• **Expressional fluency**: writing four-word sentences in which each word begins with a specified letter
• **Alternate uses**: listing as many uses as possible for a given object
• **Plot titles**: writing titles for short-story plots
• **Consequences**: listing consequences for a hypothetical event (“What if no one needed to sleep?”)
• **Possible jobs**: list all jobs that might be symbolized by a given emblem.

The figural ARP tests, which measure spatial aptitude, include the following:

• **Making objects**: drawing specified objects using only a given set of shapes, such as a circle, square, etc.
• **Sketches**: elaborating on a given figure to produce sketches of recognizable items
• **Match problems**: removing a specified number of matchsticks from a diagram to produce a specified number of geometric shapes
• **Decorations**: using as many different designs as possible to outline drawings of common objects.

Divergent thinking tests are generally evaluated based on the number and variety of answers provided; the originality of the answers; and the amount of detail they contain (a characteristic referred to as elaboration). A number of creativity tests currently in use include sections that measure divergent thinking.

Rather than ways of thinking, some creativity tests evaluate attitudes, behavior, creative perception, or creative activity. Some creativity tests specifically address the problem of assessing creativity in minority populations, who are at a disadvantage in tests that place a strong emphasis on verbal and semantic ability. The Eby Gifted Behavior Index reflects the growing view of creativity as specific to different domains. It is divided into six talent fields: verbal, social/leadership, visual/spatial, math/science problem-solving, mechanical/technical, and musical. The Watson-Glaser Critical Thinking Appraisal is a more analytical assessment of giftedness based on five components of critical thinking: Inference, Deduction, Interpretation, Awareness of Assumptions, and Evaluation of Arguments.

Creativity tests have been found reliable in the sense that one person’s scores tend to remain similar across a variety of tests. However, their validity has been questioned in terms of their ability to predict the true creative potential of those who take them. In one study, there was little correlation between the scores of both elementary and secondary students on divergent thinking tests and their actual achievements in high school in such creative fields as art, drama, and science. Creativity tests have also been criticized for unclear instructions, lack of suit-

ability for different populations, and excessive narrowness in terms of what they measure. In addition, it may be impossible for any test to measure certain personal traits that are necessary for success in creative endeavors, such as initiative, self-confidence, tolerance of ambiguity, motivation, and perseverance. Tests also tend to create an anxiety-producing situation that may distort the scores of some test takers.

Rosalie Wieder

**Further Reading**

**Crisis intervention**

Brief, preventative psychotherapy administered following a crisis.

The term crisis intervention can refer to several different therapeutic approaches, which are applied in a variety of situations. The common denominator among these interventions, however, is their brief duration and their focus on improving acute psychological disturbances rather than curing long-standing mental disorders. Some common examples of crisis intervention include suicide prevention telephone hotlines, hospital-based crisis intervention, and community-based disaster mental health.

The theoretical basis for crisis intervention programs reflects an approach that stresses the public health and preventative components of mental health. Two psychiatrists in particular heavily influenced our approach to crisis intervention with their crisis theory. Erich Lindemann and Gerald Caplan believed that, when people are in a state of crisis, they are anxious, open to help, and motivated to change. The rationale for crisis intervention programs is therefore the belief that providing support and guidance to people in crisis will avert prolonged mental health problems.

Crisis or suicide hotlines offer immediate support to individuals in acute distress. Since they are usually
anonymous, individuals in difficulty may find themselves less embarrassed than in face-to-face interaction. Most hotlines are staffed by volunteers who are supervised by mental health professionals. Suicidal callers are provided with information about how to access mental health resources in the community. Further, some centers will arrange referrals to clinicians. Typically, crisis hotlines do not offer therapy directly. If a volunteer feels a caller is at immediate risk, however, confidentiality will be broken and a mental health worker will be called upon to intervene.

Although crisis hotlines are numerous, whether they effectively reduce suicide has not clearly been demonstrated. Some researchers fear that the people who call may not be those at highest risk. For many centers a small fraction of callers appear to represent a large fraction (estimated up to 50%) of the total phone contacts. Since the major role of the telephone operators is education about mental health resources in the community, not therapy, these frequent callers, who are often already involved in ongoing outpatient psychiatric treatment, represent an ineffective use of resources. A further problem is that there appears to be significant discrepancies in the training of telephone operators at these hotlines.

Hospital-based crisis intervention usually refers to the treatment of people suffering psychiatric emergencies that typically arise in the context of a crisis. The aim of this type of crisis intervention is usually the normalization of some type of extreme behavior. Professionals regard patients who are suicidal, homicidal, extremely violent, or suffering from severe adverse drug reactions as major psychiatric emergencies. In the United States, when individuals appear to represent imminent danger to themselves or others, they may be committed to a psychiatric facility against their will. In Canada, you can be involuntarily committed and never receive treatment. When treatment is administered, however, it is usually in the form of psychotropic drugs with follow-up outpatient therapy scheduled upon release.

A relatively recent type of crisis intervention involves the mobilization of mental health professionals following plane crashes, school shootings, natural disasters, and other traumatic events affecting several people. The professionals who arrive on the scene attempt to administer preventative procedures to avert mental disorders such as post-traumatic stress disorder, which may develop following exposure to upsetting experiences. The most popular of these is psychological debriefing, or CISD (critical incident stress debriefing), which originated in the military. People are encouraged to relive the traumatic moments, with the belief that re-experiencing the emotions will facilitate healing and prevent psychological disturbance. Unfortunately, this technique is based on assumptions held by clinicians, rather than on any research evidence; the efficacy of this technique has not been demonstrated.

Some investigations of CISD suggest that we should be more cautious about its use. Recent research in Europe indicates that this type of counseling often has no demonstrable benefits and may even make things worse. It is possible that having people focus on the upsetting event emphasizes the victimization that has already taken place, rather than people’s innate abilities to overcome these challenges. In other words, the CISD may make people feel worse by making them question their own coping abilities. These studies serve as reminders that a particular psychological intervention may be intuitively appealing but at the same time counterproductive. It is crucial that interventions be subjected to appropriate evaluation research; otherwise our efforts to help may actually waste resources and harm people.

Timothy Moore

Further Reading

Critical period
A specified time span, also referred to as the optimal or sensitive period, during which certain events or experiences must occur in order for the development of an organism to proceed normally.

Although this term is used in a variety of contexts, the term is most closely associated with ethology, the study of animal behavior in its natural environment from the perspective of evolutionary adaptation. The critical period plays an important role in the concept of imprinting, first used by Konrad Lorenz in connection with the earliest process of social attachment in young animals. (However, the term imprinting is also applicable to any irreversible behavioral response acquired early in life and normally released by a specific triggering stimulus or situation.) In the most famous example of