Research on the Application of Psychometric Assessment in the Recruitment of College Teachers

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Abstract. To investigate the impact of the use of psychometric assessment in recruitment, the SCL-90 and EPQ personality scales, interviews and surveys were used to test 81 applicants for the selection of talented individuals with sound psychological qualities and personalities. According to the data analysis, recruits were characterized by good mental health, typically low psychoticism and typically low neuroticism, and there was no significant difference in the number of internal and external orientations between recruits and non-recruits. The use of psychometric assessment in talent recruitment can help select the right people more efficiently and reduce recruitment risk, but this work still needs to be improved.

1 Introduction

In the post-epidemic era, traditional on-the-ground teaching models encountered great challenges in the face of massive online learning resources that are efficient and easy to use, not constrained by time and space. To ensure the sustainable development of on-the-ground teaching and the attraction of curriculum resources, competition among teachers has become the core competitiveness of the entire industry in the future. This will lead to more drastic changes in the recruitment process. To adapt to the competitive environment in the future, colleges and universities should make continuous efforts in personnel recruitment, recruit the right talent by improving the reliability of recruitment, and consolidate the human resources foundation for future development. While vocational psychological assessment techniques are not well used judging by their application in recruitment. In view of this, it is important to explore the application of vocational psychometric assessment.

2 Literature review

Yang Jialin et al. [1] believe that the development and growth of a country cannot be separated from talents, and talents better suited for corporate development can be selected fairly and accurately through the assessment of the subject's knowledge level, ability structure, personality traits, career inclination, development potential, and other qualities. Zheng Shengri [2] suggests that there are many ways to select talents. One effective approach is to combine psychology to assess the organizational behavior of the participants, which helps to understand the personality traits and problem-solving abilities of the candidates. Typically, the MBTI personality test, developed by American psychologist Kaylene Briggs and her daughter Isabel Briggs Myers based on Jung's theory of personality, is one of the most widely used tools for testing the professional personality of job candidates. This tool divides human personality into 16 types by analyzing personality from four dimensions, the source of psychological energy, the way of collecting information, the way of making decisions and the way of dealing with the external world, and matches employees with appropriate positions based on personality types, thus providing effective references for enterprises in the process of recruitment [3]. Another commonly used personality test is 16PF, which measures 16 basic personality traits of a person. These 16 characteristics, as the basic factors that affect people's learning and life, constitute a unique personality of a person, reflecting the whole picture of a person's personality [4]. Xue Huifang [5] further proposed that in addition to the written test and psychometric assessment, the interview is also a crucial link in the recruitment process, through which the behavior of candidates can be observed from multiple perspectives, thus providing a more reliable basis for the selection of talents who meet the needs of the post.

However, in the process of market recruitment, many enterprises still have problems such as inadequate recruitment system planning and construction, inadequate job demand analysis, and unscientific recruitment evaluation schemes [6]. The same problem exists, of course, in the recruitment of college teachers. Wu Chunlei [7] found that in the current recruitment process colleges and universities pay more attention to the academic background and professional ability of candidates, but neglect the investigation of their personality characteristics, resulting in some...
corresponding problems and troubles. Li Hui et al. [8] proposed that cost planning and recruitment assessment system should be established, basic management work such as formulating detailed and dynamic recruitment plans for university teachers should be carried out in a timely manner, and scientific talent evaluation system and coping methods should be adopted. Based on the above studies, this study explores the application of vocational psychological assessment techniques in the recruitment of college teachers, with the aim of selecting suitable talent to meet the needs of teachers and better build a high-level faculty teams.

3 Work procedure

3.1 Job analysis and post requirements

Through fieldwork and one-on-one interviews, an in-depth understanding of expectations about the integrated quality of new teachers was achieved, as shown in Table 1, leading to the development of corresponding targeted questions to summarize existing problems, explore the causes of problems, and revise the quality requirements of recruiters.

Table 1. Summary of capacity requirements for teacher posting.

<table>
<thead>
<tr>
<th>Professional demand</th>
<th>Comprehensive demand</th>
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<tbody>
<tr>
<td>Scientific in the teaching content</td>
<td>With a high sense of responsibility</td>
</tr>
<tr>
<td>Logical in the teaching idea</td>
<td>Being a model of virtue to others</td>
</tr>
<tr>
<td>Appropriate in teaching methods</td>
<td>Stable in mood and capable of managing bad moods</td>
</tr>
<tr>
<td>Complete and adequate in lesson preparation</td>
<td>Stable in personality</td>
</tr>
<tr>
<td>Highlighted in the lecture content</td>
<td>Adaptable to the environment</td>
</tr>
<tr>
<td>Articulate, coherent and fluent in speech</td>
<td>Interested in education and teaching</td>
</tr>
<tr>
<td>Good at stimulating the students’ thirst for knowledge</td>
<td>Skillful in the construction and treatment of human relations</td>
</tr>
<tr>
<td>Natural in appearance</td>
<td>Having a personal lifestyle in line with what is expected of a teacher</td>
</tr>
<tr>
<td>Able to draw inferences in lectures</td>
<td>Skillful in communicating and dealing with special students</td>
</tr>
<tr>
<td>Able to interact with students and create an active classroom atmosphere,</td>
<td>Positive and optimistic in coping style and strong in mental resilience</td>
</tr>
<tr>
<td>Good at using new media teaching means</td>
<td>Clear about future career development</td>
</tr>
</tbody>
</table>

3.2 Psychometric assessment scheme

First, it is necessary to revise the recruitment plan after clarifying the job requirements. Clear and specific plans make hiring rules-based, orderly and feasible, thus avoiding random hiring. The main elements of the revision need to cover the list of personnel requirements and the basic criteria for recruitment, such as age, gender, education, work ability and character qualities. The psychometric assessment program includes the location, time, procedures, and the person responsible for the assessment.

3.2.1 Evaluation Tools

Major psychometric assessment scales used include SCL-90 and EPQ for pre-testing to screen out candidates with good mental health and relatively stable personalitites. The corresponding results were counted and the work efficiency was qualitatively analyzed. SPSS.20 was used to analyze the correlation between the qualitative study results and the EPQ pre-test results, and the psychometric assessment results were validated twice.

3.2.2 Assessment objects

Target: 81 applicants from one college in 2021 and 2022. Among them were 32 men and 49 women, ranging in age from 23 to 29, all with master's degrees.

4 Data analysis

4.1 SCL-90 scores for applicants

SCL-90 assessments are conducted to screen for individuals with significantly abnormal levels of mental health. Out of the 81 candidates, seven had in their score or a total score greater than 160, as shown in Table 2 below, which required further tests or interviews.
As can be seen from Table 2, the scores of applicants in all dimensions of mental health are lower than the national norm, among which interpersonal sensitivity is significantly lower than the national norm at the confidence level of 0.01 and depression, hostility, compulsion, and somatization are significantly different from the national norm at the confidence level of 0.05, indicating that the students participating in the application are generally in good mental health.

4.2 EPQ scores for candidates

Based on the results of previous interviews, the EPQ questionnaire was used to screen for environmental adaptability, emotional stability, and truthfulness in response to questions. Twenty-six of the 81 respondents scored in the typical category, 18 were likely to have a tendency to lie, and eight scored high in neuroticism or psychopathy. With reference to later admission results, the EPQ scores of employed and non-employed were compared, as displayed in Table 3:

**Table 3. Comparison of scores between the recruited and non-recruited individuals**

<table>
<thead>
<tr>
<th></th>
<th>Recruited personnel</th>
<th>Unrecruited personnel</th>
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<tbody>
<tr>
<td>E(Extroversion-Introversion)</td>
<td>62.03</td>
<td>59.75</td>
<td>2.376</td>
</tr>
<tr>
<td>N(Neuroticism)</td>
<td>29.28</td>
<td>32.69</td>
<td>-1.834</td>
</tr>
<tr>
<td>P(Psychoticism)</td>
<td>43.17</td>
<td>45.64</td>
<td>-1.564</td>
</tr>
<tr>
<td>L(Lie)</td>
<td>55</td>
<td>63.22</td>
<td>-3.099</td>
</tr>
</tbody>
</table>

Note: *P<0.05, **P<0.01, *P<0.05

As can be seen from Table 3 above, there is a significant difference between recruited and non-recruited individuals in the masking dimension, where the latter have significantly higher scores than the former, while the difference in the other dimensions is not significant. The recruited achieved higher scores on the dimensions of internal and external orientation and lower scores on the dimensions of psychotism and neuroticism compared to the non-recruited. At the same time, it is uncertain whether the differences in the other three dimensions are affected by the significantly higher concealment scores of the non-recruited.

4.3 Qualitative interviews in the recruiting department

A semi-structured interview outline was developed in advance, covering overall job evaluation, ability to deal with unexpected issues, relationships with other colleagues, adaptability to the environment, and interaction with students. Five people in charge of an employment department at a university were randomly selected to give job feedback to recruits after half a year on the job. Referring to EPQ, it is found that the internal and external azimuthal dimensions have little influence on the work. Whether the typical extroversion, the typical introversion, or the intermediate types of innerness and outerness have little effect on the main scope of work. But in terms of individual performance, typically extroverted recruits were more proactive and highly cooperative with others, while typically introverted recruits tended to be more grounded and steady in their research. In terms of neuroticism and psychopathy, however, recruits with lower scores performed better in environmental adaptation, stress coping and interpersonal relationships.

5 Discussion

Figures and tables, as originals of good quality and well contrasted, are to be in their final form, ready for reproduction, pasted in the appropriate place in the text. Try to ensure that the size of the text in your figures is approximately the same size as the main text (10 point). Try to ensure that lines are no thinner than 0.25 point.

5.1. Psychometric assessments are not a panacea

Recruiting the right talent is the ultimate goal for HR managers during the interview process. However, due to various psychological effects such as privity effect, recency effect, halo effect and stereotype effect, it is best to conceal the evaluation results before the interview to maximize the objectivity and accuracy of the evaluation results. Therefore, during the interview process, HR managers should try to reduce their psychological bias. That is, psychological evaluations, which are not omnipotent, cannot be used as a vote to reject the candidate in question [9]. As to how to use psychometric assessment, it is important that human resource managers start from the actual needs, pay attention to the content of psychometric assessment itself without going too far in pursuit of form and take a comprehensive evaluation of the interviewee without replacing HR decisions entirely based on psychometric assessments.

5.2 Selection for psychometric assessment

In the course of this study, it was found that individuals recruited by a university were characterized by good mental health, typically low mental quality, typically low neuroticism, and no significant difference in the number of internal and external orientations. At the same time, it
can be seen that the relatively small dimensionality of EPQ does not satisfy the requirement of working capacity in the larger range. Therefore, the personality assessment should be changed to a 16PF or MBTI personality assessment with more dimensions at a later stage of the recruitment process, and the stability and security of the assessment environment should be created in order to obtain assessment results with higher reliability and validity.

5.3 Assistive psychological training to increase post-service competency

In order to better improve the post competency of new employees, the relevant person in charge of the human resources department and the full-time teachers of the Mental Health Development Center of the university jointly developed psychological training in addition to the regular new induction training, including group psychological activities and relevant theoretical knowledge on different themes such as teamwork, interpersonal relationship, environmental adaptation and stress coping. At the end of the activity, the psychological quality of the participants was tested and it was found that all aspects of the participants’ mental resilience and quality had significantly improved.

6 Conclusion

The use of psychometric assessment in the recruitment can be effective in improving the recruitment efficiency. At the same time, due to the distinct characteristics of job requirements in the university faculty ranks, appropriate psychometric assessments and personality assessment scales can be used to assess the degree of person-to-post match and identify potential candidates at risk in terms of mental health, interpersonal cooperation and other aspects[10]. This will increase the efficiency of the hiring department by reducing the psychological and behavioral risks of employees, enhancing their sense of team cooperation and job loyalty, and reducing employee turnover upon entry.

References