeidheid met die gebruik van psigometriese instrumente is genooi om hulle standpunt te stel, en daaruit het lewendige bespreking van die ander konferensiegangers gevloei. Die N.I.P.N. het alle voorstelle aangeteken en 'n voorgestelde gewysigde beleid oor die gebruik van N.I.P.N. toetsmateriaal word in 'n aanhangsel tot dié verslag bevat.

2. BACKGROUND

As one of the Laboratories of the Council for Scientific and Industrial Research the National Institute for Personnel Research is chiefly concerned with the assessment of man, and particularly man at work. One of its functions is the distribution of psychological test material, some of which it develops itself and some of which it acquires. The Institute is a distributor in the Republic of South Africa for one of the largest publishers of psychological test material in the U.S.A.

The nature of these tests and the purpose for which they are intended to be used are such that their use must be controlled. The N.I.P.R. has become aware that there are anomalies in its present procedure which on occasion inhibit the use of the available material. The variety of queries from various sectors of industry and commerce highlighted the complexity of the task of control (in its broadest sense) and indicated the general aspect of the problems that do and could arise. It was consequently felt that to get the clearest view of the situation it was necessary to consult with test users and intending test users.

The first phase was a report by Dr. W. Backer of the University of Fort Hare, on an extended investigation he had done into the actual situation in industry. (See Appendix 1) The second phase was to invite representatives of industry, commerce and other test users, such as universities and consultants, to a conference on the problems of test distribution.

3. AIMS OF THE CONFERENCE

The aims of the conference were firstly to attempt to clarify those areas where the N.I.P.R. already knew that uncertainty existed, and to learn from test users what other problematical areas there were which the N.I.P.R. was not aware of. Secondly it was believed necessary to note and discuss recommendations concerning policy which test users felt would be to the advantage of themselves and the N.I.P.R.

In the light of the above it was necessary to give an historical account of

application of existing ethical codes and control of psychological test material. It was equally important to invite representative test users to describe the requirements and problems that face current and potential users and to discuss possible solutions which could lead to better use being made of the test distribution services of the N.I.P.R.

4. INVITED SPEAKERS

(Given in the order in which they appeared on the programme.)

Mr. D. J. M. Vorster, Director, N.I.P.R.

Opening.

Mr. D. W. Steyn, Head, Psychometric Division, N.I.P.R.

Psychological Testing - Aims and Means.

Mr. R. H. Blake, Head, Division of Personnel Selection, N.I.P.R.

The Practical Use of Psychometric Tests.

Prof. A. D. Muller, Department of Psychology, University of Port Elizabeth.

Dangers and Effects of the Misuse of Psychological Tests in Industry.

Prof. C. D. Roode, Department of Psychology, Randse Afrikaanse Universiteit.

Dangers and Effects of the Misuse of Psychological Tests in Clinical and Guidance Work.

Prof. A. G. le Roux, Psychological Institute of the Republic of S.A.

The Origin, Nature and Application of Ethical Codes on International and National Level.

Mr. G. K. Nelson, South African Psychological Association.

The Demands of Psychological and Medical Associations with regard to Training and Registration of Test Users.

Prof. J. M. Schepers, Department of Psychology, University of South Africa.

The Origin and Development of existing N.I.P.R. Policy for Registration and Test Distribution.

The following were invited to speak on the topic

"The Requirements and Problems of the N.I.P.R. Test User and Intending Test User." The specific areas discussed by the various speakers are indicated after their names.

Mr. J.J. O'Meara, Van Leer Packaging.

The Wide Problem in Industry.

Mr. A.L. Pons, Atkinson Oats Motors.

Selecting Lower Level Personnel.

Mr. D.F. Hanson, Alcan (S.A.).

Selecting Lower Level Personnel.

Dr. F.A. Fouche, Consultant.

Problems in Guidance.

Mr. N.D. van der Walt, Consultant.

Problems in Personnel Selection.

Mrs. V. Albino, Clinical Psychologist, and

Prof. L.A. Hurst, Head, Department of Psychiatry and Mental Hygiene,
University of the Witwatersrand.

Problems in Clinical Work.

Mr. R.F. Skawran, Head, Personnel Selection, N.I.P.R. - C.S.I.R.

Summary of the two days' Discussions.

5. PROCEEDINGS

A preliminary announcement was sent to all members of the S.A. Institute of Personnel Management, the Psychological Institute of the R.S.A. and the S.A. Psychological Association, advising them in broad terms of the aims and theme of the proposed conference, and inviting them to apply for invitations, since accommodation was limited and invitations would be sent on a "first-come-first-served" basis. The invitation which was also the programme was then sent to selected conferees.

Previously selected speakers had been approached personally with a request to present a paper on a topic current to the conference and familiar to the speaker.

In the first paper, Mr. Steyn emphasised the point that psychometrics must be the basis of our theoretic-conceptual point of view, since a meaningful test of psychological hypotheses can only be consequent upon the exact application of experimental methods and the use of accurate, repeatable and reliable quantified data. He gave examples of where and how psychometrics had its application, citing the fields of clinical-diagnostics and the context of industrial placement. In the latter field it is considered a predictor of relevant behaviour because it is assumed that a particular test samples the behaviour of a representative group. The value of the test rests on the amount of representative behaviour which has been the sample for a particular group. Consequently the most useful application of psychometric instruments is to be found in the industrial field. It was necessary to illustrate developments in this field by a few achievements of the N.I.P.R. during the past two decades and a bit. In a context of such rapid industrial expansion, and such wide variety of cultural and economic background from which must be drawn the work force in S.A., the measurement of mental abilities for selection, classification and placement is of primary importance. But the same context makes accurate measurement of this kind a most exacting task. The N.I.P.R. must of necessity study the whole spectrum from the illiterate labourer to the most senior executive. The General Adaptability Battery for use on the gold mines was of fundamental importance in the history of psychometrics in South Africa. With a view to successful prediction for differential abilities the instrument is as valid today as it was more than 20 years ago. It has been necessary to replace the G.A.B. with a more sophisticated battery, but only as a consequence of the cultural growth and expanded knowledge of the population for whom the instrument was devised initially. The new battery takes into consideration factors of greater sophistication and intellectual differentiation and differs radically in presentation and format from the G.A.B.

The Spiral Nines test has proven its worth in the selection of Bantu pupils for secondary education and is in extensive use by a neighbour country. An Afrikaans version of the test is being developed for use in a motorcar assembly plant with coloured labourers. Recently a high level inductive reasoning test was developed locally by the N.I.P.R. especially for the selection of high level post graduate personnel. Work is also progressing on a high level deductive reasoning test. The S.A. version of the Wechsler-Bellvue test has been widely commended for its high reliability.

To name but a few others, there are the batteries for the selection of computer personnel and admission to post-graduate studies in industrial administration. Constant attention is being paid to tests of a cognitive kind and it is expected that our users will continue to require further such material. Attention had also become necessary in the field of personality on a non-clinical level for use in selection for industry, and the N.I.P.R. was devoting more and more time to these instruments, where problems of a non-incapacitating but complicating nature could make a vital impact if not identified. Mr. Steyn concluded by stating that though the N.I.P.R. was aware of shortcomings in its make-up, it lay with the users to indicate their needs and formulate the shortcomings from their point of view.

In sketching some research application and experience within industry, Mr. Blake illustrated some of the ways in which abuse and the consequent ineffectiveness of testing could develop. He supported Mr. Steyn's requirements for sound methodology and went on to define the need for purposeful selection procedures, an integrated approach and the relevance of criteria. Implicit in both these papers was the need to have properly trained test users.

Prof. Muller of the University of Port Elizabeth attempted to show what the position of selection was at present and, from a pragmatic point of view, what its position should be. He sketched a model showing the relationship between industrial aims and goals and the role of the test user and his testing material. His view was that there was a direct relationship between the abuse of tests and the real acceptance of the value of selection

procedures by top management within an organisation. The usual personnel problems are related to the quality of personnel management. Following on a point made by Mr. Steyn, Prof. Muller proposed that, in its practical use in industry, the final measure of the value of a test was not so much its theoretical-scientific foundation, but its pragmatic contribution to the even development of the user organisation. From this flowed another criterion against which the success or otherwise of a test must be compared. A worker was ineffective if his abilities were so judged by his superiors, regardless of the standards, objective or subjective, used to make these decisions. This definition does of course not fit in with the stringent requirements posed by Mr. Steyn for the real effectiveness of a test, but it is nonetheless important in the pragmatic situation. Prof. Muller was in full agreement that the final goal of psychological testing in industry was the reduction of failures placed and the increase in successes. The warning was, however, that the determination of success or failure was a much more complex affair than was immediately apparent. It was also a common fault of industry to use tests which were valid in certain well-defined contexts as if they had equal validity in presumed parallel contexts, without verifying whether the context was parallel. This usage rendered the thorough initial preparation of the instrument valueless in the applied situation for which it had not been prepared. As a consequence Prof. Muller also felt that a thorough background of theory and practice was essential for the successful use of psychometric tests in industry.

That the application of psychological tests in the clinical situation often had its own unique problems was the theme of the next speaker, Prof. Roode of the Randse Afrikaanse Universiteit. It was necessary always to remain aware of the whole psychosomatic relationship in using test material. Thus beyond training in method there was a particular need for complete understanding, interpretation and goal-orientated results. Prof. Roode also proposed a greater mutual contact between the various scientific disciplines in the planning of ethical codes. This proposal was to be repeated by Prof. Hurst later on.

Prof. le Roux, on behalf of the Psychological Institute of the Republic of S.A. gave an interesting overview of the generation of ethical codes. Starting with the Greeks he ranged over the development and nature of ethical codes and the philosophical aspects of right and wrong. It was interesting that certain professional associations did not feel the need for an ethical code of discipline. This led to a discussion on the direct and indirect control of guild members.

As regards the training and registration of test users, Mr. Nelson, speaking on behalf of the S.A. Psychological Association, emphasized the need to accept qualified knowledge as a prerequisite for the registration of test users. He suggested that the N.I.P.R.'s conditions in this regard needed revision to align them more closely to the codes of the Psychological Associations in South Africa and overseas, and the requirements of statutory law. There was a disturbing lack of correlation between N.I.P.R. specifications and the registration of psychologists and similar personnel by professional associations. The position was further confounded by the lack of precision in defining test user categories and the imprecise working of such attempted definitions. The speaker was emphatic on the point that practical experience could not compensate for formal training. He drew three conclusions from his critical examination of the policy of the N.I.P.R. and the requirements of the S.A. Psychological Association and the law, which presented a problem needing solution for the full and proper use of psychological test material. The problem lay in the categories recognised by the authorities referred to not being fully catered for by N.I.P.R. policy. There was a danger that certain classes of user could be excluded from the ranks of users and, thirdly, the present classification of tests and users was cumbersome. It was proposed that the solution envisaged by the International Association of Applied Psychology, that there be a test commission, a register of test users and an index of controlled tests in each country, be applied in the Republic.

Prof. Schepers of UNISA outlined the history of the procedure which the N.I.P.R. applied in its registration of test users. This procedure often

"just grewed" like Topsy and he agreed the time had come to revise and rationalise this procedure. He proposed that the universities should recognise the requirements of test users and assist in the preparation of intending test users during their degree courses.

The survey by Prof. Schepers concluded what was the background sketching in its widest sense. The afternoon and the following morning were devoted to discussing the Requirements and Problems of the N.I.P.R. test user and intending test user. The speakers raised many valid and valuable points as regards policy, procedure, availability and quality of test material. Of particular interest were the fields in which new tests were required, points of criticism on maintenance and updating, and the need for improvement of existing tests.

It had been anticipated that users in industry would plead for a lowering of standards for admission to the various categories of test user, and a lowering of the thresholds for tests assigned to the three levels of tests. Implicit in the papers read by the first group of speakers had been more stringent control and higher admission standards. The speakers from the ranks of industrial users on the whole asked for a similar raising of the threshold. For industry a growing requirement was the testing of immigrants for the South African situation. As Mr. O'Meara, the first of this series of speakers, pointed out, it was often the situation that these people did not speak the official languages, and often came from very different cultural background than they were being absorbed into here in South Africa. He pointed also to the diversification of labour affecting the traditional employment of Bantu, the need for more effective use of Bantu labour and the more stringent requirements as a consequence of specialisation and mechanisation. He saw too a growing need to select the individual for his rôle in a team, since there was the tendency in production for the contribution of the individual to become less important and the rôle of the team to dominate.

The next speaker, Mr. Pons, considered the valuable opportunities that existed for follow-up research on test material used in industry. What perturbed him in this regard was that these opportunities were apparently

not being realised, either by the N.I.P.R. or by industry, and if they were, the fruits were not being made available for general consumption. There was little doubt about the value of such studies, particularly as regards the updating of tests referred to by the previous speaker. He knew that there was experimentation on the wider application of certain tests than specifically indicated by the test manual, but the results of such experiments were not being made known. He, and a later speaker, Mr. Hanson, felt very strongly that the control of test users should be much more stringent, that less latitude should be allowed in the various test user categories and that the thresholds, if anything, should be raised. Harking back to a point he had raised earlier, he suggested that feedback of data for follow up purposes should be a prerequisite in the making available of test material. This was a controversial point, unfortunately not sufficiently discussed when the opportunity later became available. His final plea, also to be reiterated by a later speaker, Dr. Fouché, was for improvement in communication between the N.I.P.R. and the test user.

Mr. Hanson was faced with two pertinent problematical aspects of the growth of South Africa's industry. The one was the inevitable sophistication taking place in the Border Areas, and the other (pertinent to Natal, where his industry was situated) was the need for tests standardised on the local Indian population. Both these areas required instruments sophisticated enough to deal with the higher functional requirements of semi-skilled labour in a developing situation, where academic qualifications were largely irrelevant. Mr. Hanson underlined his whole thesis by quoting an extensive paragraph from a speech by Dr. L.P. McCrystal at a conference on Manpower on 4 June 1970 in Durban, and stating that what was significant for him in that quotation was the viewpoint that training was an essential for the successful utilisation of manpower, since he considered proper selection a prerequisite for successful training.

The last speaker of the afternoon was a consultant to industry rather than one involved in a particular industry, Dr. Fouché. He raised the important and necessary question of the availability of personality tests. He saw a real

need for depth study which would have as its consequence instruments for not only assessing the individual's conscious but also unconscious levels. He realised that the development of generally useful personality and creativity tests was a very difficult task, but it was an urgent one for industry as well as for the clinician. He concluded by pinpointing one of industry's big stumbling blocks. This was the time factor inherent in all aspects of testing. This was an open question, but in the practical situation of selection it was often the case that upwards of an hour was necessary to obtain information on one dimension, and that this was only part of a much longer battery. This time, and consequent cost, could often not be justified by industry for a particular situation.

Whereas the first day had been devoted to general questions concerning testing, specifically in lower level selection, the new dawn brought a new thought, and a particularly challenging one. Mr. van der Walt considered the question of selection for development up to senior management levels. There seemed to be a particular paucity of tests in this field. But he pointed out that it was an unfortunate tendency that in some instances too great a reliance was placed on tests, to the exclusion of other techniques for assessing potential. This could only finally have a lasting detrimental effect on the real value of tests. Having outlined the normal procedure followed by a consultant to industry, he went on to describe his particular problem. The initial and vital aspect of doing selection on behalf of a client organisation is to gain full familiarity with that organisation and complete information on the requirements for the fulfilment of the post being consulted for. The applicant must know all this. To gather this information from the existing executives is often an arduous task, and makes the consultant realise to what an extent the selection for senior executive posts is a fruitful area for research and provision of test material. This set him first of all describing the criteria for this level of selection and then questioning the instruments used. He did not doubt the general validity of the instrument, but rather its validity for the context in which it was being used. He wondered whether consultants were being ethical in using instruments outside the context in which they had been standardised, using norm groups which did

not fit the requirements, or clinical instruments in an industrial setting. He felt that consultants in particular, and perhaps psychologists in general, were guilty of somewhat misleading their clients in this respect. He felt that they needed far greater education about what particular instruments purported to do. His solution lay to some extent in the N.I.P.R. educating management to assist them in their thinking and use of test materials. The use of these instruments was a guide, and not as often seen, an exact procedure. He made the plea, as had Dr. Fouché previously, for quick tests. He concluded with the warning that at senior executive level, a successful executive might feel his privacy threatened if faced with a testing situation, when the record of his ascent up the ladder might speak as loudly as, if not more clearly than, findings based on an impersonal psychometric instrument.

The next speaker, Mrs. Albino, followed up to some extent what had been said by Mr. van der Walt, when she discussed the essential difference between psychiatrists and psychologists in their approach to assessment and prediction of human behaviour. She felt that measurement in the clinical context was more complex and the problem of integrating information meaningfully and effectively was greater. There was an intimate relationship between theory, requirements and effective test development. She posed the paradox that there was a need to accept uncertainty to a larger extent, since it was necessary to be more modest in the assessment of human behaviour in the clinical field.

Prof. Hurst emphasised that tests, and especially N.I.P.R. tests, have proved their value in the work of the clinician, and referred to a field of application that probably not a few had overlooked - the selection of clinical staff as such. As in every other area there was here also much room for development. He said he came not only to praise, but also to challenge. He felt that psychiatrists and medical practitioners had a real need for training in the use of psychological testing instruments.

Those, then, were the contributions of the invited speakers. There were to follow group and open discussions from which possible policy revision was

to flow. The discussion was lively and ranged over all aspects covered by the invited speakers.

The consensus was that the N.I.P.R. emerged as a useful helpmate in the eyes of the delegates who were prepared to suggest guidelines and ask for specific help, but felt that the N.I.P.R. was sufficient in itself to set its own goals and find its own means accordingly, as it became aware of the needs and problems of the test user and intending test user.

6. APPENDICES6.1 An Investigation into the Use of Psychological Testing in Commerce and Industry. Dr. W. Backer

During 1969 Dr. W. Backer made a very thorough investigation of a selected sample of N.I.P.R. test users in order to determine to what extent industry and commerce make use of psychometric test material, and for what purposes this material is used. It was hoped that such a survey would indicate in which way the knowledge of the use of such material could be made better known and more available. With the aid of the South African Institute of Personnel Management a sample was selected consisting of 220 organisations, of which 62% made use of psychometric tests and the rest did not.

A detailed analysis of the use of tests in these organisations was made. There are tables giving the distribution of N.I.P.R. tests, tests from overseas sources and tests constructed for their own purposes by the various organisations.

Perhaps the more important aspects of the report were not what was actually stated but what could be inferred from the results. Deriving the following table from the report itself a number of factors become apparent, as well as several questions which need answering in a follow-up study.

TABLE 1Distribution of Test Use

<u>Test</u>	<u>White</u>	<u>User</u>		<u>Total</u>
		<u>Non-White</u>		
1. Mental Alertness (Higher)	12	-		12
2. Mental Alertness (Intermed.)	15	3		18
3. Arithmetic	12	-		12
4. Mechanical Comprehension	9	-		9
5. Normal Battery	5	17		22
6. S.A. Wechsler	3	-		3
7. Intermediate Battery	23	7		30
8. High level Battery	23	-		23

Analysis of the numbers of individuals tested with various instruments also raises interesting questions. In the case of one test it was found that in the course of a year some 9500 persons are tested but one user alone tests 7500 of these in one year.

This shows to what extent certain tests are used by a larger or smaller number of users, and to what extent they are relied upon. The questions that suggest themselves are, amongst others:-

1. Why are certain tests apparently more "popular" than others?
2. Are the reasons for this related to the purposes for which these tests were designed?
3. Why do so many organisations use the Normal Battery on non-white groups?
4. Does the Normal Battery validly assist in selection and/or placement?
5. Why do so many more use testing procedures for selecting white workers than non-white?
6. Does this mean our white labour force is used to better purpose than our non-white?
7. Do some employers consider it not necessary to select non-white workers?
8. Why do certain organisations use certain tests?
9. What sort of "success" does this aid them to achieve?
10. How do they set their criteria for success?
11. Why do only three use the S.A. Wechsler?

These are but a few of the questions that arise. One question leads not to another but to a network of others. It becomes abundantly clear that it is necessary to go back and consult with users, and with many more than the sample chosen for the survey.

It becomes clear too that the user of test material needs education in what can be achieved and how, with test material. The need for users with specialist knowledge in the field of psychometrics in particular, and psychology in general needs discussion. The requirements and problems of test users, and intending test users needs to be defined. This definition can only be done in consultation with the user and intending user.

To sum up: it would appear that closer liaison must be established with users of N.I.P.R. test material and intending users. The following main questions must be answered:

1. What test material is available and for what purposes can and should it be used? How will the user and intending user know what tests to use and how to acquire them?
2. To what extent can the N.I.P.R. assist those intending users who do not have the required qualifications to satisfy the requirements for using test material? Is there reason to believe that the requirements for registration as a test user are too severe and that the threshold should be lowered?
3. Does the N.I.P.R. know all the variables Industry and Commerce need to predict? If not how can better liaison with specific users be established? What areas not covered at present by N.I.P.R. tests should and can be covered in the future?

6.2 Proposed Revision of N.I.P.R. Policy and Procedure

During the proceedings of this Conference it became clear that the majority of delegates not only approved of strict control but that some even suggested more stringent requirements for registration of test users at the various levels. It was certainly not the wish of the test users as a body that the number of test and test user levels be reduced. On the other hand it was felt that the use of psychological tests should not be restricted to so exclusive a body that most material would be beyond the reach of those whose need was greatest.

The present three levels of test user should consequently be retained, but more clearly defined. Provision should also be made to accommodate those users who are not strictly eligible at a particular level, but who might have other qualifications that would render them fit to use specified instruments under controlled conditions.

