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Personal Style and Hearing Aid Fitting

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Why do I have to drag information out of some patients? Why is another patient so talkative? Why didn't this patient like the XYZ 2002 digital hearing aid when she had the same degree, type, and configuration of hearing impairment as the patient I successfully fit last month? Could the answer be as basic as a difference in personality?

These clinical paradoxes have existed for the past 50 years, yet many audiologists assume that the hearing impairment is the cause of the patient's entire difficulty relating to the environment, without questioning the individual psychological differences seen routinely among their patients. Since we know that our patients react differently, the responsible clinician must prepare for these reactions by attempting to predict them. Once known, rehabilitative procedures can be employed that enhance or counteract these natural differences. These personality differences have been a problem for many clinicians not only before, during, and after hearing aid fitting procedures, but it is also likely they contribute to the high variability observed in rehabilitative questionnaires and outcomes measures (Cox *et al.*, 1999; Humes, 1999; Noble, 2000).

The special personality differences every patient possesses have been termed "personal style" and it is only reasonable to conclude that there can also be substantial personal style variability among hearing-impaired people. Studies by Thomas (1984) and Meadow-Orlans (1985) indicate that basic personality structure is not affected by hearing loss. Individuals may then be expected to react differently to their hearing loss, its rehabilitative devices, and procedures according to their basic personality. If audiologists can identify these personal style differences and use them in their diagnostic and treatment procedures, then they can provide a higher degree of aural rehabilitative success.

To be successful with the hearing impaired, it is not enough to be a good diagnostician or a caring rehabilitative professional; clinicians must

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attain and maintain the patient's attention as well as fine tune their rehabilitative intervention procedures according to the specific patient's needs. Since the methods successful audiologists use key on dealing either formally or informally with the patient's personal style, this discussion will develop a rationale for the clinical use of personal style in the rehabilitative treatment plan, including hearing aid fitting, and look at some tools for analyzing personality types.

Traditional Rehabilitative Chain of Events

Audiologists differ somewhat in their adult aural rehabilitation procedures. Some clinicians, such as Wayner and Abrahamson (2000), are quite comprehensive by conducting group classes on hearing aid use, assistive devices, living with hearing loss, and many other useful topics. More common, however, are pragmatic approaches to rehabilitative treatment of hearing-impaired adults that involve the fitting of hearing instruments in a high volume, high caseload environment where there is little time to accommodate comprehensive rehabilitative programs. These practical approaches usually consist of a typical rehabilitative chain of events, including the discovery of the hearing problem, case history and hearing evaluation, outcomes assessment and handicap scale, counseling and discussion of the rehabilitative intervention, hearing aid fitting and verification, and a second outcomes assessment and handicap scale to determine if the patient actually benefited from the procedure.

No matter if it is in a physician's office or an audiology private practice, discovery of the hearing problem can be a surprise to the patient. Trauma notwithstanding, we know that many of our patients have been hearing impaired for quite some time and the appropriateness of counseling techniques can often make a major difference in rehabilitative management. Patients exhibit varying degrees of acceptance of their hearing loss and motivation for seeking help. For example, one patient may not be too concerned about the hearing loss and relate, "Oh well, I am getting old and I can't be expected to hear like I did at age 25"; while another might come to the clinic "just for the grandchildren" or state that "my wife thinks that I don't hear well"; and still another may report "I realize that I have a problem, so could you explain the alternatives that are available to me." The more we know about our patients and ourselves before we begin, the better our chances of success.

Traditionally, the first tool used to investigate the patient's hearing impairment is the audiometric evaluation. Despite its limitations, we obtain valuable information regarding the patient's degree, type, and configuration of hearing impairment as well as valuable knowledge of the patient's speech recognition skills. When audiometric evaluation is coupled with other audiological tests, such as immittance audiometry, auditory brainstem response, and otoacoustic emissions, it is often easy to tell if the patient requires medical or surgical treatment, or if hearing instrumentation is necessary. For most patients, these tests will indicate that amplification will be necessary to assist them with their communication deficit. Although we collect all of the necessary data for determining if instrumentation is indicated and what type is appropriate, we do not usually obtain knowledge about the patient's psychological reaction to the impairment or to the use of a hearing aid.

Current methods for determining how hearing impairment affects a person are handicap and outcomes assessments. Although Flamme (2001) and Humes (1999) cause audiologists to question some of these measures, typically these assessment instruments are used to evaluate both the status of self-perceived communication capability and for pre- and post-assessments of benefit with amplification. Examples of these assessments, including old ones such as the Denver Scale (Alpiner *et al.,* 1974), Hearing Handicap Scale for the Elderly (HHIE) (Ventry and Weinstein, 1993), and newer ones, such as the Abbreviated Profile of Hearing Aid Benefit (APHAB) (Cox and Alexander, 1995), and the Glasgow Hearing Aid Benefit Profile (Gatehouse, 1999). These assessments may provide some information about the patient's communication skills, his or her perception of the handicap as well as problems in special situations or with specific individuals, and some knowledge of the patient's socialization skills pre- and post-amplification. They do not, however, offer much information about the patient's personal adaptability, expectations, skepticism, or about barriers to successful rehabilitative treatment, including hearing aid success.

These self-assessment scales or outcomes measures have become common practice in many

clinics and have gained in popularity recently, particularly in hearing aid fitting to demonstrate to third parties that the instruments are successful. These outcomes measures often demonstrate benefit or nonbenefit from hearing instruments, but do not reveal a cause for the benefit or lack thereof. Could there be some psychological variable to explain the results from these measures?

Barry and McCarthy (2001) stated that it appears certain that a successful rehabilitative outcome depends largely upon psychological factors, and that an emerging body of literature touches broadly upon a patient's psychological reaction to hearing impairment and to hearing aid use. Hearing instruments are initially set according to carefully researched, scientifically accepted formulae, such as POGO (McCandless and Lyregaard, 1983), NAL-RP (Byrne & Dillon, 1986), FIG6 (Killion, 1996), NAL N L-1 (Dillon, 1999) and others (Shapiro, 1976; Berger *et al.*, 1977). Gain and frequency response requirements are set for each instrument according to calculations derived from research that considers the degree, type, and configuration of the patient's impairment as well as psychoacoustic comfortable and uncomfortable levels, speech intelligibility, monaural versus binaural, and other variables. Of course these are average fitting levels for an average ear canal and a nice place to start, but they almost always need to be modified according to the patient's individual needs. Patients with a similar hearing impairment and diverse personal styles probably react differently to "standardized prescriptive algorithms" calculated especially for their hearing loss.

Verifying benefit from instrumentation is conducted by various subjective and objective methods. Even these carefully researched, sophisticated measures usually offer minimal information about why some patients are concerned with the minute details of instrument performance and others, experiencing similar functionality, are quite pleased with the performance. Personal traits, such as focusing on detail, flexibility, change resistance, practicality, independence, conflict sensitivity, conformist or nonconformist orientation, impulsiveness, stability, and other variables that may affect the overall outcome of the procedure are usually not part of these verification measures.

Handicap scales and outcomes measures given at the end of the fitting process provide us with knowledge of how the hearing instrument performed, use patterns, and somewhat on overall perceived benefit, but do not reveal any information regarding the patient's reaction to the hearing loss, the stigma felt using the instrumentation, or long-term use patterns. The clinical paradox and frustration is that no matter how careful and thorough the clinical technique, it is often difficult to know if we did the right thing for them. If audiologists use some assessment of personal style, that information may be useful in modifying and customizing their rehabilitation and hearing aid fitting techniques for various personal styles that react differently to the process.

Review of Personal Style

If we are to effectively rehabilitate our patients, it is our opinion that we must understand how they relate to others and their environment. An obvious method to achieve this goal would be to develop an "audiological personal style assessment" specifically designed for the hearing impaired. At this writing, research into the targeted assessment of personal style is ongoing in various laboratories. Although the future advantages of these scientifically developed personality evaluations for the hearing impaired hold some promise, these methods will take time to develop, standardize, and achieve clinical acceptance. Until these well-researched, targeted methods are proven clinically, audiologists will still need to make clinical decisions each day about the rehabilitative treatment of their patients that involve personal style.

Carhart (1975) reminded audiologists years ago about the benefits of being a researcher and the perils of clinical practice:

> They [clinicians] are bedeviled each day by the specter of imperativeness in a way that even the clinical researcher is not. The researcher can gather fact after fact at his leisure until he has a sufficient edifice of evidence to answer his question with surety. How different is the clinician's task. He, too, is an investigator but the question before him is, "What can I do *now* about the needs of the person who is seeking my help at this moment?" The clinician proceeds to gather as much data about his client as he can in a clinically reasonable time. He does not have

> the luxury to wait several months or years for other facts to appear. The decisions of the clinician are more daring than the decisions of the researcher because human needs that require attention today impel clinical decisions to be made more rapidly and on the basis of less evidence than do research decisions.

Since some well-proven methods for assessing personal style are described in the literature of other disciplines, it is reasonable to consider their use in the field of audiology until such targeted methods prove themselves valid and reliable.

One of the first to consider the use of personal style to customize aural rehabilitative treatment and hearing aid fitting was Staab (1985). In his candid observation of personal style he offered that a number of different types (eg, the "Engineer Type," the "High E Type" [extravert], and the "High I Type" [introvert]) could be seen among the hearing impaired. He indicated that each of these types presented specific clinical challenges and that patients could benefit from different rehabilitative intervention strategies offered according to type. Since there were no formal or informal assessment measures, Staab's patient types were simply interesting possibilities that explained various observed patient behaviors. They were, however, a beginning of the consideration that patients with hearing losses have different personalities and might require different approaches to rehabilitative intervention.

In another attempt to categorize by personal style, Morgan (1990) divided his patients, based on their attitude toward health care, into four categories: the Proactive, the Faithful, the Optimist, and the Disillusioned. Individuals who view their audiologist as a resource for information and advice are classified as Proactive patients, while Faithful patients tend to look for direction from the professional. Morgan's Optimists believe something new is always on the horizon and that their hearing loss will be cured in the near future due to medical breakthroughs, while Disillusioned patients feel that no hope is available and they cannot be helped.

A well-known audiological counseling reference, Clark (1994), suggests that each of us has our own social style that comes into play when interacting with others within both professional and nonprofessional settings. This individual social style develops as we learn to cope with life while simultaneously attempting to keep our tensions at a manageable level (Wilson, 1978). In Clark's discussion of social style, he considers the four separate personal styles offered by Wilson (1978): the Driving, the Expressive, the Amiable, and the Analytic.

Drivers are task-oriented individuals who seem to know what they want in life and where they are headed. They are high-assertive, self-controlled people who often get their way through their assertiveness, while keeping the open display of their emotions and feelings in check.

According to Clark, Expressives are highly assertive people, similar to Drivers, but they do not hesitate to openly display their positive and negative feelings. They are "people-people," placing more importance on relationships than on tasks. They are very intuitive and rely more heavily on their "gut" reactions than on objective data. Their behavior is characterized by telling and emoting.

Although the Amiables also express their emotions openly, they are less aggressive and assertive. They appear agreeable and interested in establishing relationships, and their behavior is characterized by asking and emoting.

The Analytics are individuals who are motivated by asking and controlling. For these individuals, assertiveness is low, and they are in high control of their emotions. According to Wilson (1978), these are the people who ask questions and gather information so they may examine an issue from all sides. Clark, one of the first to consider personalities as a serious component of rehabilitative management, indicated that the use of these classifications could facilitate the recognition of the social style of others, anticipating how people are likely to behave in many general and clinical situations.

Citron (2000) observed these personal style differences among patients in the audiology clinic. He discusses the rehabilitative use of four personality styles used in business and sales training described by Dawson (1985). Dawson's styles are the Pragmatic, the Analytical, the Amiable, and the Extravert. The Pragmatic person is one who cares mainly about the bottom line while looking for fast results by reviewing the facts and controlling the situation. Analytical individuals are quite methodical and withdrawn, interested in being considered theorists. The Amiable type likes stability and time is not an obstacle, while the Extravert is described as assertive, less organized

and highly emotional. Citron found that the Pragmatic may be looking for technology to take care of the problem, the Analytical may ask for details and high-end technology, the Amiable may repair an old hearing aid just to avoid change, and the Extravert will make quick decisions. Citron (2000) further observed that Pragmatics and Extraverts do not want to dwell on issues, making their decisions quickly without lengthy explanations. The Amiables and Analyticals often require more thought and discussion before making hearing instrument choices.

Although the foregoing categorizations seem to make sense clinically and probably work for the specific clinicians involved, they are all somewhat arbitrary and have minimal, if any, supporting literature. If audiologists are to consider personal style as a serious component of clinical rehabilitative intervention, it is essential to look toward formal personality assessment measures, such as those used in counseling psychology. For many years, psychologists have used these evaluations to place individuals in various careers according to their strengths. These formal personality assessments are literature based, formally scored according to a standard, and can be extremely useful in describing one patient relative to another. These common standardized methods of assessing personal style can be used to modify audiological procedures and protocols, integrating personal style according to an accepted scientific standard.

Theories of Carl Jung

The psychological literature has long recognized differences in personality or personal style within the general population. Table 1 presents the major psychological theories that have purported to explain these personality differences. Each of these theories has its own champion to research, defend, and train individuals in its use.

Table 1. Personality Theories, Schultz and Schultz (1998)

Approach	Philosophy	Researcher
Psychoanalytic	Biologically based urges of sex and aggression, and unavoidable conflicts in childhood.	Sigmond Freud
Neopsychoanalytic	Influenced by Psychoanalytical, but that personality was composed of several distinct systems that have influence on one another.	Carl Jung, Alfred Adler, Karen Horney, Erich Fromm
Life Span	All aspects of personality can be explained by turning points or crises met at each developmental stage of life.	Erik Erikson
Trait	Grouping people by physical traits that are constant and unvarying from one situation to another.	William Sheldon, Gordon Allport, Raymond Cattell, Hans Eysenck
Humanist	Behavior is a combination of human strengths, aspirations, conscious free will, and the fulfillment of potential.	Abraham Maslow, Carl Rodgers
Cognitive	Behavior is a cognitive process.	George Kelly
Behaviorist	Behavior is an accumulation of learned responses to stimuli.	John Watson, B.F. Skinner
Social Learning	Behavior is an accumulation of learned responses to stimuli, but there are internal cognitive variables that mediate between stimulus and response.	Albert Bandura, Julian Rotter

Although any of theoretical concepts listed in Table 1 could be used to assess personality, the most commonly used personality theory is the neopsychoanalytic work of Swiss psychiatrist Carl Jung (1875–1961) who studied at the University of Basel and had a long career of clinical and academic work lecturing at the University of Zurich. Bayne (1995) indicates that the work of Katherine Briggs and Isabel Myers (1976) did much to clarify and fine tune Jung's theories by developing the Myers–Briggs Type Indicator, a useful tool which is today commonly used to explain people and their personalities.

Jung, whom the psychiatrist Sigmund Freud (1836–1939) designated as his spiritual heir, developed a theory of personality that differed dramatically from the orthodox Freud psychoanalysis. Although Freud recognized the influence of inherited primal experiences, Jung combined these ideas with those from history, mythology, anthropology, and religion to form his analytical psychological image of human nature.

In Jung's biography, McGlynn (1996) states that to understand Jung, one must appreciate Switzerland of the late 19th century and this is no easy matter. The isolation of small villages, with their special cultures based upon isolation and unique languages, was the world in which Jung found himself as a child. Schultz and Schultz (1998) indicate that as a child, Jung's orientation to the world was shaped by nine black-frocked clergymen (eight uncles and his father), deaths, funerals, neurotic parents in a failing marriage, religious doubts and conflicts, bizarre dreams and visions, and even a wooden doll for a companion. Although the son of a kind and tolerant father, Jung's future was shaped by a strong but emotionally unstable mother, who could change in an instant from "cheerful and happy" to "mumbling incoherently and gazing vacantly into space." Distrustful of his mother and disappointed in his father, Jung felt cut off from the external world, the world of conscious reality. As an escape, he turned inward to his unconscious world (and his wooden doll) of dreams, using visions and fantasies as an escape. Throughout his life, these visions and fantasies shaped his interactions with the world.

Jung's personality theory consists of three basic principles: opposites, equivalence, and entropy (Jung, 1927). In a digested discussion of these principles, Schulz and Schulz (1998) describe opposition as the conflict between opposing processes or the tendencies necessary to generate psychic energy. Equivalence refers to the continuing redistribution of energy within a personality; if the energy expended on certain conditions or activities weakens or disappears, that energy is transferred elsewhere in the personality. The principle of entropy is Jung's idea of a tendency toward balance or equilibrium within the personality; the ideal is an equal distribution of psychic energy over all structures of the personality.

Jung believed that much of our conscious perception and reaction to our environment is determined by the opposing mental attitudes of extraversion and introversion. In his opinion, psychic energy could be channeled externally toward the outside world, or internally toward the self. Thus, extraverts are described as being open, sociable, and socially assertive and oriented toward other people and the external world. Introverts are withdrawn and often shy, and they tend to focus on themselves and on their own thoughts and feelings.

As his theory developed, he recognized that there were different types of extraverts and introverts (Jung, 1927). It was then that he developed his famous eight psychological types proposing differentiations of extravert and introvert types (Jung, 1961). Jung incorporated the interaction of a tendency toward extraversion or introversion with a preference for thinking, feeling, sensation and intuition. It is interesting to review these types and consider how they have changed since Jung's original proposal in the 1920s. Jung's psychological types, as described by Schultz and Schultz (1998), are as follows:

1. Extraverted Thinking Type
   This type lives strictly in accordance with society's rules. They tend to repress feelings and emotions, to be objective in all aspects of life, and tend to be dogmatic in thoughts and opinions. They may be perceived as rigid and cold. They tend to make good scientists because their focus is on learning about the external world and using logical rules to describe and understand it.

2. Extraverted Feeling Type
   This type tends to repress the thinking mode and to be highly emotional. These people conform to the traditional values and moral codes they have been taught. They are unusually sensitive to the opinions and expectations of

others. They are emotionally responsive and make friends easily, and they tend to be sociable and effervescent. Jung believed this type was found more often among women than men.

3. Extraverted Sensing Type
These individuals focus on pleasure and happiness and on seeking new experiences. They are strongly oriented toward the real world and are adaptable to different kinds of people and changing situations. Not given toward introspection, they tend to be outgoing, with a high capacity for enjoying life.

4. Extraverted Intuiting Type
These individuals often find success in business and politics because of a keen ability to exploit opportunities. They are attracted by new ideas and tend to be creative. They are able to inspire others to accomplish and achieve. They also tend to be changeable, moving from one idea or venture to another, and to make decisions based more on hunches than on reflection. Their decisions, however, are likely to be correct.

5. Introverted Thinking Type
These people do not get along with others and have difficulties communicating ideas. They focus on thought rather than on feelings and have poor practical judgment. They are intensely concerned with privacy, they prefer to deal with abstractions and theories, and they focus on understanding themselves rather than other people. Others see them as stubborn, aloof, arrogant, and inconsiderate.

6. Introverted Feeling Type
Capable of deep emotion, this type represses thought and outward emotional expression. They seem mysterious and inaccessible and tend to be quiet, modest, and childish. They have little considerations for other's feelings and thoughts, and appear withdrawn, cold, and self-assured.

7. Introverted Sensing Type
These people appear passive, calm and detached from the everyday world. They look on most human activities with benevolence and amusement. They are aesthetically sensitive, expressing themselves in art and music, and tend to repress their intuition.

8. Introverted Intuiting Type
These people focus so intently on intuition that they have little contact with reality. They are visionaries and daydreamers, aloof, unconcerned with practical matters, and poorly understood by others. These individuals are often considered odd and eccentric and they have difficulty coping with everyday life and planning for the future.

The Myers–Briggs Type Indicator

Despite all the theoretical activity of the late 19th and early 20th centuries, very little practical research on personality ensued until the 1940s, when Katherine Briggs and Elizabeth Myers developed a test of personality called the Myers–Brigg Type Indicator (MBTI) based upon Jung's neopsychoanalytical theory of personality. In 1942, inspired by the recently translated work of Carl Jung, Katherine Briggs and her daughter, Isabel Myers, began experimenting with an evaluation of personal characteristics that could differentiate one personality type from another. A motivation of Briggs and Myers to develop a personality test was that they felt World War II was caused, at least in part, by people not understanding differences among each other. Their goal was simple: to design an assessment that would facilitate a better understanding of the differences among people in an effort to promote harmony.

Observing extreme variations between Isabel Myers and her husband, Briggs and Myers evaluated all their family members, the people their children dated, and many others as they developed their assessment psychological type. Lawrence (1986) describes the obstacles encountered by Myers and Briggs as they set out to develop a measure of psychological type. In the 1940s, psychological testing was new and personality tests of the questionnaire type were almost unknown. They were not psychologists, they did not know statistics, and Jung's theory was European and rather obscure and unpopular during the war years. Bayne (1995) presents that they wanted to use everyday language, not the psychological jargon, to facilitate ease in the understanding of the various types generated by the MBTI. They were interested in personal preferences or identification of the dominant function

of individual, not specific psychological characteristics. Additionally, they wanted their assessment to work with people whose preferences were less well developed as well as with clearer examples of a personality type.

They constructed the MBTI to have a positive tone and to be relatively nonthreatening to complete and interpret. In their type theory, each of the identified types has strengths and weaknesses, with no one type being better than another, just different. Published as a theoretical construct in 1943 (Briggs and Myers, 1976), the MBTI was later published as a psychological tool in 1956 by the Education Testing Service. By the 1960s, the MBTI was considered to be a valid measurement of personality and reliable in reporting personality differences over time. Currently, the MBTI is used domestically and internationally for career and motivational counseling in both the public and private sectors.

The MBTI and Audiology

The MBTI can provide audiologists a window to view how patients react to things, situations, and other people. Moreover, the MBTI and type theory offer outstanding opportunities to provide clinical insight into our patients for use in the rehabilitative treatment process. We can determine if our patients are outward or inward directed, move from one project to another, give up easily, are bothered by minor details, or are generally "laid back." The MBTI (Myers *et al.,* 1993) has been suggested (Traynor and Buckles, 1996; Traynor, 1997, 1998, 1999; Holmes and Traynor, 2001; Traynor and Holmes, 2001) for use in audiology clinics.

As constructed, the MBTI identifies 16 distinctively different patterns describing how people interface with their instincts. These Jungian instincts or motivations, purposes, aims, values, drives, impulses, and urges are what create the fundamental personality differences among people. Since personal preference for a particular characteristic is a reflection of how that person interfaces with these instincts, these preferences can be used to categorize or type people. Based on Jung, Myers and Briggs, as well as portions of other psychological theories, the MBTI uses personal situations and reactions to word pairs (adjusted by gender) to present scores on opposite

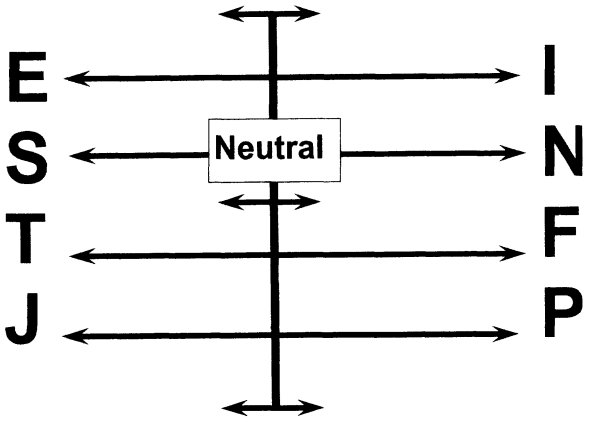

Figure 1. MBTI Continuums (Traynor, 1999).

scales of four continuums: *Extraversion (E)/Introversion (I), Sensing (S)/iNtuition (N), Thinking (T)/Feeling (F),* and *Judging (J)/Perceiving (P)* as shown in Figure 1.

In general terms, *Extraversion (E)/Introversion (I)* can be thought of as outgoing or shy, while *Sensing (S)/iNtuition (N)* may be considered as information gathering. The *Thinking (T)/Feeling (F)* scale can be thought of as information evaluation, and *Judging (J)/Perceiving (P)* refers to scheduled versus flexible. The scores on these four continuums make up the 16 personality types offered by the MBTI. The scores are generated on the various continuums as presented in Figure 1. Scores are determined by beginning at zero in the center of the continuum and progressing to a stronger attribute toward the sides. People who score in the areas that correspond to E, S, T, and J would be presented as a personal style of ESTJ, (see Figure 2) whereas those scoring in areas corresponding to I, N, F, and P would be presented as an INFP.

The 16 personal style types, each with its own set of characteristics, are summarized in Figure 3. It should be noted that these personal style descriptions are quite different from the crude descriptions Jung (1927) offered in his eight psychological types as described by Schultz and Schultz (1998).

Extraversion (E)/Introversion (I) Scale

Jung looked on *Extraversion (E)* and *Introversion (I)* as valuable opposing methods of interacting, used by everyone, but not in the same manner or

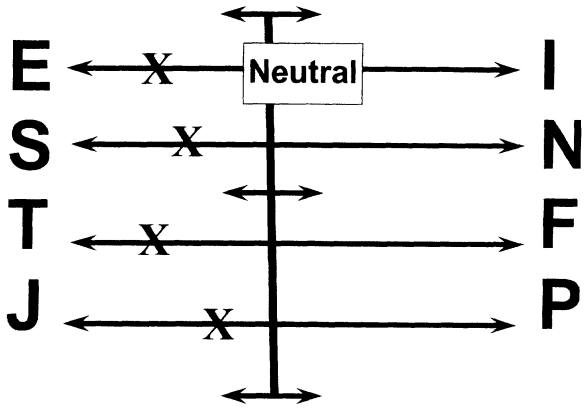

Figure 2. Scoring of the MBTI (Traynor, 1999).

with equal ease. Some individuals are naturally interactive and others are not. Bayne (1995) indicates that there are three *Extraverts (E)* for every *Introvert (I),* concurring with older studies that conclude that 75% of the general population are *Extraverts (E)* (Broadway, 1964).

Extraverts (E) are more tuned into the external environment and tend to be more interested and comfortable when they are working actively with people or things. *Extraverted (E)* people prefer to communicate by conversation, often speaking first and reflecting later, and learn best by doing or discussing. People that "blurt out" answers and comments, often regretting these utterances, are *Extroverts (E).*

In contrast, *Introverts (I),* make up about 25% of the population (Broadway, 1964; Bayne, 1995) and are drawn into an inner world, preferring to communicate by writing, and reflect before acting or speaking. *Introverts (I)* learn best by reflection or mental exercise and are more comfortable when their work involves ideas. *Introverts (I)* require a good deal of their activity to take place quietly inside their heads, thinking and reanalyzing their statements, and then finally responding.

The word pair that differentiates an *Extravert (E)* from an *Introvert (I)* is sociability as opposed to territoriality. Where the *Extravert (E)* finds

ISTJ Serious, Quiet, Practical, Logical, Matter of Fact, Dependable, Realistic, Take Responsibility	**ISFJ** Quiet, Friendly, Responsible Thorough, Painstaking Conscientious, Accurate, Concerned for Others	**INFJ** Succeed by Perseverance Originality, Quietly Forceful Conscientious, Principles Concerned for Others	**INTJ** Original Minds, Great Drive Long Range Vision, Organized Skeptical,Critical, Independent, High Standards, Determined
ISTP Quiet, Reserved, Observing, Mechanical, Cause / Effect, How and Why things work, Find Practical Solutions,	**ISFP** Retiring, Quietly Friendly, Sensitive, Kind, Modest, Shun Disagreements, Do not Force their Opinions	**INFP** Quiet Observers, Idealistic, Loyal, Courteous, Adaptable Flexible, Little Concern for Possessions or surroundings	**INTP** Quiet and Reserved,Theoretical Scientific Problem Solvers, Logical, No Small Talk Sharply defined Interests
ESTP On-the-Spot Problem Solvers Focus on Getting Results, Dislike long explanations,	**ESFP** Outgoing, Accepting,Friendly, Enjoy Everything, Sound Common Sense, Likes Facts, Not Theory	**ENFP** Warmly Enthusiastic, Distractible, Ingenious, Does not Plan Ahead, Rely on Ability to Improvise	**ENTP** Quick, Good at Many things Stimulating Company, Alert, Finds logical reasons for what they want, May Argue for Fun
ESTJ Practical, Realistic,Decisive, Matter of Fact, Not interested in Abstract or Theories, Organizers,	**ESFJ** Warm Hearted, Talkative, Popular, Conscientious, Need Encouragement and Praise, Need Harmony	**ENFJ** Responsible, Responsive, Responds to Praise and Criticism, Sociable, Popular, Sympathetic,	**ENTJ** Frank, Decisive, Leaders in activities, Good at reasoning, Enjoy adding to their knowledge, Likes to talk

Figure 3. Myers–Briggs Personalities (Myers *et al.,* 1993).

breadth appealing, the *Introvert (I)* finds the notion of depth more attractive. Other cues to preference are intensive interaction (*Extraversion*) as opposed to concentration (*Introversion*), multiplicity of relationships (*Extraversion*) as opposed to limited relationships (*Introversion*), expenditure of energy (*Extraversion*) as opposed to conservation of energy (*Introversion*), and interest in external happenings (*Extraversion*) as opposed to interest in internal reactions (*Introversion*).

Sensing (S)/iNtuition (N) Scale

As Jung's theory evolved, he was convinced that two strategies were used to gather information in order to find answers to problems or situations. These information-gathering systems were termed *Sensing (S)* and *iNtuition (N)*. *Sensing (S)* strategies use the eyes, ears, and other senses to tell what is actually occurring. At the other extreme, the *iNtuitor (I),* gathers facts using meanings, relationships, and possibilities that reach beyond the senses. These *iNtuitive (N)* skills are especially useful for seeing what might be done about a particular situation.

It is common in type theory for one of these strategies to be preferred over the other. As the *Sensing (S)* strategy is used, the individual attains more skills, becoming an expert at noticing and rapidly assimilating all the observable facts to arrive at an analytical decision. Individuals leaning toward the *Sensing (S)* strategy become more realistic, practical, observant, and fun loving and become very adept at recalling and working with a great number of facts. Those who prefer *iNtuition (I)* value imagination and inspiration, and are creative in projects and problem solving. About 75% of the population utilizes the *Sensing (S)* type strategy, while 25% use *iNtuition (N)* (Bayne, 1995; Broadway, 1964).

Careful listening to a person's choice of words can provide clues to how that person prefers to gather information. The choice of vocabulary, intonation, and voice quality can transmit one value over another. People who prefer *Sensing (S),* for example, typically value experience, the wisdom of the past, and want to be realistic, while *iNtuititors (N)* value hunches, a vision of the future, and are likely to be speculative. Words such as actual, down-to-earth, no nonsense, facts, practical, and sensible are descriptions of *Sensing (S)* people. Being risk takers and speculative, *iNtuitors (N)* prefer words such as possible, fascinating, fantasy, fiction, ingenious, and imaginative.

Thinking (T)/Feeling (F) Scale

Experience taught Jung that there were differences in how people arrived at their decisions. According to Bayne (1995), the population is almost equally divided between those who make decisions with a *Thinking (T)* strategy and those that use the *Feeling (F)* method. The *Thinking (T)* strategy predicts the logical result of any particular action by deciding impersonally on the basis of cause and effect, similar to the objective methods used by a computer program.

The opposite of this mechanical form of the data based decision-making strategy is *Feeling (F)*. *Feeling (F)* decision makers consider personal values as the criteria for making decisions. They give weight to anything that matters or is personally important to the individuals impacted by the decision, without considering the logical nature of the question. In decisiveness, both *Thinking (T)* and *Feeling (F)* are often used with equal confidence, but not simultaneously. Certain personality types trust *Thinking (T)* more than *Feeling (F)* and grow skillful at dealing with the world logically without the intervention of unpredictable human reactions. Those who trust *Feeling (F)* are typically more sympathetic, appreciative, and tactful, and give great weight to personal values.

Those who prefer impersonal choices, the *Thinkers (T),* respond positively to words such as objective, principles, policy, laws, criteria, firmness, justice, categories, standards, critique, analysis, and allocation. Conversely, *Feelers (F)* react positively to words like subjective, values, social values, extenuating circumstances, intimacy, persuasion, humane, harmony, good or bad, appreciate, sympathy, and devotion.

Those scoring more toward the *Thinking (T)* side of the continuum give priority to objective criteria and are apt to be good at argumentation, attempting to win people over to their point of view through logic and data rather than appealing to their emotions. People scoring high on the *Feeling (F)* side of the continuum are good at persuasion based upon the personal impact of the decision on the individuals involved.

Judgment (J)/Perception (P) Scale

Perceiving (P) (flexibility) or *Judgment (J)* (rigidness) is the last of Jung's four continuums and describes how a person relates to the outside world.

Fifty percent of the population are *Judgers (J)* and use a judging process to live in a planned, orderly way, in an effort to regulate and control their lives (Bayne, 1995). Individuals preferring a judging lifestyle are also scheduled, organized, systematic, and methodological. *Perceivers (P)* are the 50% of the population who typically prefer to rely on a perceptive process to deal with the outside world (Bayne, 1995). *Perceivers (P)* live in a spontaneous world, seeking to understand life and adapt to it. Individuals who prefer the *Perceiving (P)* end of the continuum tend to be spontaneous, casual, and flexible and prefer to have things loose and open-ended. *Judging (J)* people prefer words such as settled, decided, fixed, plan ahead, run one's life, closure, decision making, planned, completed, decisive, "wrap it up," urgency, deadlines, and "get the show on the road." *Perceivers (P),* however, prefer expressions such as pending, gather more data, flexible, adapt as you go, let life happen, keep options open, "treasure hunting," open-ended, emergent, tentative, "something will happen," "there's plenty of time," "what deadline?" and "let's wait and see."

MBTI Test Materials

It is not necessary to have a degree or licensure in psychology to purchase the MBTI and use these materials; however, proof of a college level "Tests and Measurements" course must be provided with your first order. Alternatively, many short courses conducted by professional psychologists or career counselors are available that will certify administration and interpretation of the MBTI test results. Official booklets, answer sheets, and computer software can be obtained through Consulting Psychologists Press, Palo Alto, California, USA or at its Web site http://www.MBTI.com.

Currently, the official version of the MBTI is written at a seventh grade reading level and consists of 93 simple one-line preference questions, usually requiring about 20 to 30 minutes of administration time. The questions on the MBTI are about general preferences, such as, "I prefer to be the life of the party (yes/no)" or "I prefer to leave my schedule loose and open ended (yes/no)." Although easy and interesting for most patients, it can be challenging to administer the MBTI to some patients with reduced intellectual integrity. Scoring of the MBTI may be conducted with minimal knowledge of the specific psychological concepts involved by the use of self-scoring answer sheets or downloadable software. Consulting Psychologists Press often revises the evaluation for less administration time, scoring ease, and accuracy based upon continuing research (Myers and McCaulley, 1985; Myers *et al.,* 1993).

A MBTI pilot study was conducted in a small private practice to determine what personality types were presented in the clinical setting for rehabilitative treatment (Traynor and Buckles, 1997). Twenty-seven hearing impaired patients were randomly selected to take the MBTI. Figure 4 presents the personal styles of these patients. Due to the small sample and the prevalence of certain types in the general population, all 16 of MBTI personal styles were not represented. It was of substantial interest, however, that almost two thirds (62.5%) of the patients, had the S and J in their personal style identifiers. This suggests that most of the clinical population could be classified as *Sensing (S)/Judging (J)* or analytical and scheduled individuals. As one of the first looks at the MBTI across a sample of hearing impaired patients, these data can be compared with larger, independent studies to suggest the possible proportions of the personal styles seen in clinical settings (Holmes and Traynor, 2001).

Keirsian Temperaments: A Simpler Method

Although the MBTI may be very useful to audiologists in their rehabilitative endeavors, it can be overwhelming to clinically consider eight extraverted types (ESTP, ESFP, ENTP, ENFP, ESTJ, ESFJ, ENFJ, ENTJ) and eight introverted types (ISTJ, ISFJ, INFJ, INTJ, ISTP, ISFP, INFP, INTP). Kroeger and Thuesen (1988) have indicated that a "personality shorthand" provides several methods for looking at type that may give clinicians specific keys to certain personal styles without having to concentrate on all of the MBTI traits at once. One shorthand method used quite often in personal type theory is the Keirsian Temperament, originally discussed by Keirsey and Bates (1978, 1984) and later clarified by Keirsey (1998a). In this scheme, the foregoing two groups of eight types can be divided into subgroups designated by two letters, symbolizing similar characteristics. Table 2 presents the Keirsian Temperament categories relative to the various MBTI personal styles.

The Keirsey hypothesis suggests that the *Judging(J)/Perceiving(P)* continuum, or a person's

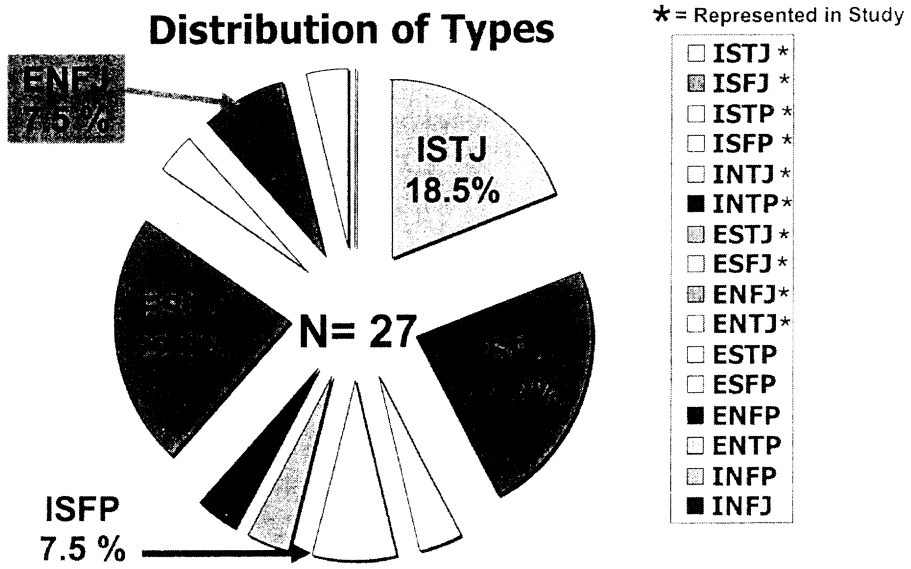

Figure 4. Patient population of private practice pilot study (Traynor and Buckles, 1997).

Table 2. Keirsian Temperaments and Associated MBTI Types (Traynor, 1999)

NF		NT		SJ		SP	
ENFJ	INFJ	ENTJ	INTJ	ESTJ	ISTJ	ESFP	ISFP
ENFP	INFP	ENTP	INTP	ESFJ	ISFJ	ESTP	ISTP

tendency toward rigidity or flexibility, has the most influence on *Sensing (S)* individuals, while the *Thinking (T)/Feeling (F)* continuum, or objectivity versus subjectivity, has the most effect on *iNtuitive (N)* types. The first letter designation of the KT reflects how the person actually gathers information, thus it will always be either an S or an N. Typically, the *Sensor (S)* focuses on what is actually there, whereas *iNtuitors (N)* are optimistic and see the possibilities. Consider the concept of "seeing the forest through the trees": the *Sensor (S)* sees a tree, while the *iNtuitor (N)* sees a forest. Additionally, *Sensors (S)* tend to be pessimistic and see the "cup as half empty," whereas the more optimistic *iNtuitor (N)* sees the "cup as half full."

To *Sensors (S),* the most important function in information gathering is not how to evaluate the data, but what to do with the data, either organize (*Judging*) it, or continue to collect or seek more data (*Perceiving*). Thus, the S person will gather the data and evaluate it (*Sensing–Judging, SJ*), or will continue to collect more data (*Sensing–Perceiving, SP*) expecting that more information will yield better results. *Sensors* are designated by the Keirsey Temperament as either an SJ or SP.

The *iNtuitors (N)* are more influenced by how they analyze the data, either objectively (*Thinking*) or subjectively (*Feeling*). The basic temperament groups for *iNtuitors (N)* are characterized by the Keirsey Temperament with the designations of NF and NT.

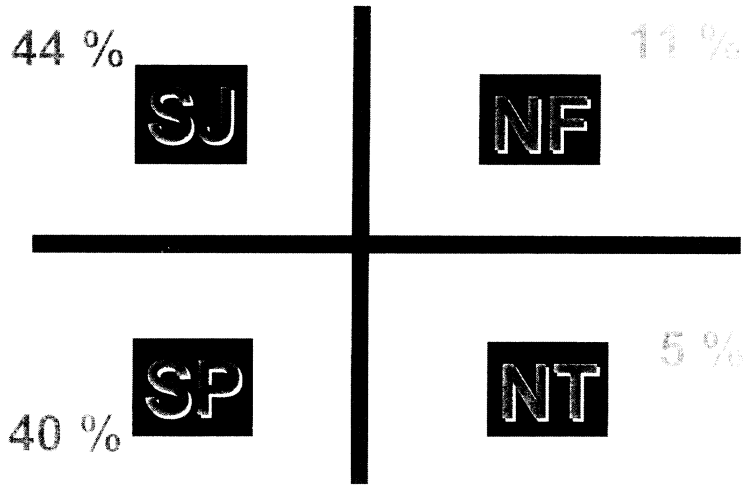

Figure 5. Prevalence of the Keirsian Temperament Personal Styles (Keirsey, 1998a).

The Keirsey Temperament Sorter facilitates easier clinical categorization by separating the 16 MBTI types into four distinct temperaments: *Sensing–Judging (SJ), Sensing–Perceiving (SP), Intuitive–Feelers (NF),* and *Intuitive–Thinkers (NT)* (Keirsey and Bates, 1978, 1984; Keirsey,1998a). Keirsey also referred to these "letter designated styles" by names, the SJ or the Guardian; the SP, the Artisian; the NF, the Idealist; and the NT, the Rational. Although different from data presented on their Web site (Keirsey 2001), Keirsey's (1998a, 1998b) report of the incidence of the Keirsian Temperament types within the US population is presented in Figure 5.

The Keirsian SJ Temperament makes up about 44% of the US population. SJs typically observe what is going on around them and make modifications in the situation, scheduling things to keep order in their lives. Keirsian SP Temperaments, approximately 40% of the population, use their observation tendencies to find favorable impulsive options. Keirsian NF Temperaments, 11% of the population, are friendly people who make their decisions based upon how they will affect others, whereas Keirsian NT Temperament people, only 5 % of the general population, make rational decisions based on facts.

Keirsey (2001) reports that people examined by the Keirsey Temperament Sorter II on their online Web site generally represent slightly different proportions of the population presenting the four styles. On the Web site, the SJs make up 43.45 %, the SPs are 12.66%, NFs are 30.15%, and NTs are 13.73% of the distribution. A higher number of NTs and a lower number of SPs are in this distribution, suggesting that the online distribution is substantially influenced by the population that use computers and interact with Web sites. Although the online Keirsey Temperament Sorter II is designed to evaluate the four temperaments, it also provides the examinee with an MBTI type. Therefore, when considering the use of the Keirsian Temperaments, it is also prudent to consider its accuracy relative to the MBTI.

Tucker and Gillespie (1993) found that the Keirsey Temperament, based upon the earlier version, matched the MBTI types 62% of the time. The next 22% of the time the Keirsey Temperament matched three of the MBTI types, while two of the MBTI traits can be matched 15% of the time. Only 1% to 2% of the time will there be no matches with the MBTI. Thus, there is about a 98% chance to match at least two of the MBTI traits and an 84% chance of matching three traits. Correlations of .85, .83, .86, and .84 were found between the tests on the *Extraversion (E)/ Introversion (I), Sensing (S)/iNtuition (N), Thinking (T)/Feeling (F),* and *Judging (J)/Perceiving (P)* continuums, respectively. These results suggest that the MBTI and the Keirsey tests are measuring the same constructs.

Obviously, it would be advantageous to be able to have a formal, extensive personality profile, such as the MBTI or Keirsey, on all patients before they are seen in the clinic. The current MBTI is time-consuming to administer (20–30 minutes) and is somewhat cumbersome to score so it is not as practical for general use in most clinical settings. The Keirsey Temperament Sorter II is available online in several languages at www.keirsey.com, takes about 10 to 20 minutes to administer, and is scored immediately online. The Keirsey is not as cumbersome to score as the MBTI, is much less expensive, and allows for easy online interpretation.

Description of the Four Keirsey Temperaments

Kroger and Thuesen (1988) summarize the Keirsey types in an analogy:

> We have a swimming pool so we can entertain a lot in the summer. Our SP guests always grab all the pool toys, head right for the water and invent a new game. The NFs sprawl on the lounge chairs and talk earnestly about life and people. The NTs dangle their feet in the water, rib each other, and critique the issues and people in their professions. And the SJs always, always find some work to do like hanging up towels, husking corn, scrubbing the grill, or pulling weeds from the garden.

Sensing–Judging: SJ Individuals (Guardians)

The SJ temperament consists of the following four MBTI types: ESTJ, ISTJ, ESFJ, and ISFJ. Termed "Guardians" by Keirsey (1978, 1984, 1998a), their specific characteristics are offered by Kroeger and Thuesen (1988) and Bayne (1995). A significant proportion of the adult hearing-impaired population, the SJs are individuals who have logistical intelligence; clear, objective practicality, and like to maintain control over situations. Figure 6 presents the overall characteristics of SJs, with specific descriptions that can be

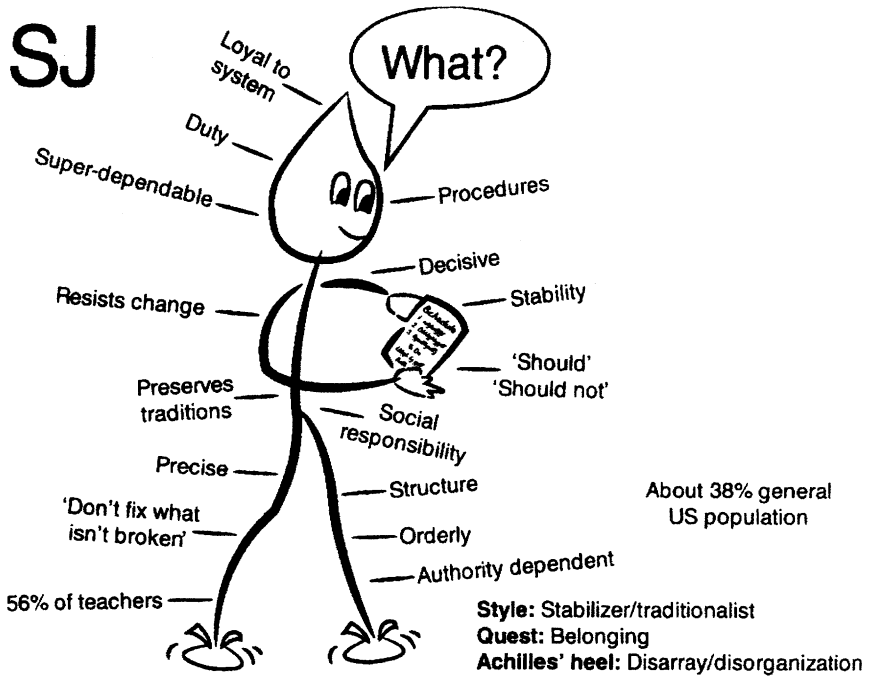

Figure 6. Characteristics of the SJ Keirsian Personal Style (Kroeger, 1991; Bayne, 1995).

useful in the informal identification of patients (Kroeger, 1991).

Since the Keirsian types include all of the following MBTI personal styles, SJs can exhibit the following traits as designated by their MBTI Type:

ESTJ
- May be quite talkative and communication is easy.
- Intense need to maintain control.
- Usually very cooperative, active participant in Audiologic Rehabilitation (A/R) process.
- Value and appreciate authority, but have high expectations.
- If adjustment is slow, can get very bored with the process.
- Need to be on time for appointments.

ISTJ
- May need to extract information with specific questions.
- Easily follow detailed instructions and will organize priorities.
- Take responsibility for their own rehabilitative program.
- Prefer a detailed, practical, step-by-step approach (Nitpicker).
- Prefers specific objectives, but over analyze minor details.
- Need to be on time for appointments, fear of losing control.

ESFJ
- May be quite talkative and communication is easy.
- Intense need to maintain control.
- Value and appreciate authority, but have high expectations.
- Set clear goals and expectations, do not oversell benefits.
- Feeling of obligation to others to do well in the A/R process.
- Are doing this for someone else, but want to be "good clients."
- Need to be on time for appointments.

ISFJ
- May need to extract information with specific questions.
- Easily follow detailed instructions and will organize priorities.
- Are doing this for someone else, but want to be "good clients."
- Feeling of obligation to do well in the A/R process.
- If initially unsuccessful, will work harder hoping to improve.
- Often complain about the difficulty, but expects it.
- Need to be on time for appointments, fear of losing control.

Sensing–Perceiving: SP Individuals (Artisans)

SP individuals are tactically intellectual and are very good in crisis management. Tolerant of difficulties and their own shortcomings, the SP generally does not tolerate long procedures. This tolerance of imperfection is why accuracy in procedure is not of particular importance to the SP. Keirsey labeled the SPs as "Artisans," and their characteristics are summarized by Kroeger (1991) and Bayne (1995). Their specific traits are presented in Figure 7. SPs are composed of MBTI types ESTP, ISTP, ESFP, and ISFP and offer unique traits that must be clinically considered:

ESTP
- May be quite talkative and communication is easy.
- Short explanations, "please fix me" attitude.
- No time for the hearing impairment.
- Just jump into the process and may not follow your directions.
- If it appears to be not successful, these patients will give up.
- No time concept, distractible, avoid discomfort and decisions.

ISTP
- May need to extract information with specific questions.
- Easily follow detailed instructions and will organize priorities.
- Constant drive to fix their "broken" hearing.
- Must consider the program a valuable use of time.
- May not read any of the materials unless absolutely necessary.
- Prefer a detailed, practical, step-by-step approach (Nitpicker).
- No time concept, distractible, avoid discomfort, and decisions.

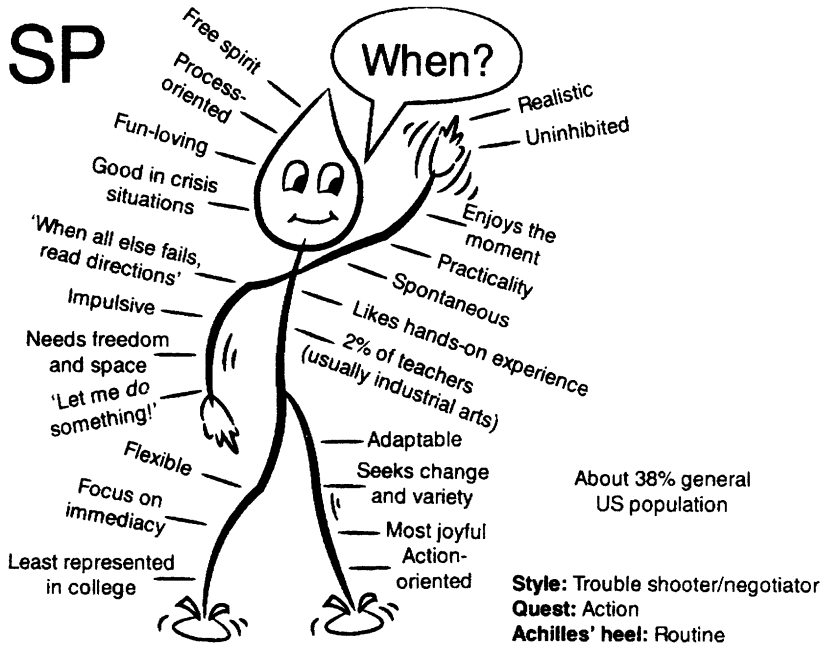

Figure 7. Characteristics of the SP Keirsian Personal Style (Kroeger, 1991; Bayne, 1995).

ESFP
- May be quite talkative and communication is easy.
- Short explanations, "please fix me" attitude.
- No time for the hearing impairment.
- Intense need for the "spotlight," communication is essential.
- Very prone to denial of the severity/impact of the hearing loss.
- No real long term satisfaction, "this never worked."
- No time concept, distractible, avoid discomfort and decisions.

ISFP
- May need to extract information with specific questions.
- A/R program must be immediately relevant.
- Pragmatic, concrete program, not interested in theory.
- Are doing this for someone else, but want to be "good clients."
- Do not prepare, prefer to just see what happens.
- No time concept, distractible, avoid discomfort and decisions.

iNtuitive–Feeling: NF Individuals (Idealists)

NFs are the abstract cooperators of the world. They have difficulty staying on task and usually have several projects going at the same time. These individuals are very diplomatic in their interactions and have an intense need for harmony in their world.

Keirsey called this group "Idealists," and their traits are summarized by Kroger (1991) and Bayne (1995) as harboring a theoretically impossible need to keep everyone happy. Specific characteristics of NFs are presented in Figure 8 (Kroeger, 1991) and consist of the following ENFJ, INFJ, ENFP, and INFP MBTI types:

ENFJ
- May be quite talkative and communication is easy.
- Respond best to positive reinforcement.
- Intense need for communication with others.
- Set clear goals and expectations, do not oversell benefits.
- Feeling of obligation to others to do well in the A/R process.

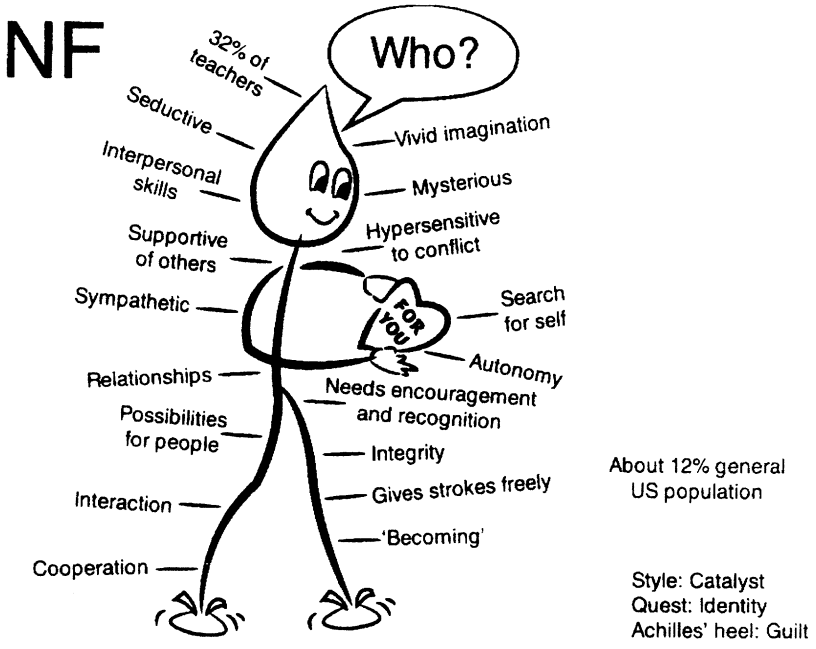

Figure 8. Characteristics of the NF Keirsian Personal Style (Kroeger, 1991; Bayne, 1995).

- Are doing this for someone else, but want to be "good clients."
- Need to be on time for appointments, only certain allotted for A/R

INFJ
- May need to extract information with specific questions.
- When unsuccessful, patients can become rigid and demanding.
- They will not give much positive feedback.
- Are doing this for someone else, but want to be "good clients."
- Need to be on time for appointments, fear losing control.
- Talk is cheap—just give them results.

ENFP
- May be quite talkative and communication is easy.
- Short explanations, "please fix me" attitude.
- Usually very cooperative in A/R process and work very hard.
- Great need for interaction, communication is essential.
- Very prone to denial of the severity/impact of the hearing loss.
- Often have well-developed coping behaviors.
- No time concept, distractible, avoid discomfort and decisions.

INFP
- May need to extract information with specific questions.
- Worry that they could have done a better job, self-criticism
- Never quite satisfied, always want a bit more.
- Are doing this for someone else, but want to be "good clients."
- If unsuccessful, it will be their fault.
- No time concept, distractible, avoid discomfort and decisions.

iNtuitive–Thinking: NT Individuals (Rational)

The NTs have very high standards and are unimpressed with authority. They prefer complexity and strategic thinking and want to be considered both logical and ingenious. The traits of the NT individual are discussed by Kroeger (1991) and

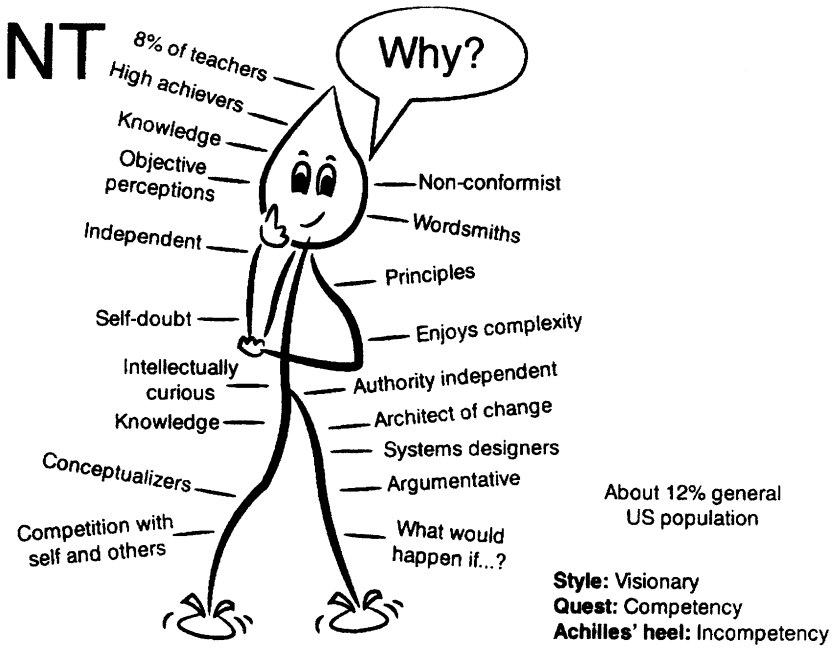

Figure 9. Characteristics of the NT Keirsian Personal Style (Kroeger, 1991; Bayne, 1995).

Bayne (1995) and summarized in Figure 9. Often referred to by audiologists an the "Engineer" type, NIs are termed "Rational" by Keirsey and consist of the following ENTJ, INTJ, ENTP, and INTP MBTI types:

ENTJ
- Usually talkative and present problems openly.
- Like detailed explanations, not impressed with credentials.
- Over analyze everything, but once convinced work very hard.
- Can present as intimidating, argumentative, and arrogant.
- Often impatient with the A/R process.
- Sometimes complain about very small problems.
- Need to be on time for appointments.

INTJ
- May need to extract information with specific questions.
- Do not respect authority and pursue self-improvement.
- Often seem aloof and arrogant, prefer long, detailed explanations.
- When unsuccessful, they may change program on their own.
- Most particular and independent of all types.
- Need to be on time for appointments, fear losing control.

ENTP
- May be quite talkative and communication is easy.
- Not impressed by credentials, prefer long, detailed explanations
- Usually very cooperative, active participant in A/R process.
- Assignments may be completed late or half way.
- If adjustment is slow, can get very bored with the process.
- No time concept, distractible, avoid discomfort and decisions.

INTP
- May need to extract information with specific questions.
- Not impressed by credentials, prefer long, detailed explanations.
- Constantly thinking of how they can improve the procedure.
- Skeptical and often require lots of references of hearing loss.

- Tend to over analyze the problem and try to fix it.
- No time concept, distractible, avoid discomfort and decisions.

Personal Style and Audiologic Rehabilitation

Each of the previously outlined categories of personal style differ in some aspects, but all are attempts at determining what makes our patients react differently to their hearing rehabilitation program, including amplification. All of these personal styles have some overlap, as people can rarely be placed definitively into one type without somewhat encroaching on another.

As previously suggested, a patient's personal style probably affects everything in the audiologic rehabilitation process, from the initial identification of the problem through the hearing aid fitting, orientation, rehabilitation therapies, and outcome assessments. Personality may even have a strong bearing on whether or not a patient actually seeks help for a hearing problem.

Studies indicate that patients seen in audiology clinics have a larger proportion of Keirsian SJ Temperaments than in the general public. Table 3 presents the distribution of Keirsian Temperament types for hearing aid patients seen in three separate clinics: a private practice, a private medical center clinic, and a Veteran's Administration (VA) hospital compared to general population normative data for the population of the United States (Traynor and Buckles, 1997; Keirsey, 1998a; Holmes and Traynor, 2001). It should be noted that the number of Keirsian SJ Temperament patients presenting themselves for treatment in the VA hospital was about 20% higher than in the private practice or the private medical center clinic.

In these three settings the majority of patients seen for hearing aid and aural rehabilitation services had Keirsian SJ Temperaments. Recall that clinically, Sensing–Judging (SJ) individuals seek to have control in their lives, believe in authority figures, and have a great need to be able to use their senses to obtain information. Additionally, the SJs prefer to have options and be in control of the situation. It is therefore very reasonable that we see a number of these patients when they notice a hearing difficulty.

Additionally, these data also suggest that Keirsian SP Temperament patients are significantly under-represented in all clinical settings relative to the general population. This finding seems reasonable, as type theory literature indicates that SP individuals are more tolerant of problems, postpone decisions, and do not like to make commitments (Bayne, 1995). Audiology and the hearing industry need to create awareness among these SP individuals regarding what can be done to accommodate their hearing loss.

These patients appear to know their hearing loss exists, but their tolerance of imperfection causes them to have less concern about the im-

Table 3. Distribution of Temperament Types*

	Population			
Temperament Type	General Population (Keirsey, 1998)	Private Practice Audiology Clinic; n = 27 (Traynor & Buckles, 1997)	University Medical Center Clinic; n = 56 (Holmes & Traynor, 2000)	Veterans Administration Medical Center Clinic; n = 69 (Holmes & Traynor, 2000)
Sensing Judging (SJ)	44	66	63	86
Sensing Perceiving (SP)	40	11	19	14
Intuitive Feeling (NF)	11	8	15	0
Intuitive Thinking (NT)	5	15	4	0

*Table shows the percent distribution of temperament types for patients seen in three separate clinics compared to population norms.

pairment than other personal styles. This presents a formidable challenge to the marketers of hearing products and rehabilitative programs, because a patient who does not perceive a problem will not seek assistance.

Among patients in both the private practice and university medical center clinics, the Keirsian NF Temperament group of patients correlated closely with the prevalence seen within the general US population. According to Keirsey (1998a), NF types have a great need to communicate with others. They have a need to establish and maintain harmony in their interactions. Typically, they seek audiology services to comply with requests or concerns from their significant others. Although generally receptive, NFs, like SPs, will lose interest in the process if it becomes lengthy or complicated (Traynor and Holmes, 2001).

Similar to the NF population, the proportion of Keirsian NT Temperament patients is also closely representative of the general US population. NT individuals, according to Keirsey (1998a), are not concerned about the consequences of not acting, and therefore it is reasonable to expect that they would not seek help when they first notice a hearing problem. Since they appear to make up a small percentage of the overall patient population, they are seen only occasionally in private clinics and private medical center clinics. This finding also held true in the Holmes and Traynor study (2001), as NTs were not represented at all in the VA hospital population sample.

The distribution of personality types was most skewed among the patients studied at the Veteran's Administration Medical Center, Gainesville, FL. As indicated in the distribution of Keirsian Temperament (Table 3), the VA group consisted of 86% SJ, 14% SP, and no NF or NT patients. It is quite possible that subsequent studies will find NFs and NTs at the VA hospital; however, our opinion is that these numbers will be quite small. Since the proportion of personal styles among the VA hospital patients appeared to be different from that of the private clinic or private medical center clinic, audiologists providing hearing and audiologic rehabilitation services in VA medical centers or like facilities (ie, public hospitals and military clinics) need to be keenly aware of the probable differences in their population. The personal style diversity between these populations may account for the differences seen in successful procedures and services provided in these facilities compared to those offered in private clinics.

Once patients are seen for audiological services, personal style influences how they react to information about their hearing abilities. Typically, the SJ types want the facts presented in a concise manner, will respect your opinions, and will make their decisions on rehabilitation options rather quickly. SPs, on the other hand, need the facts but in a more expanded manner, often asking "what if" questions. Audiologists should avoid hurrying through explanations with SP types, and concentrate the discussion on the overall outcome, not technology or the fitting process. NFs often need more hand-holding and counseling regarding the effects of the hearing loss and rehabilitation options. NTs require detailed information on the latest technologies and a complete discussion pertaining to their specific rehabilitative options (Traynor, 1999).

Trends in hearing aid selection have also been found to be influenced by personal style (Figures 10 and 11). SJ types were the most likely to purchase high-technology digital hearing aids and completely-in-the-canal aids, whereas SP types were more likely to purchase analog amplification (Traynor and Holmes, 2001).

Additionally, SJs and NFs tend to be more satisfied with their hearing aids than SPs, as measured by the Glasgow Hearing Aid Benefit Scale (Gatehouse, 1999). Further, both NFs and SJs also tend to wear their amplification more than the SP types (Holmes and Traynor, 2001).

Cox *et al.* (1999) investigated the influence of the MBTI *Extraversion (E)/Introversion (I)* continuum on hearing aid outcomes using the Abbreviated Profile of Hearing Aid Benefit (APHAB). In their study of 83 older, experienced hearing aid users, extraverts demonstrated greater benefit from their instruments. Additionally, greater hearing aid benefit by extraverts was noted on all three APHAB speech communication subscales, suggesting that personality contributed to 10% to 20% of the variability within self-assessment data sets. Humes (1999) has also indicated that personality substantially contributes to the variability in self-assessment outcomes measures. Further, Holmes and Traynor (2001) correlated the benefit of hearing instruments, as measured by the Glasgow Hearing Aid Benefit Scale (Gatehouse, 1999, 2001), to personality type and found that both SJs and NFs tended to wear their hearing aids more than the other types and were more satisfied with their performance.

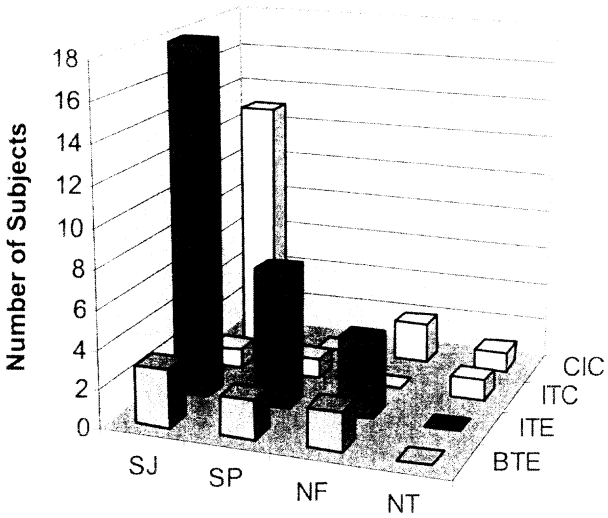

Figure 10. Hearing aid style choices by Keirsian type.

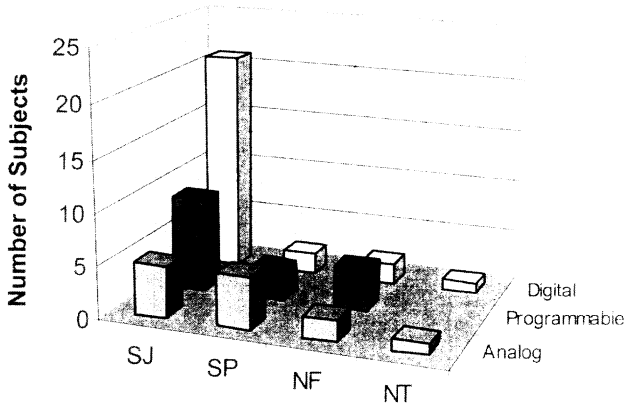

Figure 11. Hearing aid technology selection by Temperament.

Informal Evaluation of Personal Style

We need measures of personal style that can be easily used to determine who will readily accept amplification and who will prefer certain styles and levels of technology. Additionally, these measures could be used to predict how much time will be needed for each visit and who will require more attention and multiple visits. It is also helpful to know how patients best receive the information we have to offer. Specifically, are they practical, skeptical, or theoretical? Although a formalized assessment is the optimal situation, computers and Internet connections are not always available, and most importantly, the typical clinic schedule does not always allow for the luxury of taking the time for manual administration of questionnaires and their scoring and evaluation. Thus, informal assessment of personality type should be conducted.

Informal assessment is easier for some MBTI continuums than for others. Thorne (1987) indicates that the *Extraversion (E)/Introversion (I)* and the *Judging (J)/Perceiving (P)* continuums are the easiest to identify because they offer the most natural cues to the observer. The *Thinking (T)/Feeling (F)* continuum does not offer many of these natural cues, and the *Sensing (S)/iNtuition (N)* continuum offers minimal cues and is the most difficult to identify. Bayne (1995) cautions that mistakes are easily made as the person may have developed his or her uncomfortable preferences and, when observed, be using them effectively. In practice, however, accurate judgments can be made because people generally behave most of the time in ways that correspond with their type. Therefore, they provide valuable cues for those observers who (a) know what the cues are, (b) gather enough of them, and (c) avoid the biases.

Although many audiologists do not consider personality type to be a variable in hearing impairment, a careful, intelligent, informal estimate is certainly better than the current practice of treating all patients essentially the same. Traynor (1999) suggested several ways to informally estimate personality type with patients to facilitate better patient care. He indicated that experienced audiologists often do this subconsciously when comparing the current patient to those seen in the past and making adjustments in their treatment programs accordingly. Although senior clinicians often modify and adjust their techniques according to various patients seen over a period of many years, the beginning and mid-career clinician cannot possibly have the experience on which to draw appropriate conclusions without some assessment of personal style.

By conducting small-talk dialogue during the case history and discussing the situation during a follow-up visit, the audiologist can often get a rough estimate of the patient's personality. Combining the clinical perception of the patient with the observations and information from significant others can result in informal type judgments that are often quite accurate (Kendrick and

Funder, 1988; Funder and Sneed, 1993). Bayne (1995) also presents some specific strategies for improving accuracy in informal assessment of personality by observation. These are:

1. Look for evidence of a trait and patterns of that evidence.
2. Look for evidence against the particular observed trait.
3. Look for an alternative interpretation of the evidence presented, particularly the effect of the situation.
4. Recognize the ambiguity of behavior. The same behavior can be evidence for more than one preference, and the motive for behaving in that way may matter more than the behavior itself.
5. Discover your own stereotypes and favorite terms and try to allow for them.
6. Compare your observations with those of others.
7. Have a good knowledge of theories of personality.

Extravert (E) or *Introvert (I)*

As Jung discovered in the early development of his theory, the *Extraversion (E)/Introversion (I)* MBTI continuum is probably the easiest trait to identify in an informal assessment. *Extraverts (E)* will be inclined to speak loudly and rapidly. Funder and Sneed (1993) present that *Extraverts (E)* often make enthusiastic overstatements, use repetition, lots of gestures, and are very talkative. In fact, *Extraverts (E)* sometimes are so talkative that they must be suppressed to finish the session in a timely manner. These patients will often present more data about themselves than is needed to clinically assess the situation. Conversely, *Introverts (I)* are likely to express insecurity or sensitivity and speak slower in a softer voice. *Introverts (I)* will also hesitate before speaking, are awkward in their interpersonal interactions, and sometimes appear to be aloof or reserved (Funder and Sneed, 1993). They need to be asked focused questions to get information from them that can be helpful in their treatment, both initially and during their program. *Extraverts (E)* tend to increase their energy level and enthusiasm for the conversation as it continues, whereas *Introverts (I)* tend to reduce their energy.

Traynor (1999) offers examples of clinical dialogue illustrating the *Extraverted (E)* and *Introverted (I)* patient. The following is an example of an *Extraverted (E)* dialogue:

Clinician: Good morning sir, how is it going?

Patient: Fine. My daughter brought me to the clinic today, and we had a great breakfast over at that new restaurant on Tenth Avenue. Do you know the place?

Clinician: Yes, I know the place, but I haven't been there yet. Is it any good?

Patient: Oh, it's very good. I had the ham and cheese omelet, and their coffee is the best!

Clinician: Well, what brings you to see me today?

Patient: Well, my wife and daughter think I have a hearing loss. I haven't heard very well for some time now, and I suppose that I need hearing aids since I am getting older. I have some difficulty with conversations, and I'm turning the TV up these days. Actually, I don't think I have much trouble. So I guess that we'll find out this morning.

Clinician: Well, let's go over your history.

Patient: OK, well it's been about four to five years now, and it seems to be worse on the right side because when I lay on my left side, I can't hear as well as when I lay on my right side. I can't hear as well on the phone on the right ear either. I don't know, maybe it is wax in there—you know, sometimes I get a little bit out of there on my Q-tips. What causes that wax anyway?

Clinician: We'll get to the wax in a minute, but now let's focus on your history. So, do you have any ringing or buzzing noises in your head?

Patient: Oh do I ever! My ears both ring all the time. There is this little high-pitched noise that constantly goes "Rinnnnnnnnng" all the time. It used to drive me nuts, but I'm used to it now. It's actually a bit louder in the right ear.

Clinician: Have you worked around loud noise?

Patient: All my life. I started as a kid on the farm on them old tractors, the John Deer ones, they made a "PoPing" sound. You know that you could get about ten more horsepower from the old ones if you took the mufflers off. Well, anyway I left the farm to go to World War II, and I was in the artillery. Those loud guns got me, I think. Of course, then I went on to work for the packing company, and you know that's awful loud, too.

The same conversation with an *Introverted (I)* patient is quite different, as illustrated in the following example (Traynor, 1999):

Clinician: Good morning sir, how is it going today?
Patient: Fine.
Clinician: What brings you to see me today?
Patient: I think I may need hearing aids.
Clinician: Well, sir let's go over your history.
Patient: (No response)
Clinician: How long have you had this hearing loss?
Patient: Last three to four years.
Clinician: Is one ear better than the other?
Patient: Left.
Clinician: Do you have any ringing or buzzing noises in your head?
Patient: Yes.
Clinician: What does it sound like?
Patient: Ringing.
Clinician: High-pitched or low-pitched ringing?
Patient: High.
Clinician: Have you worked around loud noise during you career?
Patient: Yes.
Clinician: What kind of loud noise did you work around?
Patient: Tractors.

As the dialogue demonstrates, it is necessary to extract information from the *Introverted (I)* person with focused questions designed to obtain specific pieces of information. It is obvious that, clinically, some patients are harder to work with than others.

The first sample dialogue demonstrates how the *Extraverted (E)* person, offering lots of valuable information, may be easier to work with. Utilizing Bayne's (1995) suggestion, the informal "cues" are that the *Extraverted (E)* patient is the one who offers lots of information, while the *Introverted (I)* patient is the one who does not. In terms of "gathering enough of the cues," this *Extraversion (E)/Introversion (I)* component is usually obvious by the time the case history is completed. Clinicians who are looking for cues to a patient's *Extraversion (E)* or *Introversion (I)* should consider the following items (Myers and McCaulley, 1985; Scanlon, 1988; McCaulley, 1992; Funder and Sneed, 1993; Bayne *et al.*, 1994):

Extraversion
1. The patient has an expressive face, voice and/or gestures.
2. The patient demonstrates a high level of enthusiasm and appreciates an energetic clinician with optimism.
3. The patient speaks in a loud voice.
4. The patient is talkative and appreciates a more talkative clinician.

Introversion
1. The patient expresses insecurity or sensitivity and is comfortable with silence.
2. The patient demonstrates an awkward interpersonal style.
3. The patient behaves in a fearful or timid manner.
4. The patient is reserved and unexpressive, and less comfortable with action.
5. The patient keeps his or her partner at a distance.
6. The patient shows a lack of interest in clinical interaction.

Identifying the Keirsey Temperament

Sensing (S) or *iNtuition (N)*

When determining Keirsian cues to personality, the most difficult component to assess is patient use of the *Sensing (S)* or *iNtuition (N)* strategy to gather information. Generally, *Sensing (S)* patients tend to look for specifics and examine all the components of issues, focusing more on the process than the overall outcome. Their counterparts, the *iNtuitors (N),* gather information randomly while seeking its meaning. They would prefer to talk about what can happen rather than what is happening now. Those who are *iNtuitive (N)* want to focus on possible outcomes rather than on the process.

Traynor (1999) offers sample dialogues demonstrating *Sensing (S)* and *iNtuitive (N)* patients. The following dialogue is a hearing aid follow-up visit with a *Sensing (S)* patient:

Clinician: So, how did your new hearing aids work for you?
Patient: Well, I don't like them, but I know that I need them. I have a sore spot in my left ear that is bothering me, but it's OK on the right. I couldn't hear at Rotary Club or in church. When I got to Rotary, I sat close to the speaker

and I couldn't hear the guy next to me. We had a group sitting around in a circle telling jokes and I had some trouble getting the punch lines. At church, I couldn't hear the minister in my usual seat, and when the music started, I thought I would be knocked out of my seat! I seem to have more difficulty with women's voices and the wrinkling of paper annoys me. My own voice sounds strange to me as well.

Clinician: Did you do OK with your wife's voice and with your grandchildren?

Patient: Yes, I seem to do very well in those situations.

Clinician: Were you able to hear the television?

Patient: Yes, I have no problem with hearing the television.

Clinician: Let's take these situations one at a time. First, I'll modify the left device so it fits you better, and then I will make some program changes that will hopefully improve your performance and eliminate your sensitivity to loud music. I'll want to see you again in about ten days to determine how these changes have affected the instrument's performance.

Notice that *Sensing (S)* patients seem to focus on the things that are wrong with the instruments, rather than focus on the situations where they provide benefit. Classically, *Sensors (S)* see the "glass as half empty" emphasizing the negative, rather than emphasizing the positive. Obtaining information regarding the patient's benefit is usually a more difficult task, and it must be, at times, extracted from *Sensing (S)* patients, even those with a tendency toward extraversion.

Note the difference in the same sample dialogue conducted with an *iNtuitive (N)* patient (Traynor, 1999):

Clinician: So, how did your new hearing aids work for you?

Patient: Well, I can hear my wife a lot better. Although they may be a bit loud, I can hear my grandchildren, and the television is comfortable for me at levels that are comfortable for others. I guess I'll get used to the extra loudness in time. The hearing aids really work, that's for sure.

Clinician: What specific difficulties did you encounter during the time you tried the hearing aids?

Patient: Well, my voice sounds different, but I could probably get used to that. I have a problem in group situations and at church. I have a sore spot in my ear on the right, but it's OK on the left.

Clinician: Tell me a bit more about the situations where you had difficulty.

Patient: I couldn't hear at Rotary Club or in church. When I got to Rotary, I sat close to the speaker and I could not hear the guy next to me. We had a group sitting around in a circle telling jokes and I had some trouble getting the punch lines. At church, I couldn't hear the minister in my usual seat, and when the music started, it was really annoying! I seem to have more difficulty with women's voices and with tolerating the sound of wrinkling paper, but again, I think it will take me a little while to adapt.

Clinician: Let's take these situations one at a time. I'll modify the right device so that it fits you better, then I'll make some program changes that will assist your performance with the device. I'll want to see you again in about ten days to determine how these changes have affected your performance with the instruments.

The *iNtuitors (N)* often require extraction of more information from the negative side, whereas the *Sensors (S)* may have difficulty realizing benefit from the hearing aid or treatment program. It is obvious that these patients are saying the same things in these dialogues, but are focusing on different aspects of their performance with the devices. The clinical adjustments are the same; it is simply the patients' focus that is different. So, proper counseling becomes critically important. Clinically, with *Sensors (S),* it is a hasty decision; they are not happy with the hearing aids. With *iNtutitors (N),* they may not be entirely satisfied with the devices, but they hesitate to say so because they hold on for the promise that real benefit will take some time. It is necessary to probe *iNtuitors (N)* with questions to investigate possible problems, while "handholding" *Sensors (S)* may be necessary to reassure them. Clinically, the patient may present the following clues to disclose their preference for *Sensing (S)/iNtuition (I)* (Myers and McCaulley, 1985; Scanlon, 1988; McCaulley, 1992; Funder and Sneed, 1993; Bayne *et al.,* 1994):

Sensors (S)

1. Patients may gesture very little.
2. Patients may keep hands in pockets or behind their backs.
3. Patients tend to read more realistic books and to remember specific plots and details of the story.
4. Patients relate stories, case histories, and experiences with hearing aids in great detail.
5. Patients appreciate a step-by-step, concrete, and detailed approach to the situation.
6. Patients are not comfortable with novel and imaginative approaches.

iNtuitors (N)

1. Patients tend to look toward the possibilities, "what might be."
2. Patients may overemphasize the benefits.
3. Patients may jump from topic to topic.
4. Patients may see unrealistic possibilities with amplification or audiologic treatment.
5. Patients will often overlook facts and are not realistic about their hearing loss, the capabilities of the technology in their hearing aid, etc.
6. Patients appreciate novel or imaginative approaches to treatment.

Thinkers (T) or *Feelers (F)*

The identification of *Thinkers (T)* from *Feelers (F)* is not overtly observable, but does not take as much experience and skill as looking for clues to the patient's *Sensing (S)/iNtution (N)* trait. In Keirsian Type theory, the *Thinking (T)/Feeling (F)* continuum has the most effect upon the *iNtuitiors (N)*. Thus, when observing for cues for *Thinking (T)/Feeling (F),* it is assumed that the person has already been identified as an *iNtuitor (N)*. Further, once the cues for the *Thinking (T)/Feeling (F)* are being sought, the outcome, according to the Keirsian theory, will be that the person is either an *NT* or an *NF*.

Specifically, *Thinkers (T)* seek clarity and want to apply decisions uniformly while attempting to understand their feelings. They need to consider cause and effect of a particular treatment program. It is in the nature of *Thinker (T)* that they must understand the theory behind the program of treatment or the reason that a particular technology in a hearing aid is right for their impairment. *Thinkers (T)* will cooperate with the audiologic rehabilitation program or hearing aid fitting only if the background and theoretical basis is explained so that it "makes sense" to them. They respond well to detailed explanations of test results and the logical application of rehabilitation methods and technology. *Feelers (F)* need to experience feelings and seek harmony with other people and tend to be situational and subjective. Their reason to complete an audiologic rehabilitation program, or use a hearing aid, is to do it for others (ie, wife, grandchildren, etc.). Involvement of significant others in the entire rehabilitative process is imperative, and they need the support of others to assure them that they are doing well.

The following is a sample dialogue with a *Thinking (T)* patient (Traynor, 1999):

Clinician: Now that we have discussed your hearing impairment and concluded that hearing instruments are the treatment for your hearing loss, it's necessary for us to discuss the devices themselves.

Patient: I noticed that you said *devices;* can't I get by with just one?

Clinician: Although you probably hear better with a single hearing aid than with none at all, you'll be able to optimize you hearing ability with hearing aids for each ear. Your depth perception of sound will be much better.

Patient: What do you mean by depth perception of sound?

Clinician: Sound will stand out better with amplification provided for both ears. Just as one sees better with a monocle, it is still difficult to tell if one object is closer than another. When visual correction is provided for both eyes, however, depth perception is maintained, as well as the capability to read in difficult lighting conditions. Hearing is somewhat the same in that when amplification is provided for both ears, certain auditory sounds stand out from other sounds. Further, distance hearing is better, and one is able to tell more easily from which direction sound is coming.

Patient: OK, so I understand that you are recommending that I buy hearing aids for both ears, however, I've been told that hearing aids are very expensive, but there is only about $85.00 worth of parts in them.

Clinician: The parts of a hearing aid represent only a fraction of its cost. Someone has to design the circuit and custom build the instrument.. The device then needs to be fit ac-

cording to a prescription for your hearing loss and adjusted as necessary, depending on your lifestyle. The manufacturer and I both warrant the instrument to you for at least one year. When you think about it, a hearing aid is much more than just the parts.

Patient: What kind of hearing aids should I get? Do I have to have those big ones that go behind my ear? I sure don't want something that is big and obvious, unless of course, I really have to.

The remainder of the session would typically involve a detailed description of the different styles of hearing aids, specifics on hearing aid technology, and how these products typically perform under various listening conditions. *Thinking (T)* patients require not only a full explanation of the products currently on the market, but also the principles and procedures involved in the provision of rehabilitative treatment. These patients require discussion explaining why the clinician has used a particular method, style, or hearing aid technology. These discussions can become quite lengthy, but are essential to obtaining the patient's confidence and cooperation in the rehabilitative process. Without these discussions, *Thinking (T)* patients will not have the understanding necessary to feel comfortable with the various procedures and products.

Contrast the previous dialogue with the following one for a *Feeling (F)* patient:

Clinician: Let's discuss your hearing evaluation and the ramifications of what we have found.

Patient: OK.

Clinician (using the audiogram as a counseling tool): As you can see, this graph represents your hearing impairment. The numbers on the top represent the pitch of the sound from low pitches to high pitches, and the numbers along the side refer to loudness. The line on the graph represents how loud I needed to adjust each sound so that you could just barely hear it.

Patient: OK, I see that.

Clinician: Have people indicated that you are not hearing as well now as in the past?

Patient: Oh, I know I don't hear as well as I used to because I've been missing parts of conversations for quite awhile now. My family complains a lot and that bothers me. They think I don't care about what they're saying, but I do. I just don't know if hearing aids will help this problem.

Clinician: Hearing aids would definitely help you hear better and make it much easier for them to communicate with you. You see, with your hearing impairment, you can't hear the high pitches as well as you can the low pitches. This makes it especially difficult to understand high-frequency sounds such as consonants that provide the meaning to speech. Also, high-pitched voices, such as children and women would be difficult to understand.

To motivate *Feeling (F)* patients, it is essential that they feel that others are affected by their hearing impairment. The decision to proceed in the rehabilitative process will be determined by how much of their life is disrupted by their hearing impairment. Because they are sensitive to the needs of others, explanations should emphasize their abilities to communicate with others and how the treatment program or products will make life better or easier for those around them. When looking for Bayne's cues to the *Thinking (T)/Feeling (F)* continuum, some points that clinicians need to remember (Myers and McCaulley, 1985; Scanlon, 1988; McCaulley, 1992; Funder and Sneed, 1993; Bayne *et al.,* 1994) are:

Thinkers (T)

1. The patient might act 'irritable'.
2. The patient might express skepticism or cynicism, and avoids emotions, especially in the early sessions.
3. Patients may draw diagrams with their hands and number points on their fingers.
4. Patients need the rationale and logic behind the treatment approach and hearing aid selection.
5. Patients may talk *at* their partners.

Feelers (F)

1. The patient will probably behave in a cheerful manner.
2. The patient may laugh frequently.
3. The patient may gesture with open hands in flowing movements.
4. The patient wants to be an easy, good case that is remembered and appreciated.

Judging (J) or *Perceiving (P)*

If looking at the *Judging (J)/Perceiving (P)* continuum, according to the Keirsian Temperament, the patient must have given cues that he or she is

a *Sensor (S)*. In the Keirsian Temperament, the patient will then be considered either an SJ or an SP, depending upon whether a *Judging (J)* or *Perceiving (P)* behavior is displayed.

Thorne (1987) indicates that, like *Extroversion (E)/Introversion (I),* the *Judging (J)/Perceiving (P)* continuum is also fairly easy to identify. *Judging (J)* types are clock-watchers and usually remain focused on a topic or task. *Judgers (J)* are patients who tend to focus on one method or product, offering decisive opinions immediately once they have obtained the necessary information. The audiologist must, therefore, be on time for appointments with these patients and provide all the information necessary to arrive at decisions in a concise and precise manner. *Judgers (J)* do not take commitment lightly and will usually carry through with a decision once it is made. Sometimes they even have their mind made up on specific products, such as the make and model of the hearing aid.

Perceiving (P) persons easily change topics and appear to have no concept of time or schedule. These patients generate and tolerate treatment alternatives, often answering questions with questions. Additionally, they have difficulty making closure and tend to need extra clinical time to answer that "one last question" that "popped into their heads."

The following is an example of a dialogue with a *Judging (J)* patient (Traynor, 1999):

Clinician: What can I do for you today?
Patient: I've decided that I need a brand X hearing aid for my right ear. My left ear is OK for now. My friends all have brand X and it is the best, so that's what I want. Oh yes, and I want one of those little tiny hearing aids that go so far in your ear that you can't see it.
Clinician: Well, what we need to do is a hearing evaluation and then discuss the type and style of amplification that will best suit your needs.
Patient: I won't buy one of those "expensive" hearing aids because I know that all hearing aids are the same inside, with only just a different name on the outside.
Clinician: Although it was often true that conventional hearing aids were similar a few years ago, there are now some proprietary hearing aid circuits that truly make major differences in performance. There are studies that confirm these circuitry differences and their benefits. Often these more "expensive" circuits are very much worth their extra cost.
Patient: I have two friends who have used brand X and that's what I need too! I don't really have that much of a hearing loss anyway. Well, let's get to it; I don't want to take up too much of your time today.

Judging (J) patients have often made up their minds about what they need and will tell clinicians what *they feel* will meet their needs. These patients can be a formidable clinical challenge, and once decisions are made, no matter if based on solid or erroneous data, it will require the patients' other attributes (*Sensing (S)* or *iNtuition (N)*) to facilitate modifications in their decisions.

Conversely, *Perceivers (P)* are easily distracted and often have difficulty focusing on the particular problem at hand. Clinicians need to bring them back to the topic and focus on various issues, ensuring that they understand each one. *Perceivers (P)* do not have a good sense of time, and these minor distractions can waste a great deal of clinic time. Clinicians need to keep these patients "on track" and focused on the task at hand. There is nothing worse for the clinic schedule than a whole day of *Perceiving (P)* patients, because it is difficult to stay on time for the next appointment.

The following is a sample of a dialogue with a *Perceiving (P)* patient (Traynor,1999):

Clinician: What are we doing for you today?
Patient: Well, I'm here to see if I have a hearing loss. My daughter says that she thinks that I do not hear well. I have had this appointment scheduled a couple of times before, but always something "came up." What's that picture on the wall?
Clinician: That's a picture of the anatomy of the ear.
Patient: Boy, there sure is a lot inside the ear! My daughter thinks that I turn up the TV too loud, and I don't really think so.
Clinician: What we need to do is conduct a hearing evaluation and then discuss the results to see if you *do* have a hearing impairment.
Patient: I don't need a hearing aid to talk to you; do you think that I *really* need hearing aids?
Clinician: That's what we'll find out from the hearing evaluation.

Perceivers (P) cannot handle a presentation of all of the amplification options because they have too much difficulty focusing on specifics. It is usu-

ally necessary to summarize the information for them. Because decisions are difficult for these patients, it is necessary to present options and be flexible in your recommendations. This is what is necessary for the *Perceiving (P)* patient to feel comfortable. Some helpful considerations when dealing with *Judging (J)/Perceiving (P)* patients are (Myers and McCaulley, 1985; Scanlon, 1988; McCaulley, 1992; Funder and Sneed, 1993; Bayne *et al.,* 1994):

Judging (J)
1. These patients fear losing control.
2. The patient wants to have options in difficult situations.
3. These patients find change stressful.
4. These patients work hard on projects and tolerate discomfort.
4. These patients need an organized and structured, step-by-step approach.

Perceivers (P)
1. These patients will avoid decision-making.
2. These patients like to have lots of options and do not like organized group programs.
3. These patients like to have lots of flexibility in the rehabilitative program.
4. These patients do not tolerate discomfort.
5. These patients can be great time-wasters.

Effect of Clinician's Personal Style

The personal style of the clinician may also make a substantial difference in the success of patient interactions. Personal style may explain why certain patients do better with some clinicians than with others, or why some clinicians become frustrated with certain types of patients. Our job is to provide the patient with the best possible care, and we must learn to work with all types. Audiologists also need to be aware that they also have their own personal style that may reflect how they perceive certain patients within the treatment process.

Ninety-four audiologists who routinely see patients and were attendees at the 2000 Academy of Dispensing Audiologists Convention in San Diego, CA were asked to participate in a study to determine their personality type (Traynor and Holmes, 2001). An online version of the Keirsey Temperament Sorter II was used, and it found that 56% were *Sensing–Judging (SJ),* 16% were *Sensing–Perceiving (SP),* 21% were *iNtuitive–Feeling (NF),* and 7% were *iNtuitive–Thinking (NT)* (Figure 12). A higher percentage of the audiologists were NFs (21%) than is seen in the general population of the United States (11%). This is not necessarily surprising since NFs are known to gravitate to the helping professions, but it does mean that clinicians need to be very careful not to project their own personality into treatment sessions and hearing aid selection and verification.

Generally, *Extraverted (E)* clinicians are not comfortable extracting information from *Introverted (I)* patients, and *Introverted (I)* clinicians are not comfortable with the interactive chatter of the *Extraverted (E)* patients. The *iNtuitive (N)* clinician who has constructed positive blueprints for rehabilitative plans may need to deal with *Sensing (S)* patients who have more pessimistic, analytic attitudes toward the process, and *Sensing (S)* clinicians are frustrated with patients who do not follow their step-by-step aural rehabilitation programs. *Feeling (F)* clinicians need to understand that they cannot make all of their patients happy, whereas *Thinking (T)* clinicians may need to focus less on the data and more on the patient. Finally, *Judging (J)* clinicians may find it difficult and extremely frustrating to deal with *Perceiving (P)* patients who jump from topic to topic and are never on time.

Although it is impossible for audiologists to totally change personality for their clinical interactions, it is possible to reduce the adverse effects from personality interactions. For example, *Introverted (I)* clinicians must make an effort to

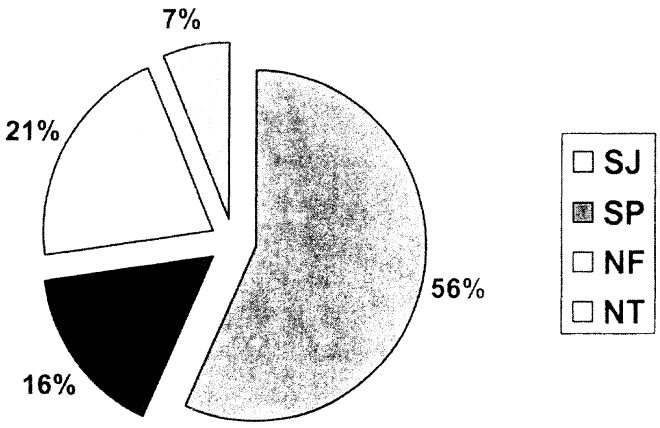

Figure 12. Keirsian Personal Style of Audiologists (Traynor and Holmes, 2001).

be especially outgoing and interactive, and *Thinking (T)* clinicians should attempt to present the *Feeling (F)* patient with arguments for various situations. Understanding one's own personality and the advantages and limitations when interacting with certain types of patients can be a major asset to clinical success. Patients who present extremely difficult interactions for certain clinicians, may need to be scheduled with another clinician in order to provide the best possible rehabilitative care.

Based upon the literature and clinical experience using personal style as a clinical asset, the following are recommendations for clinicians of various types:

SJ Clinician
1. Do not expect every patient to be on time.
2. All patients do not want an organized step-by-step program.
3. Do not be practical for everyone, especially the NT patients.
4. Do not focus on the procedure, especially for SPs and NFs.
5. Do give clear objectives and prepare for situations.
6. Have options when one treatment program (or hearing aid) does not work.

SP Clinician
1. Do put up with long procedures when they are necessary.
2. Try to focus more on the overall outcome rather than the process.
3. Accuracy of a particular adjustment or procedure may be more accurate than you think.
4. Be tolerating of patient difficulties.

NF Clinician
1. Be aware that you will never make all of your patients happy.
2. Good clinicians need to disagree with their patients sometimes.
3. Focus and concentrate on boring rehabilitative treatment tasks.
4. Do not expect everyone to care as much as you do.

NT Clinician
1. Perfection is not always necessary.
2. Most patients need to have things simplified.
3. Most patients do not require long presentations that include the background for each procedure.

Summary

The psychological literature has numerous accounts of ways to use personality and personal style information (Myers and McCaulley, 1985; Kroeger and Thueson, 1988; McCaulley, 1992; Bayne *et al.,* 1994; Bayne, 1995; Traynor, 1999). It is well known that two patients having similar audiometric configurations can react quite differently to their deficits. Personality type may be one variable of hearing impairment that could explain how and why patients react to their hearing loss, hearing aids, loudness growth, recruitment, tinnitus, the isolation created by the impairment, and other known complications of a hearing impairment. Certain personality types, as predicted by either the full MBTI or the abbreviated Keirsey Temperament shorthand, may react more favorably to one rehabilitative strategy over another. An audiologist who is aware of a patient's particular strategy for coping with a hearing deficit may be able to more easily choose the appropriate procedure and product for the individual.

Becoming aware of patients' personal styles can lead to logical modifications in counseling. For example, some personal style types require concrete explanations of variables, products, and other rehabilitative concepts, whereas for others this information should be omitted. Likewise, some personality types prefer to know how many patients have used a product successfully and want to hear the whole story about why the product worked, what particulars made this device work better than the competition, and how much better it performed.

In addition, clinicians must also be keenly aware of their own personal styles and how they relate to those of their patients. When the audiologist's type differs from that of the patient's, the clinician often tries to impose his or her style on the patient, resulting in poor interactions that can lead to an adverse rehabilitation prognosis.

The major point to be emphasized is that people are different, which is what makes life interesting. In order to provide the best hearing health care, audiologists need to be aware of these differences and know that these differences can affect every aspect of patient care, from taking the case history through the entire rehabilitative process. Personal style may truly be the missing link we need to attain our main goal of successfully assisting the hearing impaired to lead happy and productive lives.

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