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FACILITATED COMMUNICATION

Facilitated communication (FC) is an augmentative communication method that purportedly allows persons with severe communication and other disabilities to demonstrate an unanticipated ability to communicate that significantly exceeds the boundaries of their potential abilities. Assisted by hand-over-hand support or other types of physical assistance from an individual without disabilities, individuals with disabilities thought to have limited communication and other abilities purportedly are able to type FC-enhanced thoughts and ideas that are extraordinary. After only minimal experience with FC, individuals with severe disabilities allegedly have communicated that they have normal intelligence and adept social skills and knowledge. Other individuals have revealed that through FC they are for the first time in their lives able to communicate. Others with severe disabilities have allegedly communicated that they are trapped within a body that prohibits them from competently communicating with others because of a condition known as *global apraxia*. Biklen (1992) stated that persons with global apraxia may have normal intelligence and language processing abilities, and when permitted to use FC, these individuals may, indeed, reveal their normal intelligence and good communication abilities.

Rosemary Crossley, an Australian, is acknowledged as the developer of FC. During the 1970s she worked at the St. Nicholas Institution in Melbourne with persons with multiple disabilities, most of whom were thought to have severe and profound retardation.

At St. Nicholas, Crossley became acquainted with a young woman who had athetoid cerebral palsy. This individual was unable to effectively communicate, feed herself, or walk. Although the staff at the institution believed the young woman to have profound retardation, Crossley was convinced that she had more ability than she was given credit. Crossley also considered her capable of communication if given assistance.

By supporting the woman's index finger, Crossley found that she was able to identify many objects by pointing. Using a procedure similar to what is now known as facilitated communication, Crossley was able to assist this young woman to read and write by pointing to letters with facilitation. In 1979, when the woman was 18 years of age, she left the institution to live with Crossley. Crossley and the young woman were instrumental in closing the St. Nicholas institution, based on claims that the staff treated residents in an inhumane fashion.

In 1986 the Dignity through Education and Language Communication Centre (DEAL) opened in Victoria, Australia, to assist persons with severe communication disorders. Crossley introduced facilitated communication to DEAL, because of her belief that clients' physical problems did not permit them to readily use standard augmentative communication devices. Facilitated communication was determined to be an effective communication option for many of DEAL's clients, including those thought to have mental retardation and autism.

Douglas Biklen is given credit for introducing facilitated communication in the United States. He saw FC used at the DEAL Centre, during which individuals

with severe disabilities revealed unexpected literacy and abilities. Biklen was impressed by the alleged desire of many of these students to be in normalized educational settings and to be able to use their purported FC-supported skills in general education classrooms. Upon his return to the United States, Biklen introduced FC to the Syracuse, New York, public school system. Based on the remarkable success he purportedly witnessed, Biklen (1990) wrote an article strongly supporting FC.

From that point, word of FC spread throughout the United States. Professionals and parents perceived it to be the breakthrough that ultimately would allow people with severe disabilities to reveal their true abilities. Remarkable on the rapid spread of FC information, Rimland (1992b) noted that “facilitated communication workshops spread throughout the country and virtually every major newspaper, news magazine and news show ran stories on facilitated communication” (p. 1). Because of its interactive connection and lack of scientific support, controversy also quickly became an element of FC. Thus, acceptance of FC as a valid method was widely questioned almost from the time the method was first introduced in the United States. The newsletter of the Autism Society of America, Inc., *The Advocate*, observed that “hard evidence for the authenticity of FC [facilitated communication] is nearly nonexistent” (1992–1993, p. 19). Calculator (1992) also noted that “in the absence of empirical evidence, this communication technique [facilitated communication] remains one that is characterized by its ambiguity, mystique, recurring anecdotes, and spiritual underpinnings” (p. 18).

The most prominent issue related to the use of FC as an intervention for persons with disabilities concerns authorship. Scientific FC validation studies have consistently concluded that when facilitators lack the information needed to answer questions correctly, individuals whom these facilitators assist are unable to communicate independently beyond their expected level. However, some advocates contend that FC should not be subjected to robust forms of scientific evaluation, because such objective scientific methods are ineffective in assessing the efficacy of FC. This argument against scientific validation is based on the contention that individuals with severe disabilities, especially autism, resist communication in objective, scientific studies because they resist communicating with more than one facilitator. In addition, proponents have argued that systematic, scientific

validation attempts of FC violate the trust bond between communicator and facilitator by suggesting that the person with a disability is incapable of advanced communication. Because of these factors, Crossley (1988) and others have contended that objective, scientific validation of FC is not recommended.

Notwithstanding the arguments against scientific validation of FC by some proponents, the generally agreed-upon issue for the vast majority of professionals and parents is whether or not this controversial method “works.” That is, when physically assisted in communicating by a nondisabled individual, can persons with severe disabilities such as autism, communicate independently at a level that is significantly above their estimated cognitive, social, and language abilities?

Researchers have convincingly demonstrated through numerous objective, scientific validation studies that individuals being facilitated are able to respond correctly only to the extent that their facilitators have the information needed to answer questions and otherwise communicate, and that extraordinary communication fails to occur. In contrast, less rigorous studies and those that have used less scientific methodology (e.g., anecdotal reports) have reported more positive results. Accordingly, inconsistent research findings resulting from the use of different research methods and models confront individuals attempting to analyze the efficacy of FC. Nevertheless, there is clear evidence that FC has not been demonstrated to be a reliable and scientifically valid method. In this regard, *scientific and valid* refers to use of systematic, standard methods that assures others that claims of effectiveness are supported by objective observations, and that nonobjective variables are accounted for or controlled. Scientific methodology also relies on measurable outcomes, established research designs, empirical data-collection procedures, and quantitative data analysis. In this regard, Calculator (1992) contended that, in the absence of objective scientific evidence, FC is little more than an “Ouija Board phenomenon.”

It is also important to recognize that there have been reports of individuals who have allegedly been harmed by FC. For example, Rimland (1992a) reported that, according to the Australian newspaper, *The Sunday Age*, a 29-year-old woman with retardation was removed from her home after communicating through FC that her family had abused her sexually. According to the article, the woman was removed from her home on two separate occasions

after typing, during FC, that she wanted to leave home to escape sexual abuse. However, after being removed from the family she had purportedly asked to escape, the woman was distraught. To establish reliability regarding the reported abuse, the Australian government contracted two facilitators, one of whom was unfamiliar with the woman, to work with the individual. The woman's FC reports of sexual abuse came under serious question when she was unable to answer basic questions, such as her father's name or the name of the family's pet. Moreover, she spelled her own name incorrectly, in spite of otherwise using sophisticated grammar and spelling.

As a means of resolving the issue of who was communicating, the Phillip Institute of Australia conducted a series of tests wherein the staff of the center she attended prepared 40 questions, to which she knew the answers. The facilitator with whom she was accustomed to working taped the questions. This facilitator assisted the woman in answering the 40 questions under four separate conditions:

1. Both the woman and the facilitator were permitted to hear the questions.
2. While wearing earphones the facilitator and the woman heard the same questions.
3. While wearing earphones the facilitator and the woman heard different questions.
4. While wearing earphones the facilitator heard only music while the woman heard the questions.

The study revealed that under condition (1), the woman correctly knew 8 or 9 of the 10 items; under condition (2), she correctly answered 4 of 10 items; under condition (3) she answered her own questions incorrectly, but answered 4 questions correctly that only the facilitator heard; and under condition (4), she answered every question incorrectly. Based on these results the investigators concluded that the woman was unable to communicate independently.

In conclusion, support for FC has primarily come in the form of informal reports and case studies. In contrast, researchers who have relied on objective scientific procedure have consistently come to different conclusions. These more objective efforts have been designed to identify objectively authors of FC-assisted products by posing questions to which facilitators did not know the answers. These scientific validation studies have concluded consistently that when facilitators lacked information needed to answer questions asked of the individuals being facilitated, the latter were unable to communicate independently.

Point versus Counterpoint: Facilitated Communication

Three points of controversy pervade the literature and research on facilitated communication (FC). Is the participant using FC communicating independently? Are researchers using the appropriate methods to assess and evaluate the effectiveness of FC? How can the unexpected literacy displayed by the users of FC be explained?

There appear to be equal numbers of qualitative and quantitative studies that evaluate FC's effectiveness. The purpose of the qualitative studies has consistently been to identify effective strategies and methods that facilitators use with participants. In contrast, the purpose of the quantitative studies has been to test FC's effectiveness with individuals with autism and related disabilities. These studies have attempted to validate FC by testing facilitator manipulation and ability of the participants to independently communicate. Interestingly, all the qualitative studies accomplished their purpose, namely to validate FC and identify further training techniques; while the vast majority of quantitative studies reported that there is no scientific validity to FC. These two different philosophies and *approaches to validating* FC have led to further controversy surrounding appropriate methods of testing participants and facilitators in the actual attempts to validate FC.

FC literature has clearly revealed a split in the research regarding FC practices and effectiveness. Yet, qualitative and quantitative researchers generally agree on one point: there have been and continue to be instances wherein FC-enhanced information that a participant was believed to be communicating was not communicated by that individual. Rather the facilitator manipulated the participant. FC proponents

contend that these occasions are rare and that researchers and observers should be able to easily identify facilitators who manipulate a participant's communication. Opponents, which include traditional researchers, counter that these occasions are the norm and it is an exception to find a participant who is truly communicating using FC.

A review of FC quantitative studies performed with individuals with autism all reveal significant internal and external validity, reliability, and fidelity threats. Most of these studies involve making the facilitator 'blind' or 'deaf' (using a blindfold, not showing facilitator the materials, and/or using earplugs and headsets) to insure that there is no possibility that the facilitator knows the questions asked or the materials presented to the participant. In this connection FC proponents have argued that such methods are incompatible with FC principles and therefore are not reliable.

Another thread of FC controversy that is found throughout the qualitative and quantitative literature is the unexpected and sudden appearance of participants' literacy skills. How is it possible that an individual is able to locate letters or type words and sentences incorporating spelling, grammar, and organization of words when previously there was no evidence that he or she could read? This is a question that researchers on both sides of the controversy have not been able to conclusively answer. In an attempt to address this question, researchers using qualitative methodology have discussed the individual's previous exposure to literacy, the individual's previous use of echolalia, and the general hyperlexic tendencies seen in many individuals with autism. Quantitative researchers have generally invested less effort in addressing this question; instead, they have contended that this is evidence that the participants' communication is actually that of the facilitator.

Taking into consideration the controversy surrounding the issue of whether the participant or the facilitator is communicating, the appropriate methods of evaluating FC effectiveness, and the inability of researchers to explain participants' unexpected literacy, it is conceivably difficult to validate and recommend the use of FC with individuals with autism.

—Richard L. Simpson, Brenda Smith Myles,
and Sonja deBoer-Ott

See also Autism Spectrum Disorders; Communication Disorders; Mental Retardation; Sensory Impairments

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FADING. See BEHAVIOR;
BEHAVIOR INTERVENTION

FAMILY COUNSELING

Family counseling is a form of intervention that occurs when the problematic behavior of an individual child is treated therapeutically in the context of the family. Family counseling is a time-limited intervention that includes the assessment of the problem and the development and implementation of strategies to create change not only in the child, but also in the family that has shaped and supported the maladaptive behavior of the child. Family counseling is based on systems theory that views the behavior of family

members to be interrelated and to function in reciprocal patterns of response to one another. Unlike individual counseling, which focuses on the child alone, in family counseling, the child's difficulties are viewed as interrelated with family processes.

REASONS FOR SEEKING FAMILY COUNSELING

The symptoms of one member, often the child, usually bring the family into counseling. The child is referred to as the "identified patient," whom the family labels as "having problems" or "being the problem." The full range of child and adolescent problems would be considered appropriate for a referral to family counseling, as the behavior problems presented by any single family member are viewed to require accommodation from other family members. Alternatively, a parent may seek counseling when he or she recognizes that an event has affected the functioning of the family as a whole. Examples include:

- Divorce
- Remarriage
- Death
- Geographical relocation
- Unexpected trauma

Family counselors tend to view the stressors that cause families to benefit from counseling as emanating from two sources:

1. Stressors outside the family may come from the work environment, public schools, social agencies, neighborhood, and extended family. Stressors external to the family may strain the normal capacity of the family to function adequately.
2. Stressors within the family reflect developmental growth and change among family members. Stress is common at developmental transition points, such as the birth of a child, the entry of a first child into school, and a child's move into adolescence. Changes in family composition also create family stress, including the addition of family members as in the birth of a sibling, remarriage, and the removal of family members (e.g., because of imprisonment or military service). The special needs of an individual family member (e.g., serious chronic or acute physical

or mental illness), can also place strain on family functioning.

Families experience difficulty when, in the face of stress, they increase the rigidity of their transactional patterns and avoid or resist the development of new patterns of behavior that would accommodate to the changing circumstances. An individual child's "problematic" behavior may be a manifestation of stress within the family system. Family counseling can help members develop more adaptive attitudes and behavior patterns for coping with their changing internal and external environment.

SETTINGS FOR FAMILY COUNSELING

Family counseling can occur in a number of settings, including in schools, hospitals, and clinics. Counseling can also occur in the home when, for example, family members cannot physically attend sessions elsewhere. The counseling setting should be comfortable for the family and facilitative of group discussion. It is optimal to include all family members in counseling. Multisystemic family counseling may include adults from systems beyond the family, including teachers, school counselors, and/or social workers.

TYPES OF FAMILY COUNSELING

Theoretical orientations of family counseling are many, but several are most helpful in the school setting based on their short-term and problem-focused approach.

1. *Structural family therapy.* Structural family therapy emphasizes the organization of the family system as it relates to the problem behavior of the child. Children's symptoms are viewed as adaptive responses to the existing organization. Structural family therapists focus on clarity and appropriateness of family roles, power, and hierarchy to meet the developmental stage of the family. The focus of change is twofold: the presenting problem and the organizational context in which the problem is embedded.
2. *Strategic family therapy.* The strategic family therapy approach is brief and focused on solving the specific problem. The strategic family therapist views the problem behavior of the child to

be embedded in the ongoing interaction patterns between and among family members. The intervention is focused on disrupting the maladaptive interaction patterns within the family.

3. *Solution-focused therapy.* The solution-focused approach takes the problem-focused approach of strategic therapy and shifts it to a focus on solutions in assessment and intervention. Solution-focused therapists seek to identify the family behavior patterns that operate when the problem behavior is not enacted. The focus of intervention is highlighting exceptions to the problem, as well as family strengths and resources.
4. *Cognitive-behavioral family therapy.* The basic premise of behavior therapy is that problematic behavior will change when the contingencies that reinforce the behavior are altered. The cognitive-behavioral model also assumes that family members' beliefs, expectancies, and attributions regarding their relationships and the problem child will mediate their behavior toward the child and toward one another. Cognitive-behavioral family counseling includes standard behavioral treatment to modify the behavioral contingencies and cognitive restructuring techniques to modify distorted beliefs, expectancies, and attributions about family relationships.
5. *Multisystemic family therapy.* Multisystemic therapy views the individual child as nested within increasingly complex systems (e.g., family, school, or neighborhood). The child's behavior problem is thought to be maintained by problematic interactions within and across the multiple systems in which the child is embedded. The influence of these interactions on a child's problem behavior may be direct (e.g., negative peer influence) or indirect (e.g., parental work stress impacts parental monitoring of the child). Multisystemic treatment uses behavioral and systems techniques to intervene at the multiple system levels related to the child's problem (e.g., family, school, and/or peer group).

FAMILY VS INDIVIDUAL COUNSELING

Therapists that do individual counseling have always recognized the importance of family life in shaping personality. They assume, however, that

family influences are internalized and become the dominant forces controlling behavior. Treatment is thus targeted to the individual personality. Family counselors, in contrast, believe that individual behavior is strongly influenced by their social context, and the family is the most influential context for the development of children. Family counseling, therefore, targets for change the context in which the child's behavior is embedded.

Advantages to the family counseling approach include the probability that behavior change can be lasting because each family member is a part of the change process and continues to exert a reciprocal influence on one another over time. Problems with children are especially suited to family counseling, as the minor child must reside within the family context.

The advantage of individual child therapy is that it is likely to be easier to conduct. Children may be accessible through school for either individual or group therapy. Family counseling, in contrast, requires the participation and cooperation of multiple family members. This presents both a logistical and attitudinal challenge. It can be difficult for family members to coordinate schedules to participate in family counseling, and many parents would prefer that someone else simply "fix" their child without their active involvement.

THE ROLE OF THE SCHOOL PSYCHOLOGIST IN FAMILY COUNSELING

Given the dramatic shifts in the social demographics of the American family, and given that children's problems often persist despite school-based interventions, it behooves the school psychologist to be prepared to facilitate intervention at the family level. This facilitation can occur at several levels, including understanding the role of family dynamics in children's school problems, conducting family-school meetings, providing consultation with parents and families, leading parent and family support groups, and providing family counseling if appropriately trained. School psychologists who lack competencies in family-school practice, including family consultation and family counseling, should obtain needed competencies before taking on this role. Without appropriate training in family counseling theory and techniques, school psychologists should consider providing referrals to appropriate community resources.

School psychologists who choose to intervene with the family and school system also must respect the traditional boundary between home and school. Schools are traditionally viewed to be the domain for education and home the domain for socialization of children's behavior. It is not reasonable to assume that parents in public school systems are open to the exploration of family issues when they seek intervention services for their child. Respecting the family's right of privacy should include allowing them to choose the level at which they choose to deal with the identified problem.

Working with the multiple subsystems of families and schools in assessing, planning, and implementing interventions also requires the maintenance of confidential information. Schools have not traditionally placed as strong an emphasis on maintaining confidentiality as do health care systems. School records are accessible to a broad range of professionals and nonprofessionals. It becomes the responsibility of the family counselor operating in the school system to be well informed of the legal regulations and ethical guidelines governing their behavior.

—Cindy Carlson and Jennifer Trapani

See also Behavior Intervention; Counseling; Divorce Adjustment; Parenting; Single-Parent Families

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA).

See AMERICANS WITH DISABILITIES ACT; INDIVIDUALS WITH DISABILITIES EDUCATION ACT; SECTION 504; U.S. DEPARTMENT OF EDUCATION

FEARS

Most children experience fear sometime during their development. In fact, studies show that approximately 75% of normal children between 4 and 12 years of age report being fearful of one thing or another (Ollendick & colleagues, 2002). In general, childhood fears tend to be mild, age-specific, and transitory. For most children, the initial experience of fear occurs during infancy when a loud noise or loss of support produces a startle-like response. Following this, panic-like fear tends to occur in older infants

when exposed to new situations, unfamiliar people, or separation from major attachment figures. Later on, children between the ages of two and four begin to develop fears of imaginary creatures (i.e., ghosts, monsters) as well as animals and the dark. School-related fears tend to appear shortly after this when the child first enters formal schooling. Finally, during later childhood and adolescence, common fears related to social and evaluative anxiety emerge.

These developmental patterns in fear type have been reported in several studies. For example, in an early study, Bauer (1976) showed that 76% of 4- to 6-year-old children reported fears of ghosts and monsters, as compared to 53% of children 6 to 8 years old, and only 5% of 10-to12-year-old children. Conversely, only 11% of the youngest group of children reported fears of bodily injury or physical danger as compared with 53% and 55%, respectively, of the two older groups of children. Regardless of age, children's most common fears are related to perceived danger and harm.

A major advance in the study of childhood fears occurred with the development of the Fear Survey Schedule for Children-Revised (FSSC-R) (Ollendick, 1983). Numerous studies have used this survey, resulting in a rich body of literature from studies conducted in the United States, as well as in many other countries. These studies have provided information on cultural norms as well as cross-cultural differences in the patterning and expression of fear. Although cultural differences occur, these studies reveal similar findings in these various countries regarding the number and types of fears (Ollendick & colleagues, 2002). In line with the previous description of the developmental patterning of fears, the most frequently endorsed fears in all countries tend to be related to physical harm and dangerous situations at an early age, and fears of social and evaluative concerns in adolescence.

Although most fears are relatively transient and age-specific, for some children these fears persist and evolve into phobias. A specific phobia can be defined as an excessive and persistent fear that results in response to, or anticipation of, an explicitly feared object or situation. A phobia may be expressed through crying, tantrum, freezing, or clinging behaviors. In addition, the feared stimulus is usually avoided or endured with intense anxiety or distress. Finally, in order to separate the typical developmental fears experienced by most children (which tend to dissipate over time), a duration parameter of six months is required for the diagnosis of specific phobia in children. Phobias can be quite

problematic for children and professional treatment is frequently called for.

Ollendick and King (1998) identified a number of interventions for effective treatment of children with specific phobias. Among these treatments are participant modeling, reinforced practice, in vivo exposure, and systematic desensitization (SD). One of the main underlying assumptions of SD is reciprocal inhibition or counter-conditioning; that is pairing an anxiety-provoking stimulus with a response that is incompatible with the phobic response. As described by Wolpe (1958), it is believed that these pairings will inhibit or quell the anxiety response. Relaxation is the most commonly used incompatible response, although others have been employed as well (e.g., eating, singing, or playing games with child clients). The three principal components of SD are:

1. Relaxation training
2. Construction of an anxiety hierarchy
3. SD proper—the systematic pairing of anxiety-provoking stimuli with the incompatible response (i.e., the relaxation response)

Relaxation requires the systematic tension and release of diverse muscle groups. For adolescents, basic relaxation scripts can be used to provide a smooth transition between muscle groups, while for younger children further considerations may be required. For example, Ollendick and Cerny (1981) suggest that simplifying instructions, shortening the duration of training sessions (i.e., 15 minutes), and incorporating “fantasy” into the descriptions (e.g., “Pretend you are a furry, lazy cat. You want to stretch. Stretch your arms out in front of you . . .”) can be especially advantageous. In addition, including the parents of younger children in the relaxation training exercises can be useful, so that they may help the child practice outside of therapy sessions. It may also be beneficial to create a relaxation audiotape for the child (and parents) to use when practicing the techniques.

The anxiety hierarchy typically consists of 10 to 12 steps that are graded in the amount of anxiety or avoidance experienced by the child. For example, using DS proper, a young child who has severe dog phobia might progress as follows:

- Looking at pictures of a dog in a story book
- Looking at a dog out of the office window

- Stepping outside to look at the dog
- Standing 20 feet away from the dog, then 10 feet away, then 5 feet away
- Touching the dog lightly on its back
- Touching the dog on its head
- Kneeling down by the dog and pet it
- Feeding the dog

This approach to the previously feared object can be accomplished either by imaging or in vivo (i.e., in real life). The important therapeutic feature is that the child approaches the dog in a controlled, safe, and predictable way. Under such condition, fear is diminished and the child is said to “habituate” to the previously feared stimuli. As noted by Ollendick and colleagues (2002), considerable support exists for the efficacy of these exposure-based desensitization procedures, especially those that are enacted in real-life settings. With such treatments, the excessive fears of childhood can be managed and effectively eliminated.

—Thomas H. Ollendick

See also Behavior Intervention; Bullying and Victimization; Intervention; Posttraumatic Stress Disorder (PTSD); Resilience and Protective Factors; School Refusal

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FETAL ALCOHOL SYNDROME

Fetal alcohol syndrome (FAS) is the result of ingestion of alcohol during pregnancy. Binge drinking

and drinking early in the pregnancy may be more detrimental to the developing fetus than moderate drinking and ingesting alcohol on a regular basis during the pregnancy (Maier & West, 2001). Prevalence is approximately one to two per 1,000 live births, with a higher incidence in low socioeconomic status (SES) populations. Individuals with FAS have characteristic facial anomalies (flat upper lip, low nasal bridge, short nose, small head size), retardation of growth, and behavioral (social problems) and cognitive deficits (mental retardation, difficulty learning new material) (Warren & Foudin, 2001). In the past, a diagnosis of fetal alcohol effect (FAE) was made when an individual did not have the characteristic facial anomalies, but had other deficits associated with alcohol exposure; and when maternal drinking was denied or unknown. alcohol-related birth defects (ARBDs) (congenital defects) and alcohol-related neurodevelopmental disorder (ARND) (behavioral or cognitive deficits) are now used instead of FAE (Warren & Foudin, 2001).

—*Agnes E. Shine and Darrell L. Downs*

See also Substance Abuse

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FLUID INTELLIGENCE

Fluid intelligence refers to mental operations used when learning new information and dealing with unfamiliar or novel problem-solving situations. The hallmarks of fluid intelligence are inductive and deductive reasoning abilities, cognitive flexibility, and the ability to adapt well to new problem-solving conditions. It includes such cognitive processes as forming and recognizing concepts, identifying and perceiving relationships among patterns, drawing inferences, comprehending implications, novel problem solving, extrapolating, and recognizing or transforming information. Fluid reasoning abilities are less

influenced by cultural and educational experiences than are other aspects of cognitive abilities such as crystallized abilities. Originally described by Cattell as one of two components of general cognitive ability (fluid and crystallized), most research indicates that fluid intelligence typically peaks in late adolescence and then declines with age. Considered by many to be at the core of what it means to be “intelligent,” fluid intelligence has a strong relationship with higher level mathematics reasoning and reading comprehension.

—*Laurie Ford and Deborah Amaral*

See also Intelligence

FORMATIVE EVALUATION

Formative evaluation is used to monitor progress and to provide feedback about the progress being made toward a defined goal. In the classroom setting, formative evaluation is used to inform students and teachers about progress during instruction. Formative evaluation is generally used to monitor progress toward a defined goal and is typically not graded. For example, at the end of a lesson, a teacher may ask students to complete a short test or activity whose purpose is to assess whether students have mastered the desired outcomes for the lesson. Students do not earn a grade for the activity. In program evaluation, formative evaluation is typically used to monitor progress toward the goals of the program, and data from formative evaluation may be used to alter or modify the program so that it is more likely that the outcomes of the program will be achieved.

—*Nona Tollefson*

See also Grades; Retention and Promotion; Summative Evaluation

FRAGILE X SYNDROME

Fragile X syndrome (FXS), the leading inherited cause of developmental disability, results from an expansion of CGG nucleotide repeats in the fragile X mental retardation gene on the X chromosome. More than 200 repeats are considered a full mutation, which is associated with a reduction of fragile X mental

retardation (FMR) protein, known to be essential for normal brain development and function. FXS is associated with mild to moderate cognitive impairment, behavioral difficulties, communication delays, and characteristic physical and behavioral features. Males are affected more severely than females. The estimated prevalence of full-mutation FXS is 1:4000 males and 1:8000 females. During infancy development may appear fairly typical. Moderate to severe delays are observed throughout early to mid childhood and development appears to plateau around adolescence. Although there is significant variability, most children with FXS are placed in special education classrooms and require services that target speech development, sensory issues, motor development, and occupational skills.

—Anne Caroline Wheeler

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FRIENDSHIPS

Ralph Waldo Emerson nicely articulated the reciprocal nature of friendships when he stated, “The only way to have a friend is to be one.” Friendships are defined as close relationships between two individuals that involve mutual attraction and reciprocity of social exchanges. Characteristics often associated with friendships include trust, respect, admiration, acceptance, social support, and shared common interests. Within the disciplines of social science, friendship information is usually determined by mutual peer nominations (i.e., whether two children indicate one another as friends). Friendships should not be confused

with related, but separate constructs including social status and peer reputation. The former refers to the child’s likeability within the peer group; and the latter to the child’s particular, salient behavioral characteristics as seen by peers. In addition, the notion of friendship differs from social skills, which pertain to the child’s aptitude or capability in peer relations (e.g., knowing how to make friends), and social competence, an evaluative term pertaining to the child’s success in performing social skills. The following entry includes an examination of the importance and developmental course of friendships. Additionally, the role of school psychologists in developing and maintaining positive peer relations will be discussed.

IMPORTANCE OF FRIENDSHIPS

Although it is difficult to ascertain the role friendships play in the development of an individual, there is a general consensus among researchers in this field that close, positive relationships are developmentally significant throughout the life span. However, the importance of friendships varies as a function of age as one progresses through major developmental milestones (e.g., toddlers learn to cooperate and play games with their friends, whereas adolescents seek friendship for intimacy and social support). Friendships foster social competence by providing a framework through which children discover and appreciate social skills and concepts. Through interactions with friends, children and adolescents develop empathy, cooperation, reciprocity, conflict resolution, social problem-solving skills, interpersonal skills, and morals. Friendships can alleviate the effects of stress and hardship often associated with school, work, peer relationships, family difficulties, bereavement, and illness. Cross-sectional comparisons of children with friends versus children without friends, such as those conducted by Newcomb and Bagwell (1995), indicate that children with friends tend to be self-confident, cooperative, more sociable, and less lonely. Friendships help to make children and adolescents resilient when challenged by stressors (e.g., the transition from elementary to middle school). Additionally, friendships foster self-esteem and promote well-being and, therefore, serve as a protective factor against future psychopathology and other unfavorable outcomes.

Perhaps the importance of friendships is best illuminated by examining the detrimental effects of having poor quality friendships, as well as the effects

of being without friends. Hartup and Stevens (1997) argue that it is not enough to simply have friends to ensure healthy development. What also matters is the qualitative nature of one's friends (i.e., prosocial versus deviant) and quality of these friendship relationships (e.g., reciprocal and supportive). Positive, supportive relationships serve as a constant resource to enhance resilience to vulnerability. Conversely, relationships with deviant peers can escalate problem behaviors and reinforce delinquency, especially during adolescence. In addition, Vitaro, and colleagues (2000) determined that having "best friends" who engage in rule- and law-violating behaviors predict adolescents' subsequent delinquent behavior. These findings emphasize the influential role of peers during adolescence, and suggest that careful attention by parents, teachers, and mental health professionals should be paid to youth regarding the nature of their friends. Children without friends lack the opportunity to practice social skills and are, therefore, at risk for many adjustment difficulties. Indeed, the notion of developmental mastery should include consideration of the number of friends and the qualitative nature of friendships.

There are a number of characteristics that may put youths at risk for poor quality friendship development. Mostow and colleagues (2002) identify emotion knowledge (i.e., recognizing and understanding emotions in oneself and others) as an important component to adaptive social behavior, which is crucial for achieving peer acceptance. Children who have difficulties in recognizing social cues and expressing emotions, such as empathy, may struggle to gain peer acceptance. Other cases of social deficits include withdrawn children. A 1999 study by Schneider found that socially withdrawn children can have good quality friendships despite their reserved nature. He infers the dyadic experience of friendships may alleviate the uncomfortable feelings withdrawn children tend to associate with larger groups.

Another study examined dyadic friendships among aggressive and depressed children from both the children's own and the peers' perspective (Brendgen & colleagues, 2002). Interestingly, depressed children reported lower friendship quality with their best friends than did well-adjusted children. However, from the peers' perspective, there were no significant problems in the relationship, and these relationships were reported to be comparable to those of well-adjusted children regarding friendship quality. A

negatively biased perspective may put depressed children at further risk for poor friendship development. Aggressive children, on the other hand, perceived their dyadic friendships as positively as well-adjusted children, but contrasting perceptions were reported by their peers (i.e., peers of aggressive children were less positive about the relationship). A positively biased view could serve as a protective factor for aggressive children by encouraging them to establish and maintain close relationships.

Finally, disturbed peer relations are often found among children with learning disabilities, and those with emotional and behavioral problems. Specifically, children with attention deficit hyperactivity disorder (ADHD) commonly have impaired social functioning and disturbed peer relations, which begin in early childhood and persist into adolescence.

DEVELOPMENTAL COURSE

Throughout the life course, having friends serves a socialization function and promotes psychological well-being. Friendships support the individual as new developmental challenges in the social and emotional development of children and adolescents arise. Hartup and Stevens suggest that to examine the developmental course of friendships, one must distinguish deep structure from surface structure. Deep structure refers to the social meaning of relationships and mainly focuses on reciprocity. This information is determined by asking children the characteristics of a friend or friends. Surface structure refers to the actual social exchanges that occur among friends reflecting developmental tasks. Between the ages of two and six, children emerge from an egocentric infancy and begin to acquire a wide range of social skills as they are introduced into the peer network. Toddlers, who have limited peer interactions, engage in simple cooperative play with siblings, parents, and other adults. A kindergartener, however, is able to gain entry into a play group and differentiate among children regarding their friendliness and likeability. Based on these characteristics, young children select playmates and, in doing so, form friendships. Therefore, the surface structure of kindergarten friends involves reciprocal play and sharing.

During the school-age years, children are faced with the developmental task of mastering the more formal skills of life, such as adjusting to structured rules and greater academic expectations. Friendships

become much more sophisticated and important during this preadolescent phase, as evidenced by the large amount of time spent thinking about the formation and maintenance of these relationships. School-age children engage in telephone conversations, participate in “sleepovers,” and share common interests and activities with their friends. During this stage, children describe friends as trustworthy, understanding, and faithful, and expect their self-disclosure will be reciprocated (Hartup & Stevens, 1997).

Adolescence is marked by a substantial decrease in the role of parental influence concomitant with an increase in the influential role of friends. The surface structure of adolescent friendships reflects the developmental challenge of identity formation and the school-age expectations of loyalty, trust, intimacy, and self-disclosure are amplified. Friends help each other navigate through the difficult trials of adolescence as one attempts to gain self-understanding and stabilize his or her identity by aligning with friends who share common interests, talents, and personality characteristics. Friendships can also emerge as a function of shared interests resulting from extracurricular activities, including high school athletics, clubs, and organizations. Unfortunately, the selection of friends can also be influenced by a shared interest in alcohol, marijuana, and other illicit drugs. Finally, increases in intimacy between opposite-gender friends tend to correspond with the onset of puberty.

ROLE OF SCHOOL PSYCHOLOGY

Friendships often originate and thrive in the school setting and are of paramount concern to parents and educators alike. It is imperative to identify children and adolescents who do not have friends, or associate with deviant peers, to prevent negative effects and adverse outcomes. Even though social skills and social competence training programs in schools are designed to provide children with the necessary tools to enhance positive friendships, most research studies indicate they are of limited efficacy. As social scientists, school psychologists must shift the focus beyond the academic domain and achievement status of the child to the child’s repertoire of interpersonal skills (e.g., social problem solving and leadership) needed to facilitate friendship acquisition and mental health.

Aside from the daunting task of promoting social competence, school psychologists need to be knowledgeable of the importance of friendships and sensitive to the child in the context of his or her friends and

peers. Friendship research delineates the protective nature of close, positive relationships, as well as the detrimental effects of poor quality friendships and the complete absence of friends. Information regarding friends can inform school psychologists about the child’s risk status, as quality friendships serve as a predictor of the child’s current and future functioning.

—Anne M. Howard and Steven Landau

See also Aggression in Schools; Cooperative Learning; Middle School; Prevention; Retention and Promotion; Shyness; Single-Parent Families; Social Skills

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FULL-SERVICE SCHOOLS

Full-Service Schools are designed to integrate social and mental health/health services with educational programs under one organizational system in order to promote the physical, emotional, social, and academic well-being of children. The Full-Service School (FSS) movement represents a new era in the quest to address the needs of children living in high-risk situations (McMahon, 2000). It is a contemporary response to the awareness that children in high-risk environments are often so overwhelmed with getting their basic needs met that their ability to learn is seriously affected. It is well documented that poverty, abuse, chronic safety concerns, family disruption, poor health, poor mental health, and learning and

emotional disabilities can seriously disrupt children's learning processes, resulting in a lasting impact on achievement and development, and thus severely limiting opportunities for educational attainment and occupational success.

Values inherent to the FSS movement (McMahon, 2000) include:

- A recognition of the complex transaction of risk and protective factors in children's lives
- The difficulty disenfranchised families have accessing quality services
- The need to bring a full complement of health, mental health, and human services into the community in accessible ways, (i.e., housed in schools)
- The need for interagency coordination and service integration
- The importance of community involvement

The FSS also represents an effort to make human service systems partners with school systems in the delivery of human services and education (Adelman & Taylor, 1999). FSSs are designed to promote the physical, emotional, social, and academic development of children (Dryfoos & Maguire, 2002; Kronick, 2000; McMahon, 2000).

There are many different components to the FSS, and they are generally offered *a la carte*, allowing schools and communities to choose which components are most needed (Dryfoos & Maguire, 2002). Despite the idiosyncrasies, Dryfoos and Maguire outline several commonalities, including case management (assigning an individual to help families qualify for and best utilize services), primary health clinics, youth development programs, family resource centers, early childhood development programs, referrals, and after-school programs. Deciding which components to include in a FSS is based on a needs assessment of the community where service practitioners work together with families to identify needed services for their community, such as after-school care or career services. Services typically reflect the entire continuum, from prevention, to early intervention, to systems of care for severe and/or chronic problems. Cultural competence in service delivery reflects the needs of each community.

FSSs provide many benefits to the community. By integrating many distinct services, families and children have easier access to services, increasing the likelihood of use. With the help of case managers, families are able to tap into the resources available to

them. With easier access to services, children and families may benefit in numerous ways, such as increased physical and mental well-being, which may, in turn, enhance each child's ability to learn (Dryfoos & Maguire, 2000), as well as prevent or alleviate juvenile delinquency, school dropouts, and future unemployment (Kronick, 2000).

Challenges to implementation of FSSs are numerous, including issues with creating the model, working through the coordination, obtaining and sustaining funding, addressing complex legal and ethical concerns, and surviving political controversy. Deciding which services to offer and in what order can engender heated debate. It can be very difficult to achieve interagency collaboration and to secure and manage the funding needed in a FSS (Dryfoos & Maguire, 2002; Kronick, 2000). Legal and ethical issues can also arise regarding confidentiality (keeping information private), informed consent (making sure families understand the services offered and their rights before agreeing to them), and professional responsibility (McMahon, 2000). FSSs are not without political controversy, as some view them as eroding the primary mission of public education in the United States, namely, the teaching of academic skills. In addition, opinions can differ in terms of the array of health services that may be offered in FSSs, such as information on contraception.

The uniqueness of each FSS, as well as the complexities of intricate coordination and the value of both micro and macro outcomes, make for challenging research and evaluation efforts. Evaluators stress that the FSS needs to be viewed as "works in progress." It is heartening that evaluations to date have yielded positive effects in terms of access and utilization, consumer satisfaction (parents, teachers, children), improved academic functioning, decreased absenteeism and mobility, increased participation in after-school activities, enhanced relationships with positive adult role models, decreased depression, enhanced family cohesion, effective parenting practices, and effective interface between special education teachers and awareness of comprehensive services available.

The potential of the FSS programs for enhancing the developmental outcomes of students with disabilities and for interfacing with special education services is only beginning to become apparent. Research is needed to explore how specific features of the FSS models may best serve students with disabilities. Research also needs to address the variety of implementation issues (e.g., funding, forming collaborative partnerships,

eligibility for services, and interfacing classroom staff with service providers) that affect delivery of services to children with recognized disabilities. School psychologists, who could be central to the coordination process, typically have played a minor role in FSSs, although specific roles have been proposed that school psychologists would be uniquely prepared to undertake, including team members, coordinators, and consultants (Reeder & Maccow, 1997). School psychologists are encouraged to prepare for and contribute to the FSS movement as it attempts to better serve children at risk.

—Deborah Tharinger and Pamela McDonald Schaber

See also School Reform

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FUNCTION. *See* FUNCTIONAL BEHAVIORAL ASSESSMENT

FUNCTIONAL BEHAVIOR ANALYSIS.
See BEHAVIOR INTERVENTION, APPLIED BEHAVIOR ANALYSIS; FUNCTIONAL BEHAVIORAL ASSESSMENT

FUNCTIONAL BEHAVIORAL ASSESSMENT

Accommodating the special needs of students with severe behavior disorders is a challenge, particularly

when administering school discipline policies: How do educators maintain safe and orderly environments while also preserving the rights of all children to a free and appropriate education? Teachers certainly have the authority to discipline students with disabilities, but recent amendments to the Individuals With Disabilities Act (IDEA 1997) require schools to be proactive in addressing behavior problems by developing well-designed positive interventions and conducting a functional behavioral assessment (FBA) when a student's behavior impedes his or her learning or the learning of others. Although IDEA 1997 first introduced the term functional behavioral assessment, its use throughout the statute is consistent with functional assessment practices that have dominated the field of applied behavior analysis for more than 30 years. Functional assessment identifies the function or purpose of behavior, or those environmental events that “turn the behavior on and off, or up and down, at will” (Baer & colleagues, 1968, p. 94). Research demonstrates that a majority of problem behaviors related to self-injury, aggression, habit disorders, fears and/or phobias, noncompliance, and delinquency are controlled by specific environmental events, and identifying the function of problem behavior can lead to a better understanding of these behaviors, and thus, more effective interventions.

THE FUNCTIONS OF BEHAVIOR

A bird that builds its nest too close to the ground or to the trunk of a tree may be easily approached by predators. If the nest is built too far out on the limb, it may be lost in a strong wind. In a similar manner, dimensions of human behavior (rate, duration, intensity) are shaped and maintained by access to favorable consequences or escape from aversive ones. For example, a high school student may develop study habits that result in better grades and hygienic skills that avoid the ridicule of peers. These interactions with the environment are often described in terms of positive or negative reinforcement. Positive reinforcement refers to a desirable event that is presented or made available after a behavior occurs, and strengthens the behavior. Events that commonly function as positive reinforcers include teacher attention, peer attention, tangible items, and preferred activities. Negative reinforcement refers to an aversive event that is avoided or terminated after a behavior occurs, and strengthens the behavior. Events that commonly

function as negative reinforcers include the termination or avoidance of social disapproval, demands, and activity restrictions.

For some students with disabilities, problem behaviors occur because their consequences are more immediate, powerful, or reliable than those associated with appropriate skills. For a youth confronted with challenging work, perseverance may result in frustration and failure, while a tantrum creates teacher sympathy and assistance. It is interesting to note that the impact of a school's response to problem behavior may be unintended. Suspending or expelling an antisocial student with serious learning problems, for example, provides escape from aversive academic demands, as well as access to the comforts of home and, possibly, the activities of other antisocial students with serious learning problems who have been removed from school. When routine consequences for problem behavior are ineffective or make things worse, an FBA may assist the teacher in developing alternative, appropriate skills.

STEPS IN A FUNCTIONAL BEHAVIORAL ASSESSMENT

An FBA consists of several coordinated activities that are typically planned and evaluated through consultation among teachers, parents, and other school professionals. First, broad information about the student's skills, interests or preferences, health concerns, educational history, and academic/social goals and expectations is gathered. Second, specific problem behaviors and appropriate replacement skills are defined in observable, measurable terms. This may be a difficult step because teachers and parents often refer to behavior in vague, general terms such as depression, attachment problems, or poor self-control. A more constructive approach, however, is to specify and prioritize the behaviors used to infer these attributes. For example, a child may be described as having poor self-control because he or she yells out in class, touches or plays with objects, or turns in sloppy work. During this step, it is important to label behavior as verbs (i.e., what the child does) rather than nouns (i.e., who the child is or what the child has). A useful definition is one that allows the behavior to be measured repeatedly and conveniently.

The third step in an FBA is to determine the function of the problem behavior, through one or more of the following methods:

- *Indirect assessment* involves the use of structured interviews or rating scales that provide a detailed account of situations in which the problem behavior occurs.
- A *descriptive analysis* involves actually measuring the problem behavior as changes occur in natural classroom conditions, such as when the class moves from one type of instruction to another.
- An *experimental analysis* is the most rigorous method, and involves directly applying and removing the consequences of behavior, such as teacher attention, peer attention, demands, or sensory stimulation, while observing the impact of these changes on problem behavior. This step is completed when the most likely consequences of behavior are identified, as well as antecedent events (e.g., time of day, type of instruction) that may influence their availability or strength.

The fourth and final step is to link prior information to a treatment plan. This plan usually consists of rearranging the child's environment so that sources of positive or negative reinforcement for the problem behavior are eliminated and these same reinforcers are made available for an alternative, appropriate response. The rationale is that if these events strengthened inappropriate behavior, then they will likely strengthen an appropriate, alternative behavior as well.

IMPLICATIONS FOR EDUCATORS

IDEA 1997 requires that an FBA be conducted when:

- A student's problem behavior impedes his or her learning, or the learning of others.
- A student's behavior presents a danger to himself or herself or others.
- A student's suspension or placement in an interim alternative setting approaches 10 cumulative days.

The National Association of State Directors of Special Education (NASDE) (1998), however, recognized the potential value of FBA across a wide range of educational decisions and recommended that a functional assessment be included whenever an individual

evaluation of behavior, academic, or adaptive skills is conducted. A broader application of FBA in school policies and practices is also consistent with recent amendments to IDEA 1997 that set new standards for preventing school failure, implementing prereferral interventions, determining special education eligibility, and developing proactive, positive behavioral treatment plans for students with disabilities.

—Kevin M. Jones

See also Applied Behavior Analysis; Behavioral Assessment; Expulsion; Individuals With Disabilities Education Act; Manifestation Determination; Suspension

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FUTURES CONFERENCE

The Futures Conference was a multisite conference held in November, 2002, which provided the profession of school psychology with the opportunity to reflect upon its past, to examine current issues and practices, and to discuss its future. Participants of the conference were academicians, practitioners, and graduate students in school psychology who met at the host site in Indianapolis, Indiana, and 30 remote sites located around the world. Individuals at the 30 remote sites were able to communicate in thoughtful dialogue with participants at the host site through an interactive Web cast. The Futures Conference was sponsored by the:

- National Association of School Psychologists (NASP)
 - American Psychological Association (APA)-Division 16 (School Psychology Division)
 - American Academy of School Psychology
 - American Psychological Association (APA)
 - Council of Directors of School Psychology Programs
 - International School Psychology Association
 - Society for the Science of School Psychology
 - Trainers of School Psychologists
- The conference was designed to “achieve consensus on current and future demands for school psychologists and our profession’s ability to meet those demands, [to] conceptualize the practice of school psychology in the face of diminishing numbers and increasing demand for services, and [to] develop an agenda to use the resources we have to maximize the benefits to the children and schools that we serve” (Harrison & colleagues, 2004, p. 12). Several themes emerged from the conference including:
- Recognition of a shortage of school psychologists, and how the shortage will impact the field and the delivery of school psychological services
 - A need to focus on evidence-based interventions (i.e., standardized, manual interventions), indirect psychological services models (i.e., problem-solving models), and prevention and early intervention
 - Promotion of home–school partnerships (i.e., promote relationships between the home and school)
 - Recognition of the value of action research (i.e., a systematic inquiry process to understand and solve specific problems with the goal of improving practice) and qualitative (i.e., descriptive) inquiry to the field, and to perform this kind of research in the schools in addition to the traditional research methods used
 - The importance of technology to disseminate information, facilitate communication among professionals, and to redesign the practice of school psychology
 - The importance of collaborating with other educators and professionals in psychology
 - Recognition of the importance of diversity and how diversity impacts children and various contexts (e.g., families, schools, communities)
 - A need to incorporate a public health approach in the practice of school psychology to make the best use of limited resources
 - Inclusion of innovative approaches in the training of school psychology students and professionals to develop the skills needed to practice effectively in school and nonschool settings.

Conference participants suggested strategies to help the profession reach its long-term goals (i.e., improve academic competence and social-emotional functioning of children and adolescents; enhance home-school partnerships and parent involvement in the schools; provide more effective instruction to students; and promote full-service or school-linked services in the schools—that is, physical and mental health services in the schools—and integrate these services with community-based services) to better serve its constituency. Action plans were developed to ensure that the long-term goals set would be actively pursued and that the School Psychology Leadership Roundtable, an advisory council consisting of leaders in the field of school psychology, would implement

and monitor the profession's progress in achieving these goals (Dawson & colleagues, 2004).

—Patricia A. Lowe

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