Student selection and preference types

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The author describes a method of selecting students for a nurse anesthesia program which incorporates written tests. The characteristics measured by each test and their relationship to student performance are identified. Individual preference type indicators and their significance to anesthesia are also explored.

Student selection is a critical responsibility of nurse anesthesia program directors. Not only are school directors concerned with dropout rates and failures on the Qualifying Examination, but they hope to graduate students they will be proud to have as members of their own profession. Over the years, this task has become increasingly difficult, due to the steady increase in qualified applicants and an ever decreasing number of available positions.

How can one select the best candidates for a nurse anesthesia program? The diversity among schools makes it impossible to prescribe a standard for everyone. However, the following guidelines utilized at the Western Pennsylvania Hospital School of Anesthesia in Pittsburgh are offered for your consideration.

Guidelines for student selection

At West Penn, the selection of students is made via a non-discriminatory process performed by the Admissions Committee. The age and marital status of the applicants are not significant factors. The determination is based on an individual evaluation of the applicant's skills and/or general aptitude in the cognitive, psychomotor, and affective domains.

The candidate's skills and general aptitude in the cognitive domain are evaluated by a review of his or her level of academic achievement and recent pursuit of scholarly activities. A grade-point average of 3.0 or higher and successful passage of the State Nursing Board examination with a minimum score of 500 in each category are desired. The candidate's reading habits, of both professional and non-professional literature, and his or her expectations of the program are discussed during the personal interview. The candidate's knowledge and understanding of the duties and responsibilities of the anesthetist as a member of the health care team are assessed at this time.

Skills in the psychomotor domain are evaluated by reviewing the candidate's employment history and clinical competency. A minimum of one year's experience in a critical care unit (Intensive Care, Coronary Care, Emergency Room, Obstetrics, or Operating Room) is required. Their responses to stress at the interview and the enthusiasm and interest they display in interacting with the hospital's ancillary personnel are carefully observed. Hobbies requiring hand-to-eye coordination, such as playing a musical instrument or carpentry, are indicators of manual dexterity.
Data concerning the affective domain are elicited by reviewing the references submitted from both a physician and a registered nurse who attest to the candidate's professional nursing skills. The candidate's reason for applying to the nurse anesthesia program is explored, and the degree of maturity exhibited during the interview and in interaction with the secretaries is noted. Interpersonal communication skills, physical appearance, and presence at the interview provide additional information.

The following six written tests are administered to all candidates and are interpreted by the assistant executive director of personnel and the CRNA director: the MAK-I; Secretarial-Clerical Vocabulary Test; MAK-3A; PTI (Personnel Test for Industry); MAK-5; and NA-I (Anatomy and Physiology). The test results are not used to accept or reject candidates; however, they contribute to the overall evaluation.

The MAK-I measures the candidate's general aptitude in reading comprehension, reasoning, and mathematics. It is a timed test in which the questions become progressively difficult. The results have been correlated with IQ tests and a score of 30 indicates an IQ of approximately 100 points. A score of 47 or higher is a cue that the person is extremely intelligent and may have difficulty in accepting instructions in the didactic and clinical areas. Candidates with a score of less than 38 may have difficulty in the program. Four points are automatically added to the total score of the candidate who provides evidence of being socially or economically deprived.

The Secretarial-Clerical Vocabulary Test evaluates the candidate's word knowledge. Students scoring lower than 32 on this examination may have difficulty with reading comprehension of college-level textbooks.

The MAK-3A tests for observation, speed, accuracy and neatness and provides a good indication of the individual's response to stress. Candidates missing more than six questions on this examination may have difficulty in organizing equipment and may have a higher incidence of medication errors.

The PTI is a sensory-motor test. It identifies auditory learners and evaluates an individual's ability to follow directions.

The NA-I test was constructed on the basis of a research project funded by Ayerst Laboratories in 1972. School directors, both MD and CRNA, were surveyed and asked to identify prerequisite knowledge of anatomy and physiology which they feel is critical for candidates to have acquired prior to enrollment in a nurse anesthesia program. The areas in which this prerequisite knowledge was identified are the central nervous system and the cardiovascular, endocrine and respiratory systems. A score of 40% or higher on this test is preferred.

The MAK-5 test was constructed by Mockler* and has been statistically validated for reliability. This test provides information regarding the personality and value system of the individual and indicates how he or she may relate in interpersonal relationships. There are no standards or norms for this test and the interpretations are only as valid as the honesty of the individuals writing the examination. The test has a built-in mechanism to identify whether or not the individual is trying to "beat" the test or is dishonest in his or her response.

The MAK-5 is divided into two sections. The first part is a nonprojective test requiring the candidate to respond to questions according to personal preferences. The candidate's response to each question and the manner of the response are analyzed carefully. An area of difficulty or frustration may be indicated by a change in the candidate's answering pattern. A person disturbed by a question may grasp the pencil tightly and press down harder; consequently, the writing suddenly becomes darker, or the size of the circle or checkmark is altered.

The second section is a projective test. The candidate is given words or phrases and asked to complete the statement. The length of the response, as well as its content, provide information regarding the candidate's attitudes and feelings.

Myers-Briggs type indicator

Another area of concern for school directors is that of the differences which exist among students already enrolled in the program. Maslow's Hierarchy of Needs is well known and accepted. Everyone has personal needs or internal drives which act as motivating forces. But, when students try to satisfy their needs in a manner different from what we expect, we usually attribute it to a flaw in their characters or a lack of education and we immediately set out to change their method of gratification.

In 1923, Carl Jung postulated that although people may have similar needs, they have an individual preference for satisfying these needs and for responding to the environment.1 Further-

*Robert P. Mockler is the Assistant Executive Director of Personnel at Western Pennsylvania Hospital in Pittsburgh.
more, he felt people could be “typed” by these specific preferences. Isabel Myers created a method for determining individual type “preference” and opened Jung’s theory to scientific research in 1962. Since then, hundreds of studies have been performed to verify Jung’s theory and, in fact, many college courses offer the Myers-Briggs Type Indicator as part of the curriculum.

According to Jung’s theory, people differ in four major areas which can be subdivided into two types of preferences: interests (introvert/extrovert); perception (intuitive/sensing); assessment (feeling/thinking); and response to environment (judgmental/perceptive).

The Myers-Briggs Type Indicator is a personal survey which generates 16 possible types, each defined by some combination of the letters EI, NS, TJ or JP which represent individuals’ preferences. It is debated as to whether or not these preferences are innate or acquired; however, there is a very strong indication that they are inborn and only slightly affected by our environment.

Interests: Approximately 75% of the population is considered to be in the extrovert category. The keyword for this group is sociability. These individuals are “turned on” by people, and their energy and interests are directed outward to the world of actions, objects and people. When an extrovert leaves a party at 2 o’clock in the morning, he is all charged up and ready to go to another one.

Introverts are quite the opposite. After two hours at a party, they are ready to go home. Introverts are likely to experience a sense of loneliness, especially when they are in a crowd. Our culture does not reward introverts; in fact, they are viewed as unfriendly or “stuck-up.” They go through life believing that they should be more sociable and, unless they have a strong sense of personal integrity, often feel like the “ugly duckling.”

Perception: The way one perceives his surroundings may be divided into a preference for sensing or intuition. This is the area which causes the greatest miscommunication and misunderstanding between people. The keyword for sensing is sensible. This person wants the facts and, when working in groups, does not tolerate any nonsense. He is usually accurate in observing details, values personal experience, and considers himself to be realistic. The intuitive person looks to the future. He enjoys daydreaming, reading poetry and fiction. For such an individual, life is just around the bend, or on the other side of the mountain. This type of individual often skips from one activity to the next, sometimes never completing any of them. While the sensing person depends on hard work to get ahead, the intuitive person depends in inspiration.

Assessment: The person who reaches a decision through a rational, logical sequence is referred to as an impersonal or thinking person. He believes in principles, policy, laws and well-established criteria. A feeling person, on the other hand, exhibits more of an emotional reaction. Others see him as a warm, sensitive person, capable of deep feeling. This is the only pair of preferences which indicates a sex trend in our culture. Wives are often traditionally portrayed as referring to their husbands as “heartless,” telling them to “let their feelings show,” while husbands go about grumbling and complaining that their wives are “emotional and illogical thinkers.”

Response to environment: How one prefers to respond to his environment is the fourth area considered in Jung’s theory. The judgmental (decision-making) person aims to organize and control his environment. He establishes deadlines and expects others to accept responsibility. He often runs into goal conflicts with the individuals who prefer perception. The perceptive person is spontaneous and flexible. He is considered a “laid back” individual, one who tries to understand the whole experience and who adapts to the environment.

Significance of preferences

What effects do personal preferences have on anesthesia? Nurse anesthetists are members of a health care team and serve on many committees in and out of the hospital. The Institute of Health Team Development at Montefiore Hospital in New York explored the question, “Can we predict how effective a team will be by knowing the types of people who make up the team?” The results of their studies indicate that health care teams have very complex tasks and need the talents of all the different types of people.

The introverts are good at conceptualizing the problem and looking deeply into issues, while the extroverts make the social contacts needed for the acceptance of a plan or policy. Sensing types look at the facts and realities needed in the planning stages and work out the details for the implementation stage. The intuitive individuals are able to see the “big picture” and come up with new possibilities for the whole project. The thinking types are good at spotting flaws and inconsistencies of a plan. The human side of the issue is seen by the feeling types, who are good at persuading others to accept new ideas. The judging types are very organized and move the group toward a decision and final project, while the flexibility and
understanding of the perceptive types keep the lines of communication open.

Groups that are very similar will reach a decision quickly, but are more likely to make errors because of inadequate representation of all areas. The diverse groups will reach a decision more slowly (and painfully), but will come to a better decision because they have examined all points of view.

Computer-assisted instruction (CAI) is another area where personal preference makes a difference. The concept of an individual computer for each learner in progressive education is based on one's ability to concentrate, pay attention to details, memorize facts, and stay with a task until it is complete. If 75% of the population is of the extroverted type, most students will require a group situation, perhaps two or three to a terminal to allow for social interaction. The instructor will need to conduct frequent question or discussion periods, and provide other sources of group interaction to keep the learner on task.

The Myers-Briggs Type Indicator has also been used to analyze the number of dropouts in diploma schools of nursing. In 1967, an analysis of 53 diploma schools indicated that the dropout rate for SNJ (sensing types) is significantly lower than the dropout rate for the NFJ types (those preferring intuition). This is exactly opposite of what would be predicted from aptitude scores, because the sensing type averages about 7 points lower than the intuitive type on I.Q. tests and 50 points lower on SAT scores. This probably means that the sensing types have a specific aptitude for nursing that makes up for their disadvantage in scholastic ability.

Individual preferences are a factor in vocational choices. People tend to choose occupations in which they feel most comfortable. A 12-year follow-up of more than 4,000 doctors who took the Myers-Briggs Type Indicator as first-year medical students revealed a preference predominance within each specialty.

Anesthesiology appeals most to ISTP (introverted, sensing, thinking, perceptive types) and ISFP (introverted, sensing, feeling, perceptive types), where the acute watchfulness of the sensing, perceptive person is reinforced by the introvert's capacity for concentration over long periods of time. ISTP and ISFP may prove to be the best types of individuals for all types of monitoring positions. Although extroverts can be expected to have a much shorter attention span, nurse anesthesia is a field appealing to the ESTJ (extroverted, sensing, thinking, judgmental types) because it requires the sensing capability for monitoring, the knack to get along well with others, and the ability to take quick action based on a rational decision.

Summary

The use of paper and pencil tests for the selection of candidates and to identify individual differences should be approached cautiously because the interpretations of the tests can be very subjective. Although personal preferences do tend to become more stable as we grow older, they may vary from one day to the next. No one is an absolute extrovert or introvert; we all have tendencies toward one or the other depending on the particular situation and the mitigating circumstances.

The preference type indicator is not recommended for use in selecting candidates for entrance into a nurse anesthesia program. But, rather, to make members of the department aware of the similarities and differences among people. It is helpful in making individuals aware of the other person's preferences. It is also useful in making them aware of the need to examine their own areas of weakness and to improve them before attempting to change someone else.

REFERENCES

(3) Myers IB. 1964. Relation of Medical Students' Psychological Type to Their Specialties Twelve Years Later. Gainesville, Florida: MBTI Publications.

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