
SPOTLIGHT SCHOLAR

Systematic Interviewing Microskills and Neuroscience: Developing Bridges between the Fields of Communication and Counseling Psychology



Allen E. Ivey

University of Massachusetts

Thomas Daniels

Memorial University of Newfoundland

Originating in 1966-68, Microcounseling was the first video-based listening program and its purposes and methods overlap with the communications field. This article presents history, research, and present applications in multiple fields nationally and internationally. Recent neuroscience and neurobiology research is presented with the important point—“counseling and communication change the brain and encourage the development of new neural networks.— Multicultural issues are important in the microskills framework. Over 500 databased Microcounseling studies exist with translations in 21 languages. The authors suggest that the communication studies field might wish to consider itself also a mental health profession as the teaching of listening skills and effective communication is central to well-being. Furthermore, communication studies can do much to increase multicultural understanding and cross-cultural communication.

Correspondence should be sent to Allen E. Ivey, 8877 Bloomfield Blvd., Sarasota, FL 34238. E-mail: allenivey@gmail.com

Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/hijl.

Each and every act of communication can be considered as an adaptive process analogous to biological evolution. The act of communication, both verbal and nonverbal, represents our best attempt to adapt to a specific situation. This communication adaptation made in response to environmental events affects that same environment which in turn affects the communicator. Like evolution, communication is never complete. *Allen Ivey and James Hurst (1971)*

The microskills approach (also known as Microcounseling/Microtraining) began in 1966 with a grant from the Kettering Foundation. The goal of the grant was to demystify and identify specific skills of interview communication in the counseling and psychotherapy professions. The grant enabled the purchase of the then new Ampex two-inch video system. Until this point, video has never been used in the analysis of the communication process.

In 1938, Carl Rogers, with the advent of the wire audio recorder, generated a major breakthrough for the helping profession. Until his presentation of interview transcripts in his 1942 foundational book *Counseling and Psychotherapy*, the therapeutic session could only be discussed through self-report. One of the first discoveries of this new technology was that therapists did not remember their sessions accurately. This failure of memory itself is a clear example of how communication is seldom complete and meanings are frequently distorted.

The microskills approach built on Rogers's pioneering efforts, but differed in two important ways. First, we had newly available the ability to record live counseling sessions, enabling viewing verbal and nonverbal communication. Second, we had a more specific goal than that of Rogers—to identify counselor “specific and observable communication units” in the interview. Essential to the research was that we looked at the nature of client verbalization and the continuing process exchange, which is a chief characteristic of the interview (Ivey, Normington, Miller, Morrill, & Haase, 1968).

Interviewers and counselors obviously seek to respond to client communication, clarify, and encourage further discussion. In turn, the client serves as stimulus for the next interviewer response, and the process of communication as adaptation continues throughout the therapeutic process.

The communication field also focuses on how we talk with each other. This is illustrated by recent work by Bodie (2013), Fedesco (2015), Pasupathi and Billitteri (2015), and Spunt (2013). While focusing on communication studies, the issues that they discuss have extensive crossover and relevance to the counseling and psychotherapy fields. Before their work, of course, there is an extant body of theory and research articles that have implications for our respective fields. Bavelas and Gerwing (2011) provide an interesting example. Their careful line-by-line communication analysis of listening closely parallels the work the microskills group has been doing for many years. Thus, it seems important that the two fields examine the work of each other. We hope this article is a beginning toward that effort.

HISTORY AND SPECIFIC MICROSKILL COMMUNICATION UNITS

In our search for specific observable behavioral “microskills” or counselor communication units, the first issue we addressed was the broad topic of listening. This was not as easy as it may sound now. We had all been brought up within the broad Rogerian tradition of empathic understanding that includes little on what behaviors might define empathy. It took six months

of nonproductive discussion around this while our video unit sat unused nearby. Not knowing what we were doing, we decided to try teaching listening to our volunteer department secretary, whom we will call Suzanne.

Suzanne taught us so much in a very short time when she acted as an interviewer. She looked tense and awkward, sat back in the chair, and barely looked at the client. Finally, she asked a question about the student's life. He responded and she looked blankly at him, not sure what to do next. She changed the topic and asked another question about the student's major. He looked puzzled but made an effort to respond. Silence then followed, and finally Suzanne came up with another response. Communication as adaptation was appearing here but in a negative way, it was leading to extinction of conversation.

We then reviewed the video with her and she herself noted the awkwardness. We followed up on her nonverbal observations with the idea that it might be wiser to *relax and lean forward*, thus indicating interest in the volunteer client. We pointed out her lack of *eye contact* and her constant *topic jumping*. Finally, we knew Suzanne as a warm and caring person, thus we suggested that she might have a more *warm vocal tone* if she relaxed. Thanks to Suzanne, we had identified the four basic dimensions of what we immediately termed "attending behavior" as basic to the listening process.

With the video review and our joint observations, Suzanne returned for another session with the volunteer client. The interview went exceptionally well, and the client thanked her for the time and attention. Suzanne was delighted (and we were as well). It was a Friday afternoon and she went home. Monday, she appeared in Allen's office with smiles of elation and joy. "I went home and attended to my husband and we had the most beautiful weekend." Suzanne taught us that listening is good for the interviewer as well as the client—this arguably applies to any significant and meaningful human communication interaction.

Subsequently, this was followed by successful empirical research on attending with observational measures of eye contact, body language, verbal following, and vocal tone. (Facial expression is a critical part of body language.) We noted that clients talked more and felt more comfortable when they felt listened to. Two additional beginning counselors groups learned the skills of "reflection of feeling" and "summarization." These three studies comprised the first monograph separate of the *Journal of Counseling Psychology* (Ivey et al., 1968).

Suzanne led the way for us to transfer the counseling skills of listening to daily interaction. Listening has become a "hot topic" in the media, and we now see frequent articles on applications to business, medicine, and other fields. An article in *The Wall Street Journal* (Bernstein, 2015) is illustrative. The title of the article, "How 'Active Listening' Makes Both Participants in a Conversation Feel Better," could be appropriate for a counseling or communication skills journal. The article gives extensive attention to excellent research by Bodie, Vickery, Cannava, and Jones (2015). Furthermore, their teaching and research methods closely parallel studies in microcounseling presented here.

The Multicultural Challenge

However, a 1970 weeklong professional workshop on microsills challenged our original work. It was a quiet comment from an Alaskan social worker—"Eye contact among Inuits I work with can be seen as intrusive and hostile." This led Allen Ivey to the extensive study of multicultural differences, and the 1980 *Theories of Counseling* was the first textbook in the field to emphasize

multicultural variation in communication, particularly related to listening. (For an update on our view of multiculturalism and communication, see Ivey, Ivey, and Zalaquett, 2014.) The experience of training native people in the Canadian Arctic, Australian Aboriginals, New Zealand Maoris, Native Americans, and Canadians broadened our understanding of the complexities and nuances of culture and cultural differences and how these significantly impact communication. Constantly, we have found that the basic microcounseling paradigm is popular with Native populations due in part to its concreteness. At the same time, the specificity has allowed individuals and groups to adapt and change the model to suit their own cultural settings. A hallmark of microcounseling is, in fact, its flexibility and adaptability.

As you review our history and the present status of Microcounseling, here are some basics we consider most important, and we must remember that each individual we speak with may have a unique style that can vary from the cultural norm. At the same time, note that these concepts have been so standard over the years, that they will not seem remarkable to the reader. In 1968, however, they represented a breakthrough for the counseling and psychotherapy professions.

Eye Contact

Eye contact remains central. But direct eye contact among many traditional peoples can be seen as intrusive, and in some cases an invitation to fight. Regardless of culture, breaks in eye contact on the part of the client or other person, can mean that they may be uncomfortable or bored.

Vocal Tone and Silence

Generally a softer tone is more effective with traditional people. The loudness of some can be off-putting. Vocal tone is often the best way to sense the emotional world of the other. Silence is often comfortable for Australian Aboriginals and Native Americans.

Body Language

Nonverbal communication, and facial expression obviously also varies from culture to culture and at times from region to region. Sitting side by side in traditional Inuit culture is appropriate and the direct face-to-face contact, for some, is uncomfortable.

Verbal Following

Avoiding topic jumps and staying directly with the topic has been foundational to the microcounseling model. At the same time, some groups prefer a more indirect and subtle approach. Furthermore, it is important to acknowledge that there are critical differences between a predominately collectivist cultures where the focus is on “we” versus a more individualistic “I”- oriented culture that predominates in the United States. Such significant differences between cultures must instruct us in our observations and behaviors if our interactions with others are to be positive and productive rather than negative and unproductive.

There are many other issues in communication that involve cultural issues. The above focuses on the observable behaviors of listening. What is important to note here is that the

vast number of articles and books on communication and therapy fail to give these differences central attention. Particularly troublesome are the frequent media pieces focusing on the original 1968 basics of microcounseling, ensuring continued lack of awareness and respect for diversity.

Microcounseling appears to have cross-cultural validity. It has gained wide international recognition and has been translated into 21 (a recount) languages. Nonverbals and facial expressions may change meaning in varying cultures. Verbal following can be direct as it is in the United States, or it can be as subtle as in other countries. Eye contact in some traditional cultures can be seen as a challenge or as rude. But the structure of teaching the skill basics remains the same.

The model has been used by the World Health Organization to train health educators and disaster workers, as well as in working with AIDS volunteers in Africa. One of the major reasons for this is that the straightforward identification of basic communication behavioral skills is easily transferable and adapted to the needs of multiple cultures, both to professionals, peer counselors, and community volunteers. Needless to say, each country and work setting needs to examine their own culture as well as varying verbal and nonverbal styles before adapting the model for training and education.

Well over 1,000 universities in the United States have used the model, explaining the 450 data-based research studies. General Electric was the first company to use the model, and training in listening skills is now basic throughout its business. Lynn Simek-Morgan in the early 1960s was the first person to teach communication skills to physicians at the University of Massachusetts Medical School. Now variations of the model are common in medical education, along with research evidence that satisfaction and compliance with physician directives improves. Nursing, agriculture extension agents, librarians, community volunteers, and peer counselors are among the many groups involved in communication training.

The first international translation of microcounseling was in Dutch (Ivey, 1976). Examples of research include communication skills training with shy persons (Van der Molen, 1985) and (marital) couples (Van der Molen, Gramsbergen-Hoogland, Wolters & De Meijer, 1987). The most recent update of this work (with an accompanying website) may be found in Van der Molen, Lang, Trower, and Look (2014). Extensive work with physicians revealed increased compliance and patient satisfaction (Bensing, 1991; Bensing & Dronkers, 1988). Through the writing of Bensing, communication skills in physician training is now common in The Netherlands.

Like in The Netherlands, microcounseling has been influential in Japan, where it is now used for education and training in medicine, nursing, education, business, police work, and the law. More than 300 universities have used the translated video models of microcounseling (Ivey & Gluckstern, 1986). Fukuhara (1986, 2007, 2012; Fukuhara, Ivey, & Ivey, 2004) introduced microcounseling to Japan and founded the research group the Japanese Microcounseling Association. Fukuhara very early started physiological studies of galvanic skin response, heart rate, and brain activity in communication (Jinno, Kanazawa, & Fukuhara, 2013; Fukuhara, McPherson, & Hamilton, 1998).

The following material on the basics of microcounseling needs to be viewed through the lens of cultural and contextual differences, even though there is insufficient room to discuss them thoroughly as we proceed.

Subsequent Developments in the Microskills Paradigm

Following the original studies that focused on “attending,” we turned our attention to the skills of “paraphrasing” and “questioning” (Moreland, Ivey, & Phillips, 1973). This led to the concept

of the “basic listening sequence,” which has attending behavior as a foundation. Attending and questioning bring out the client’s story. Paraphrasing shortens and clarifies interviewee statements, while reflection of feeling brings emotional tone into the session. Summarization brings together several statements or perhaps an entire segment, or even the content and feeling of a total session. The basic listening sequence helps ensure that interviewers bring out the key facts, information, and thoughts of a story and client concerns, as well as the associated emotions (Daniels & Ivey, 2007).

The basic listening sequence (BLS) represents the *skills* of active listening. These skills are typically essential for empathic communication, discussed later in this article. In communication studies, Floyd (2014) has given affective communication and empathy detailed attention, and his discussion of affective relationships parallels microskills findings. Furthermore, his theory moves on to physiological aspects of affective communication, proposing that “affectionate behavior produces positive outcomes through the physiological activity it induces, and that it induces specific physiological activity because of the adaptive benefits affectionate behavior conveys” (p. 4). He anticipates findings in neuroscience and neurobiology discussed below.

There are important parallels between the research in communication studies and counseling. The contexts are quite different, but the examination of conversation is central. The following quote summarizes some of the many commonalities between the fields (Bodie, Vickery, & Gearhart, 2013, p. 46):

...perceptions of listening in initial interactions among college students are primarily driven by the following five attributes: attentiveness, responsiveness, understanding, friendliness, and conversational flow. In other words, when a listener is seen as attentive, responsive, understanding, friendly, and contributing to a good conversational flow, she is more likely to be judged as a “good” listener than if seen, for instance, as humorous, confident, and/or intelligent.

Critical in counselor training is an emphasis on diversity with an awareness that skill usage may need to change in accordance with multicultural and individual differences. For example, appropriate self-disclosure on the part of the interviewer can help build trust. Questions can be seen as intrusive. The meaning and significance of nonverbal behaviors such as eye contact, facial expressions, and body language may vary from culture to culture and even within a given culture.

“Influencing skills” such as providing feedback, therapeutic confrontation, and others were added over the years. Figure 1 presents the Microskills Hierarchy, outlining the systematic step-by-step communication skill units. Multicultural understanding, neuroscience, ethics, and positive psychology form the foundation, which is recognition that communication style varies with individual cultural background and history. Recent research in neuroscience supports what we have found in terms of listening skills (also see Figure 2). Professionally, it is essential that interpersonal communication be bounded by ethical practice. Finally, microskills practice is based on what we have called the “positive asset search,” and the positive psychology/resilience foundation speaks to the issue that counseling and psychotherapy have too often focused on problems rather than on positive ways to build health and resilience.

The Five-Stage Interview Structure

As this article is focused only on the listening portion of microskills, the influencing skills will receive only secondary attention. The structure of a well-formed five-stage interview is

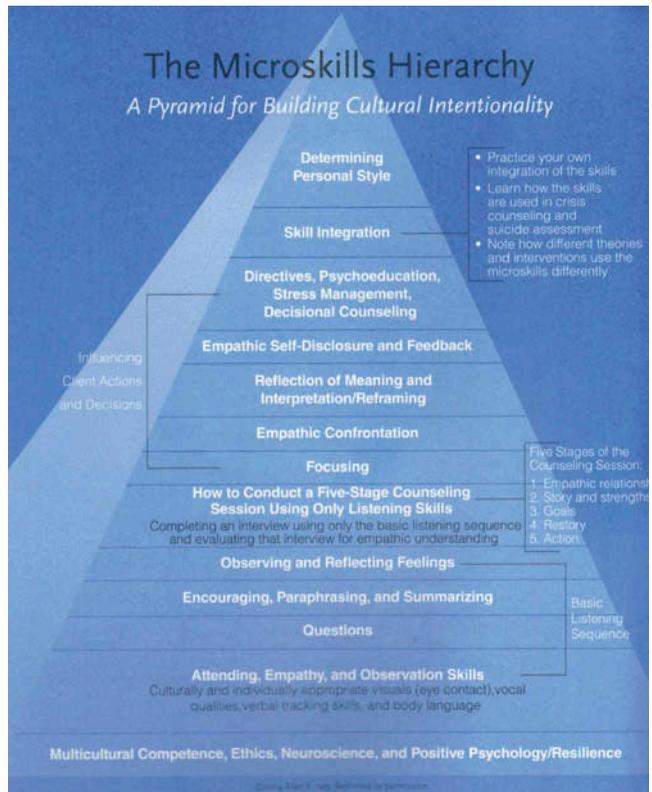


FIGURE 1. The microskills hierarchy.

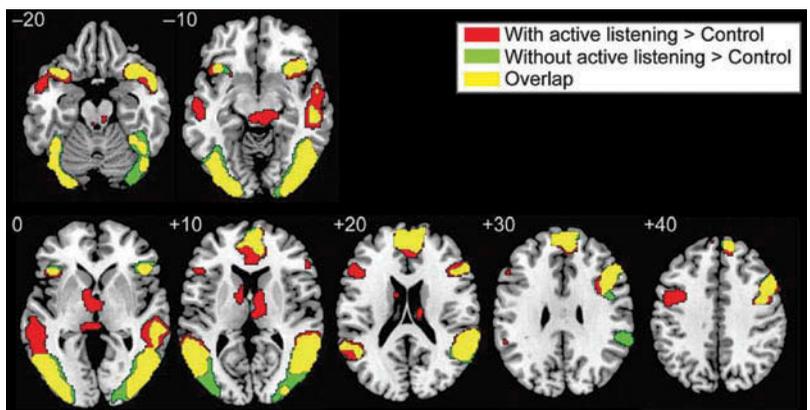


FIGURE 2. Active listening activates positive brain regions
 © Taylor & Francis. Reproduced by permission of Taylor & Francis.
 Permission to reuse must be obtained from the rights holder.

presented immediately after the basic listening microskills. It is possible to conduct an effective interview with a verbal client using only attending and the basic listening sequence, and beginning counseling students can take a volunteer client through a full session using only listening skills (Ivey et al., 2014). The five stages are:

- *Stage 1: Empathic Relationship—Initiating the Session:* rapport, trust building, structuring and preliminary goals (“Hello”).
- *Stage 2: Story and Strengths—Gathering Data:* Drawing out stories, concerns, and strengths (“What is your concern?”).
- *Stage 3: Goals—Mutual Goal Setting:* “What do you want to happen?”
- *Stage 4: Restory—Working:* Exploring alternatives, confronting client conflict and incongruities, restorying (“What are we going to do about it?”).
- *Stage 5: Action—Concluding:* Generalizing and acting on new stories “Will you do it?”

An empathic relationship (stage 1) is basic through the interview and is similar to “relational listening” as defined by Bodie (2013). The importance of interviewer attending is described in Bodie’s “task oriented listening” in that staying with the client’s topic is essential.

Stage 2 (story and strengths) is concerned with drawing out client stories and issues. The parallels between communication studies and microskills appear in Pasupathi and Billitteri (2015, p. 67). The authors provide an

...overview of narrative work on self that illustrates features of narratives that are conceptually and empirically related to selves, including self and identity judgments, story content, story structure, and story performance. We then consider how listeners can shape those aspects of narrative and self throughout the process of narration, from whether people choose to narrate an experience to how they narrate the event. We frame this review in terms of listeners’ attentiveness, agreement, scaffolding, and expertise.

This extract could also be expected in an article on the importance of stories in a counseling journal and is representative of key aspects of the microskills five-stage interview. Moreover, the concept of “incompleteness of communication” reminds us that there is always more to the story and the interview needs to adapt as new data unfold.

Goals (stage 3) are perhaps a bit different from those of the communication field in that the client and counselor seek to establish concrete, behaviorally oriented plans. The communication field seems to take a more process orientation to goals, although Bodie’s concept of “critical listening” is in some ways close. Interestingly, there are some parallels between the two, for example, when a student learns to communicate more effectively, there are obvious mental health benefits from both counseling and participating in communication studies workshop or course.

The final two stages (Restory and Action) extend the Pasupathi and Billitteri framework as a new story or way of thinking and feeling evolves through communication adaptation. In a successful session, the client has generated a new way of being that leads to action and generalization to the “real world.”

The combined results of microskills research and theorizing are encapsulated in the Microskills Hierarchy (see Figure 1).

Anticipation of client communication response is basic to the microskills framework. For example, if one attends to a topic, we expect the client to continue on the topic. If we change topic, the client is likely to follow and if the client changes topic, the counselor may

decide to follow the new direction or return to the old. When one reflects feeling, the anticipation is that the client uses language and behavior that relate to emotion. An open question typically leads to a longer client response, while a closed question leads to brevity. The microcounseling research covered in more detail in the latter section of this article cites a number of studies where such client/patient communication (as well their emotions) has been positively affected when the counselor had been trained in basic microskills (Bogels, 1994; Gluckstern, Ivey, & Forsyth, 1978; Tamase, Baker, & Ivey, 1999).

Furthermore, when trainees are taught the skills of the Basic Listening Sequence (BLS) the data show that those trainees also tend to demonstrate more complex communication dimensions that were not specifically taught, in particular, empathy. Daniels (1972) used microcounseling to teach education students skills of the BLS and found, in an analogue interview, that these students not only learned these skills but also were rated as having demonstrated empathy as well—a more complex dimension than any of the specific skills of the BLS. As an extension of this work, Daniels, Denny, and Andrews (1988) researched the generalization of “real life” skills of the BLS. They found that these students, showed empathy in their ‘real-life’ interview on multiple measures of this dimension.

Neuroscience, Empathy, and Listening Skills

Empathy is often spoken of as being in the client shoes, but with awareness that your experience is separate. Carl Rogers brought empathy to centrality in the helping field and Eugene Gendlin, known as the major inheritor of the Rogerian tradition has commented (1970, p. 32):

By saying what the client said, something new will occur, the client will soon say something new, and then we can respond to that. By featuring responsivity at every small and specific step . . . the therapist carries forward not only what the client has said, but also the client’s experience.

Neuroscience, however, takes us to a new level in our understanding of the meaning and value of empathy. We now have extensive functional Magnetic Resonance Imaging (fMRI) studies of the brain that have both theoretical and applied implications in psychological and communication fields. The following discussion illustrates the complexity of understanding and experiencing the world of others.

Spunt (2013) spoke to the importance of the brain’s mirror system (mirror neurons specifically) as basic to our understanding of the place of empathy in the communication process. The mirror neuron system was identified first by Rizzolatti and colleagues (2004; Rizzolatti, Fadiga, Fogassi, & Gallese, 1996). These neurons provide us with the ability to “read” and sense other people’s minds and body language. In turn, this understanding enables us to experience empathy. The basics of the mirror system are most easily understood in terms of observational learning. Think of an Australian Aboriginal youth who wants to learn how to throw a boomerang. Watching the parent throw the boomerang activates portions of the observer’s brain. Specific brain areas activated in the mirror system include the premotor cortex, the supplementary motor area, the primary somatosensory cortex and the inferior parietal cortex. Note that the motor areas are typically central in both observational learning and empathy. When we see a tense movie and find our hands clenching, our hearts beating a bit faster, and our breath changes, we are touched physically by what we see. The connection between motor learning and empathy is only beginning to be understood. Ivey et al. (2014, p. 75) summarized:

One of the earliest studies of mirror neurons and empathy asked one of two closely attached partners to watch the other (through a one-way mirror) receive a mild shock. It was found that the brain of the shocked partner fired in two areas—one representing physical pain and the other emotional pain. At the same time, the observing partner's emotional pain center also fired when watching the shocked partner experience physical pain. (Singer et al., 2004)

Research consistently shows that the mirror neurons of children, adolescents, and adults diagnosed with antisocial or conduct disorder do not activate under such situations (Decety & Jackson, 2004). In fact, there is evidence that many people with this diagnosis show pleasure when observing others in pain.

These basic findings have been replicated many times in different ways. For example, Marci, Ham, Moran, and Orr (2007) found that skin conductance of patient–therapist pairs was high and parallel when they both indicated that they felt a communication of empathic understanding. This can work two ways in communication. Verbal communication is a joint activity, and an fMRI study found that “neural coupling” such as this disappears when story comprehension is not effective. When listening skills are not successfully implemented (e.g., subtractive), empathy falls apart.

Two Empathy Types

Extensive literature on empathy and the brain conclude that, at the most basic level, there are two kinds of empathy—cognitive empathy and affective empathy, each processed in different parts of the brain. This was consistently demonstrated in a meta-analysis of 40 fMRI studies (Fan, Duncan, de Greck, & Northoff, 2011).

Cognitive empathy involves understanding the other's emotions and activity and tends to be processed in those brain regions associated with a multitude of cognitive functions (e.g., the midcingulate cortex [MCC] and dorsal medial prefrontal cortex [DMPFC]). We see the world through the other's eyes and understand their world. Affective empathy, on the other hand, is related to increased activity in the insula the region of the brain that appears to provide an emotional context for given sensory input and helps us with the experiencing of another person's emotional state. The insula appears to be central in experiencing emotions vicariously (Eres, Decety, Louis, & Molenberghs, 2015). These authors found that higher scores on a test of empathy showed increased fMRI gray matter density in the insula for those oriented to affective empathy. Gray matter density increases in the MCC and DMPFC were associated with those leaning more to cognitive empathy.

What is interesting here is how the neuroscience of empathy appears to have clear parallels with, and provides a basis for, understanding the empathy data in microcounseling research. Those studies (Daniels, 1972, 1987 included) show that when the BLS is taught, the trainees show empathy. Two key skills of the BLS relevant to this discussion are “paraphrasing” and “reflecting feeling.” Paraphrasing is the counselor's understanding of, and communication to, the client that the counselor accurately knows the “content” portion of the client's message. A case can be made that this has clear parallels with neuroscience of “cognitive empathy.” Reflecting feeling is the counselor's understanding of, and communication to, the client that the counselor accurately knows the “affective/emotional” portion of the client's message. This appears to have clear parallels with the neuroscience of “affective empathy.” When these two skills of the BLS are closely sequenced in a counseling dialogue, as they often are, it is not surprising that the data

show that the microtrained counselor rates high on measures of empathy. From a neuroscience point of view, it appears that they are also “lighting up the brain.”

Theory of Mind (ToM). This concept is closely related to cognitive empathy and is associated with mentalizing—attributing mental states to others (e.g., understanding their intentions, beliefs, and cognitive/emotional perspectives). The concept, at times controversial, is related to general philosophy, and there many brain areas associated with this phenomena. One brain region that may be relevant here is the temporal parietal junction since its function is to integrate information from many distinct brain areas, including those associated with managing internal and external input. Among several other areas relevant here are the medial prefrontal cortex that is associated with executive decision making and emotional regulation through its close contact with the amygdala. ToM, from another perspective, could be called “the working of the mind.”

Attention, Listening, and Empathy. Listening and attention, of course, are precursors to both cognitive and affective empathy. A carefully designed Japanese study developed the Index of Active Listening (IAL) that closely relates to the measurement of the microskill of attending behavior, for example, verbal listening, gaze, facial expression, head nods, posture, and gestures (Anme et al., 2013).

The IAL was used in an important Japanese fMRI study examining the neural correlates of active listening. Subjects described on videotape, emotional experiences from their own lives. Each video clip of life episodes was responded to later by confederates playing the role of listeners with and without active listening. The subjects’ brains were scanned while they heard positive and negative listening to their statements. fMRI results showed that active listening provides a reward and “lights up the brain.” More specifically, the reward system of the ventral striatum (known to be part of the reward system) was activated. In turn, the medial PFC (mPFC), related to cognitive empathy, was activated as well. Finally, the right anterior insula, associated with affective empathy and emotional appraisal, also showed activation (see [Figure 2](#)).

In [Figure 2](#) we see the impact of active listening of the reward system of the ventral striatum, emotional appraisal in the right anterior insula, and the mentalizing medial PFC and superior temporal sulcus. We thus see that empathic active listening impacts both cognitive and affective empathic areas as well as those associated with ToM.

Practical Implications for Communication and Counseling Practice

Listening and empathy are obviously closely related, as well as the more abstract concept of Theory of Mind. What’s the relevance of this?

1. It appears that empathic active listening impacts both cognitive and affective areas of the brain, as well as the holistic brain as conceptualized in ToM.
2. Listening “lights up” the brain. Moreover, the above study by Eres et al. (2015) suggests that amount of gray matter may be increased by empathic listening. This is generally understood as the correlating with learning and more complex behaviors. As others listen to our communication, they are activating brain areas associated with mentalizing (ToM), empathy, and cognitive/affective understanding.

3. Both cognitive and affective empathy are important to the helping relationship and the working alliance. Focusing on one dimension at time, particularly in counseling, the affective dimension may serve as a foundation for cognitive development and eventual behavioral change.
4. There are times when focusing on the cognitive aspects of empathy and developing increased and clear perspective taking through ToM concepts will be useful. We need to recognize these findings in the communication field as well as counseling.
5. Communication is an adaptive and potentially positive developmental process with seemingly unlimited potential. Furthermore, theory and research has shown that empathy tends to be the cornerstone of good communication in both clinical and nonclinical settings. On the other hand, communication that lacks empathy and understanding is not only nonfacilitative but runs the risk of resulting in negative and potentially detrimental outcomes. It is not hard to imagine the kinds of difficulties that can result in relationships from faulty communication or lack of empathy. While positive and productive communication (as we understand it) facilitates positive and productive adaptation, the converse may also be true in that that faulty communication may risk changes of a maladaptive nature.

SOME FURTHER ELABORATION ON THE NEUROSCIENCE AND NEURAL PATHWAYS/STRUCTURES OF LISTENING, AND EMPATHY

Work in neuroscience has validated many of the concepts in both the microskills and the communication fields, particularly in relation to attending and listening. Both communication studies and counseling/psychotherapy give special attention to empathy as one way of considering qualitative issues in the interview. Spunt (2013) spoke to the importance of the brain's mirror system as basic to our understanding one another in general. These concepts are obviously important to counselors and therapists as well. When we listen to or observe another person, regions of our brain fire, providing the basis for us to understand and empathize with others. Theory of mind is another construct for mentalizing and cognitively understanding another's thoughts and feelings. The mirror system also has sensorimotor aspects in that we are able to sense how the other person is feeling in our own body.

This section extends the mirror system to some key structures and pathways of the brain, important in the listening process. In the most basic and elementary form, perceptual input (e.g., a communication) enters primarily through sight and hearing. With enough stimulation, this input travels through the thalamus (the switching and relay station in the brain for information) and through other neural pathways that activate the part of the limbic system (the amygdala) associated with protective (sometimes called "negative") emotions such as fear and aggression. The then energized amygdala sends messages throughout the body through the thalamus, and then on to other key regions of the cerebral cortex associated with further emotional processing (the anterior cingulate cortex and prefrontal cortex [PFC]). Simultaneously, the limbic system (associated with motivation, emotions, memory and learning) is activated, particularly by mood altering hormones and related chemicals, as is the hippocampus (part of the limbic system that stores information/memories and transmits it to various locations in the brain). We should note, however, that the amygdala has close energizing connection to the PFC (the prime storage for positive emotions).

From an everyday functional perspective, the following example illustrates the reciprocal interplay between external stimulation, in the form of communication, and the structures and pathways in our brains. External stimulation such as communication from someone is first encountered in the amygdala and limbic system, where the negative emotion of basic fear and its derivatives of sadness, anger, and disgust primarily reside. Information is later sent to the prefrontal cortex (PFC) whose role is executive functioning and decision making as well as a regulating emotion stemming from the less predictable amygdala and limbic system. However, the PFC receives information slightly more slowly since it is structurally more distant from the amygdala and may not get to play a role, particularly in life threatening situations, where the amygdala tends to dominate, often for good reason.

The limbic system has both positives and negatives in our communication and lives. The negatives show when the limbic system's fear or anger "override" the more rational PFC and we see lack of impulse control and inappropriate outbursts of fear or anger. However, as pointed out in the popular animated movie *In and Out*, these so-called negative emotions can be highly protective. The "flight or fight" response (fear and anger) is important in helping us flee or fight aggressively for protection (although both, of course, can be problematic). Perhaps the best example of the protective amygdala overriding the slower moving PFC occurs when we see a car coming directly at us. We do not have time to think, we just react automatically, and here the amygdala can save us!

In summary, we literally are changing the wiring in the brains of those with whom we talk. It is now clear that basic concepts of both communication and counseling are better understood and become more powerful through an understanding of brain physiology and action.

We will now look at some of the key studies that help validate the microcounseling model and the communication skill and dimensions in it.

MICROCOUNSELING: METHODS AND MULTIPLE EXTENSIONS OF THE MODEL

The Basic Microcounseling Model

Microcounseling (a term to be used interchangeably with microtraining) was originally conceived as a highly structured social-learning approach to teaching basic skills of communication (Ivey et al., 1968). Microcounseling is essentially a teaching paradigm and involves the following progressive steps, many of which are found in the communication education field.

1. The trainee conducts a role-play interview that is videotaped.
2. The trainee then studies a written manual that describes in detail the skill being taught, while the supervisor maintains a warm, supportive relationship with the trainee.
3. Video of experts demonstrating the skill being used effectively, poorly, or not being used at all.
4. The trainee then reviews his/her own videotaped interview and the trainer discusses this interview in terms of the criterion level of acceptable performance of the skill in being taught.
5. The trainee now practices the skill under supervision.
6. The trainee then conducts another interview using the skill being taught and this interview is videotaped as well.
7. Finally, this taped interview is reviewed with the supervisor.

- The supervisor provides a warm, supportive relationship throughout the microcounseling process and an emphasis is placed on positive aspects of the trainee's behavior.

What was originally conceived as a systematic training paradigm for teaching discrete communication skill units (e.g., attending) has now evolved into a comprehensive framework for both teaching and conceptualizing the counseling and therapeutic process, and is fully described in the Microskills Hierarchy. Microcounseling is conceptualized as a technology of constructivism—a methodology for facilitating the construct development of the helper (Daniels & Ivey, 2007), leading to the development of what Ivey and colleagues call “the intentional helper” (Ivey et al., 2014).

Research on Microcounseling

Partly due to the highly structured nature of microcounseling, as well as to the multiple dependent variables of interest in play and various populations applicable, microcounseling has been the subject of numerous empirical investigations. More than 450 empirical studies have been conducted on microcounseling (Daniels, 2015). This section will provide a synopsis of the some key findings.

Meta-analyses

Three meta-analyses of microcounseling research have been conducted (Baker & Daniels, 1989; Baker, Daniels, & Greeley, 1990; Van der Molen, Hommes, Smit, & Lang, 1995). In the first analysis, there were 81 studies (covering the period from 1968–1986) that had sufficient data to conduct the meta-analysis. It was concluded that microcounseling was:

- effective for teaching lower-order skills such as attending as well as higher-order skills such as discriminating facilitative conditions, and goal-development;
- most effective when all the steps in the training process were used. As an extension of this latter finding, there have been numerous studies supporting each of the major components of “modelling” and “practice” the microcounseling method (Daniels, 2015, pp. 26–34; Daniels & Ivey, 2007, pp. 80–86); and
- effective for teaching a wide variety of populations from school-aged children to older adults, and from undergraduate to graduate students.

The second meta-analysis compared microcounseling with two other prominent training methodologies in counseling, Human Relations Training and Interpersonal Process Recall. Microcounseling was:

- the most widely used methodology in counselor training;
- effective with a wide variety of training populations and for a variety of skills method for teaching graduate students in counseling and compared favorably with the other two methodologies; and
- was effective compared to other models and further suggest that that effectiveness of microcounseling is due to its multicomponent structure and, in general, the model is most effective when all the components are present (Daniels & Ivey, 2007, pp. 77–86).

The third meta-analysis was conducted on 19 microcounseling studies in The Netherlands covering the period 1977–1994. Like the other two meta-analyses, this one supported the effectiveness of microcounseling as a training system and added that the trainee’s “knowledge” and “function” of the skills being taught was critical to the success of microcounseling.

Counseling-Related Outcome Studies

A significant body of microcounseling research was designed to compare microcounseling to “attention-controls,” “no-treatment controls,” or “time-control” designs in looking at outcomes related to various skills and dimensions associated with counseling effectiveness. A significant number of these studies affirm the effectiveness of microcounseling in teaching not only the skills of the BLS but also higher-level communication skills and dimensions as well.

A number of studies looked at teaching either the BLS or higher-level skills, but measured outcomes or dimensions other than the ones being taught. As mentioned earlier, Daniels (1985) showed the effectiveness of teaching the BLS in helping nurse become more empathic in real-life interviews. These students were better than the control trainees in the use of reflection of feeling and summarization, they asked fewer closed-questions, and they made fewer therapeutic errors in these real interviews. Other studies showed that other higher level dimensions such as empathy can be taught by microcounseling (Nagano, 2000; Nerdrum & Ronnestad, 2002). Hargie (1984) also used microcounseling to teach teachers “open questions.” As a result, there was concomitant decrease in their use of closed-questions and counselor talk-time, and increase in student talk-time. Spruce and Snyders (1982) taught the BLS to psychiatric nurses who subsequently showed an increase in the conditions of empathy, warmth, and congruence. Duys and Headrick (2004), using a Markov Chain Analysis, showed that graduate students who learned the BLS were effective transitioning between skills and interview.

Bennett (1981) used microcounseling to teach criminal justice students values clarification, assertiveness, and self-knowledge. When compared to controls who were lectured on counseling, the experimental group was better in making helpful statements, attending, and sensitivity. Russell (1986) used microcounseling to teach feminist helpers self-disclosure, androgyny encouragement, and social analysis and found that these students improved in their attitudes toward women. Gallagher (1993) used microcounseling to effectively teach counseling students problem-solving and problem-management. Interestingly, but not surprisingly, this study showed that as each skill is layered on in the training, the students’ overall functioning improved over baseline.

A number of microcounseling studies looked at trainee conceptual development. Heibert and Johnson (1994) taught basic helping skills and found that the trainee not only learned these skills but also showed that they could structure the interview and provide meaningful context for promoting client insight. In addition, Duys and Hedstrom (2000) found that following micro-training, trainees scored higher on conceptual level than control trainees who received lectures on topics such as ethics and group methods. A number of studies showed microcounseling to be effective in helping trainees develop cultural awareness and culturally effective helping strategies (Kabura, Fleming, & Tobin, 2005; Nwachuku & Ivey, 1992; see also Daniels & Ivey, 2007, pp. 72–74).

Micro Trained Helpers and Their Effects on Clients

Of course, the ultimate test of a counselor training system is, if it leads to positive changes in the client. The data suggest that this is, in fact, the case. Some of the key findings include that:

- microtrained therapists spend much less time talking in the interview and the client spends more time talking (Hargie, 1984; Kelley, 1971);
- microtrained therapists are less self-focused in the interview and the client more self-focused (Gluckstern et al., 1978; Hearn, 1976);
- physicians who use the basic microskills show an increased interest in patient's social problems, are more patient centered, and show more concern for the patient, and there is increased patient satisfaction (Bensing, 1991; Bensing & Dronkers, 1988; Bogels, 1994; Verhaak, 1988);
- Toriello and Strohmer (2004) showed that counselors who demonstrated competence in the microskills were able to establish credible relationships with their clients who had alcohol addiction; and
- Microtrained helpers had high ratings from clients on rapport and interest (Sharpley & Guidara, 1993; Sharpley, Jeffrey, & McMahan, 2006).

Alternative Applications of Microcounseling

Two of the alternative applications of microcounseling are “microcounseling as treatment” and “applications of microcounseling outside of counselor education” (Daniels & Ivey, 2007, pp. 95–96). In terms of treatment, Ivey's seminal work in media therapy (Ivey, 1973) showed that by teaching simple culturally related skills such as appropriate verbal and nonverbal behaviors to psychiatric patients was an important step in having them released from hospital. Since then, a number of studies showed that microcounseling itself can be of therapeutic value. A summary of key findings suggest that microcounseling can be used to:

- teach elementary students problem-solving strategies (Poitras-Martin & Stone, 1977), sharing behaviors (DeVoe & Sherman, 1978), and cooperativeness (Woodside, 1982);
- teach high school students attending skills (Carr, 1983), interpersonal conflict resolution (Forbes, 1978), and interpersonal skills (Savin, 1976);
- enhance empathic communication between parents and young children (Klock, 1978);
- help individuals reduce shyness (Van der Molen, 1984, 1985, 1990);
- teach married couples better communication skills resulting in better relationships (Van der Molen, Gramsbergen-Hoogland, Wolters, & Meyer, 1987); and
- modify authoritarian behaviors in police officers (Cameron, 1990).

Summary

The microcounseling/microtraining model is one of the most widely used training models in modern times. It has demonstrated effectiveness for teaching counselors and therapists a wide

variety and level of skills and dimensions that underlay effective therapeutic relationships. Furthermore, it can easily be adapted to teach skills not related to counseling and can be an effective adjunct to therapy itself. As an open system, its flexibility is only limited to the users' ingenuity. As an aside, there are countless anecdotal accounts that those who go through the microtraining process find it a most enjoyable experience.

CONNECTING THE DOTS

Counseling and Communication Change and Rewire the Brain

These are very interesting and exciting times for the field of counseling and psychotherapy; and perhaps by extension, the fields of communication and listening. For more than a century, we have had a rich and abundant body of theoretical work offering explanations for our personalities and psychological make-up, how they develop, and what to do about when problems arise. For well over half a century, there has been a developing and convincing body of research that has either validated, limited or constrained the theory—all of which leading to more refined and evidence-based models for helping us achieve our main goal, that being helping our clients—and the data suggest we do.

Freud offered insights into our unconscious, Rogers emphasized the importance of feelings, numerous theorists spoke on the importance of integrating theory on cognitions and behavior and emphasized rational thinking and behavior, Ivey emphasized the importance of culture and context as foundational to all helping processes, and further gave us an efficient and evidence-based model for effectively training helpers.

Now neuroscience is providing a neurological basis for behavior that validates what we only speculated about—that most of what communication studies and counseling have been researching, teaching, and practicing is supported by neuroscience.

Each and every act of communication has the potential to activate neural networks to build new information (learning) in both parties (e.g., counselor/client, communication professor/student, husband/wife, hostage negotiator/terrorist). It is here that we find communication and counseling rewiring the brain. Each party will adapt to that data for the positive, or not so, in terms of thought, feelings, and behavior—as well as the storage of new memories in the hippocampus. Communication is a constantly changing and evolving adaptive process.

The model discussed in this paper, microcounseling, is a striking example of how theory and research can be combined to provide an “integrative” model of helping that is supported by a significant body of research. Furthermore, the counseling data support what researchers in communication studies have known for years. One way to understand microcounseling is that of a comprehensive system that facilitates client adaptation to constantly changing world. Communication studies also use adaptation through improving how people talk to one another, give more effective speeches, and improve the thinking process.

Previous to the recent developments in neuroscience, we understood client change and adaptation from any number of theoretical perspectives (e.g., behavioral, humanistic, or social learning). Now there is evidence that key counseling and communication skills such as empathy have a demonstrable neural basis. Furthermore, the neuroscience of such communication behaviors has quite specific effects (e.g., as seen in cognitive versus affective

empathy). Communication effects, as illustrated earlier in this article, show an increase in neural tissue density that we infer correlates with learning, and by extension, adaptation.

All this plays out in communication, counseling, and therapy as all have the potential to rewire and brain by building new neural connections—these new connections are what we call “learning.” Learning is perhaps another word for positive neural growth. However, we can also lose neurons and neural connections through trauma, illness, poverty, lack of exercise, poor diet, or abuse, physical or emotional. Just as we constantly learn and have the potential to increase our neural connections throughout life, there is also the possible of negative adaption and loss.

Counseling and communication can change the brain in positive ways. Listening is one route toward increasing our own neural networks and that of those with whom we communicate. Research has shown that empathic listening actually does change the brain. It is clear that communication studies is doing therapeutic work when it teaches the art of communication. Counseling, like communication studies, is teaching its clients how to communicate. In that sense, both fields are related to mental health concerns in our society.

REFERENCES

- Anme, T., Tokutake, K., Tanaka, E., Mochizuki, Y., Wu, B., Watanabe, T., & Sadato, N. (2013). Validity and reliability of the index of active listening (IAL). *Journal of Applied Medical Sciences*, 2, 21–29. doi:10.1038/nm1884
- Baker, S. B., & Daniels, T. G. (1989). Integrating research on the microcounseling program: A meta-analysis. *Journal of Counseling Psychology*, 36, 213–222. doi:10.1037/0022-0167.36.2.213
- Baker, S. B., Daniels, T. G., & Greeley, A. (1990). Systematic training of graduate-level counselors: Narrative and meta-analytic reviews of three major programs. *The Counseling Psychologist*, 18, 355–421. doi:10.1177/0011000090183001
- Bavelas, J., & Gerwing, J. (2011). The listener as addressee in face-to-face dialogue. *International Journal of Listening*, 25, 178–198. doi:10.1080/10904018.2010.508675
- Bennett, B. (1981). Human growth: Effects of a human development course on criminal justice personnel. *Psychological Reports*, 48, 511–517. doi:10.2466/pr0.1981.48.2.511
- Bernstein, E. (2015). Tp How ‘Active Listening’ Makes Both Participants in a Conversation Feel Better. *Wall Street Journal*, January. <http://www.wsj.com/articles/how-active-listening-makes-both-sides-of-a-conversation-feel-better-1421082684>
- Bensing, J. (1991). Doctor-patient communication and the quality of care. *Social Science & Medicine*, 32, 1301–1310. doi:10.1016/0277-9536(91)90047-G
- Bensing, J., & Dronkers, J. (1988). Instrumental and affective aspects of physician’s behavior. *Medical Care*, 30, 283–298. doi:10.1097/00005650-199204000-00001
- Bodie, G. (2013). *Interpersonal communication*. Dubuque, IA: Kendall Hunt.
- Bodie, G., Vickery, A., Cannava, K., & Jones, S. (2015). The role of “active listening” in informal helping conversations: Impact on perceptions of listener helpfulness, sensitivity, and supportiveness and discloser emotional improvement. *Western Journal of Communication*, 79, 151–173. doi:10.1080/10570314.2014.943429
- Bodie, G., Vickery, A., & Gearhart, C. (2013). The nature of supportive listening I: Exploring the relation between supportive listeners and supportive people. *International Journal of Listening*, 27, 39–49. doi:10.1080/10904018.2013.732408
- Bogels, S. (1994). *Teaching and assessing diagnostic interviewing skills*. Maastricht, The Netherlands: Universitaire Pers Maastricht.
- Cameron, B. (1990). The modification of authoritarianism traits in police officers through the teaching of human development, personal growth concepts, and microcounseling skills. *Dissertation Abstracts International*, 52, 427A.
- Carr, J. D. (1983). The microcounseling paradigm in the teaching of senior high school students attending behavior. *Dissertation Abstracts International*, 44, #7.

- Daniels, T. G. (1972). *Microcounseling: Training for accurate empathy in lay personnel* (Unpublished master's thesis). St. Francis Xavier University, Antigonish, NS, Canada.
- Daniels, T. G. (1987). *Microcounseling: Training is skills of therapeutic communication with R.N. diploma-program nursing students*. Ann Arbor, MI: University Microfilms International.
- Daniels, T. G. (2015). *Review of research on microcounseling*. Corner Brook, Newfoundland, Canada.
- Daniels, T. G., Denny, A., & Andrews, D. (1988). Using microcounseling to teach R. N. nursing students skills of therapeutic communication. *Journal of Nursing Education*, 27, 246–252. doi:10.3928/0148-4834-19880601-04
- Daniels, T. G., & Ivey, A. E. (2007). *Microcounseling: Making skills training work in a multicultural world*. Springfield, IL: Thomas.
- Decety, J., & Jackson, P. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews*, 3, 71–100. doi:10.1177/1534582304267187
- Decety, J., & Jackson, P. (2006). A social-neuroscience perspective on empathy. *Journal of Association for Psychological Science*, 15, 54–58. doi:10.1111/j.0963-7214.2006.00406.x
- DeVoe, M. W., & Sherman, T. S. (1978). A micro technology for teaching prosocial behavior to children. *Child Study Journal*, 8, 83–91.
- Duys, D., & Headrick, T. (2004). Using Markov chain analyses in counselor education research. *Counselor Education and Supervision*, 44, 108–120. doi:10.1002/j.1556-6978.2004.tb01864.x
- Duys, D., & Hedstrom, S. (2000). Basic counselor skills training and counselor cognitive complexity. *Counselor Education and Supervision*, 40, 8–18. doi:10.1002/j.1556-6978.2000.tb01795.x
- Eres, R., Decety, J., Louis, W. R., & Molenberghs, P. (2015). Individual differences in local gray matter density are associated with differences in affective and cognitive empathy. *NeuroImage*, 117, 305–310. doi:10.1016/j.neuroimage.2015.05.038
- Fan, Y., Duncan, N., de Greck, M., & Northoff, G. (2011). Is there a core neural network in empathy? An fMRI based quantitative meta-analysis. *Neuroscience & Biobehavioral Reviews*, 35, 903–911. doi:10.1016/j.neubiorev.2010.10.009
- Fedesco, H. (2015). The impact of (in)effective listening on interpersonal interactions. *International Journal of Listening*, 29, 103–106. doi:10.1080/10904018.2014.965389
- Floyd, K. (2014). Empathic listening as an expression of interpersonal affection. *International Journal of Listening*, 28, 1–12. doi:10.1080/10904018.2014.861293
- Forbes, W. D. (1978). Effects of microcounseling training on junior high school student's knowledge, attitudes and behavior related to interpersonal conflict reduction. *Dissertation Abstracts International*, 2752–A.
- Fukuhara, M. (1983,1986). A Study of Personal Communication (1) (2) (In Japanese). Paper presented at the annual convention Japanese Psychological Association.
- Fukuhara, M. (2007). *History of microcounseling in Japan*. Tokyo, Japan: Kawashima Shoten.
- Fukuhara, M. (2012). *Perspectives of microcounseling in Japan*. Tokyo, Japan: Kawashima Shoten.
- Fukuhara, M., Ivey, A. E., & Ivey, M. (2004). *Microcounseling, theory and practice*. Tokyo, Japan: Kazama Shobo.
- Fukuhara, M., McPherson, R., Hamilton, R. (1998). A comparative analysis of verbal behavior and physiological responses among Japanese and American counselors and client. Paper presented at the 24th Convention, International Applied Psychology, San Francisco, CA.
- Gallagher, M. (1993). Evaluation of an integrative approach to training paraprofessionals in counseling using the problem solving inventory. *Counseling Psychology Quarterly*, 6, 27–38. doi:10.1080/09515079308254490
- Gendlin, G. (1970). A short summary and some long predictions. In J. Harr & T. Tomlinson (Eds.), *New directions in client-centered therapy* (pp. 544–562). Boston, MA: Houghton Mifflin.
- Gluckstern, N., Ivey, A. E., & Forsyth, D. (1978). Patterns of acquisition and differential retention of helping skills and their effect on client verbal behavior. *Canadian Counsellor*, 13, 37–39.
- Hargie, O. D. (1984). Training teachers in counseling skills: The effects of microcounseling. *British Journal of Educational Psychology*, 54, 214–220. doi:10.1111/j.2044-8279.1984.tb02581.x
- Hearn, M. T. (1977) Three models of training counselors: A comparative study. *Dissertation Abstracts International: Section B. Sciences and Engineering*, 37(10), 5353.
- Ivey, A. E. (1973). Media therapy: Educational change planning for psychiatric patients. *Journal of Counseling Psychology*, 20, 338–343. doi:10.1037/h0034810
- Ivey, A. E. (1976). *Helpen en vormen door Microcounseling: [Microcounseling: Innovations in interviewing training]*. Amsterdam, The Netherlands: Nelissen.
- Ivey, A. E., & Gluckstern, N. (1986). *Basic attending skills*. Tokyo, Japan: Maruzen. (Videotapes originally in English with Japanese voice-overs).

- Ivey, A. E., & Hurst, J. (1971). Communication as adaptation. *Journal of Communication*, 21, 199–207. doi:10.1111/j.1460-2466.1971.tb00918.x
- Ivey, A. E., Ivey, M., & Zalaquett, C. (2014). *Intentional interviewing and counseling: Facilitating client development in a multicultural society*. San Francisco, CA: Brooks Cole/Cengage.
- Ivey, A. E., Normington, C., Miller, D., Morrill, W., & Haase, R. (1968). Microcounseling and attending behavior: An approach to pre-practicum training. *Journal of Counseling Psychology*, 15(Pt. 2), 1–12. doi:10.1037/h0026129
- Ivey, A. E., & Van der Molen, H. T. (1994). *Verbeteren van de interpersoonlijke communicatie. Hoe u uw prestaties kunt verbeteren door effectieve communicatietechnieken [Improvement of interpersonal communication. How you can improve your performance through effective communication techniques]*. Den Haag, The Netherlands: Bratt Benelux.
- Ivey, A. E. & Van der Molen, H. T. (1995). *Verbeteren van de interpersoonlijke communicatie. [Improvement of interpersonal communication]*. Den Haag, The Netherlands: Bratt Benelux.
- Jinno, D., Kanazawa, S., & Fukuhara, M. (2013). *Brain activities and effect of open/closed questions*. Paper presented at the 6th Annual Conference, JAMC.
- Kabura, P., Fleming, L., & Tobin, D. (2005). Microcounseling skills training for informal helpers in Uganda. *International Journal of Psychiatry*, 51, 63–70. doi:10.1177/0020764005053282
- Kelley, J. (1971). The use of reinforcement in microcounseling. *Journal of Counseling Psychology*, 18, 268–272. doi:10.1037/h0030857
- Klock, E. (1978). The development and testing of microtraining program to enhance empathic communication by parents of young children. *Dissertation Abstracts International*, 38, 4687, 4688–A.
- Marci, C., Ham, J., Moran, E., & Orr, S. (2007). Physiologic correlates of perceived therapist empathy and social-emotional process during psychotherapy. *The Journal of Nervous and Mental Disease*, 195, 103–111. doi:10.1097/01.nmd.0000253731.71025.fc
- Moreland, J., Ivey, A. E., & Phillips, J. (1973). An evaluation of microcounseling as an interviewer training tool. *Journal of Consulting and Clinical Psychology*, 41, 294–300. doi:10.1037/h0035136
- Nagano, H. (2000). Empathic understanding: Constructing an evaluation scale from the microcounseling approach. *Nursing and Health Sciences*, 2, 17–27. doi:10.1046/j.1442-2018.2000.00035.x
- Nerdrum, P., & Ronnestad, M. (2002). The trainees' perspective: A qualitative study of learning empathic communication in Norway. *The Counseling Psychologist*, 30, 609–629. doi:10.1177/00100002030004007
- Nwachuku, U., & Ivey, A. E. (1992). Teaching culture-specific counseling using microtraining technology. *International Journal for the Advancement of Counseling*, 15, 151–161. doi:10.1007/BF00116486
- Pasupathi, M., & Billitteri, J. (2015). Being and becoming through being heard: Listener effects on stories and selves. *International Journal of Listening*, 29, 67–84. doi:10.1080/10904018.2015.1029363
- Poitras-Martin, D., & Stone, G. (1977). Psychological education: A skill-oriented approach. *Journal of Counseling Psychology*, 24, 153–157. doi:10.1037/0022-0167.24.2.153
- Rizzolatti, G., Fadiga, L., Fogassi, L., & Gallese, V. (1996). Premotor cortex and the recognition of motor actions. *Cognition and Brain Research*, 3, 131–141. doi:10.1016/0926-6410(95)00038-0
- Rizzolatti, G., & Sinigaglia, C. (2010). The functional role of the parieto-frontal mirror circuit: Interpretations and misinterpretations. *Nature Reviews Neuroscience* 11, 264–274.
- Rogers, C. (1942). *Counseling and psychotherapy*. Boston, MA: Houghton-Mifflin.
- Russell, M. (1986). Teaching feminist counseling skills. *Counselor Education and Supervision*, 25, 320–331. doi:10.1002/j.1556-6978.1986.tb00684.x
- Savin, A. (1976). Multi-media group treatment with socially inept adolescents. *Clinical Psychologist*, 29, 14–17.
- Sharpley, C. F., & Guidara, D. (1993). Counselor verbal response mode usage and client-perceived rapport. *Counseling Psychology Quarterly*, 6, 131–142. doi:10.1080/09515079308254500
- Sharpley, C. F., Jeffrey, A. M., & McMaha, T. (2006). Counselor facial expression and client-perceived rapport. *Counseling Psychology Quarterly*, 19, 343–356. doi:10.1080/09515070601058706
- Singer, T., Seymour, B., O'Dougherty, J., Kaube, H., Dolan, R., & Frith, C. (2004). Empathy for pain involves the affective but not sensory components of pain. *Science*, 303, 1157–1161. doi:10.1126/science.1093535
- Spruce, M. F., & Snyders, F. (1982). An assessment of a microcounseling model for nurse training in facilitative interpersonal skills. *South African Journal of Psychology*, 12, 81–87. doi:10.1177/008124638201200305
- Spunt, R. (2013). Mirroring, mentalizing, and the social neuroscience of listening. *International Journal of Listening*, 27, 61–72. doi:10.1080/10904018.2012.756331
- Tamase, K., Baker, S., & Ivey, A. E. (1999). *Differences in effects of open and closed questions and types of open questions* (Unpublished paper). Nara University of Education, Nara, Japan.

- Toriello, P., & Strohmmer, D. (2004). Addiction counselors' credibility: The impact of interactional style, recovery status, and nonverbal behavior. *Journal of Addiction and Offender Counseling*, 25, 43–57. doi:10.1002/j.2161-1874.2004.tb00192.x
- Van der Molen, H. T. (1984). *How to deal with shyness: A course instead of psychotherapy*. Deventer, The Netherlands: Van Loghum Slaterus.
- Van der Molen, H.T. (1985). *Hulp als Onderwijs. Effecten van cursussen voor verlegen mensen. [Treatment as Education. Effects of courses for shy people]*. Groningen, The Netherlands: Wolters-Noordhoff.
- Van der Molen, H. T. (1990). Being bored with shyness: A replication study. *De Psycholoog*, 25, 520–526.
- Van der Molen, H. T., Gramsbergen-Hoogland, Y., Wolters, F., & Meyer, M. D. (1987). Effects of communication skills training for (marital) couples. *Tijdschrift Voor Psychotherapie*, 13, 114–127.
- Van der Molen, H. T., Hommes, M. A., Smit, G. N., & Lang, G. (1995). Two decades of cumulative microtraining in The Netherlands: An overview. *Educational Research and Evaluation: An International Journal on Theory and Practice*, 1, 347–387. doi:10.1080/1380361950010403
- Van der Molen, H. T., Lang, G., Trower, P., & Look, R. (2014a). *Psychological communication. Theories, roles and skills for counsellors*. Den Haag, The Netherlands: Eleven International Publishing.
- Verhaak, P. F. (1988). Detection of psychologic complaints by general practitioners. *Medical Care*, 26, 1009–1020. doi:10.1097/00005650-198810000-00009
- Woodside, M. R. (1982). *The effectiveness of micro technology in teaching cooperative behavior to elementary children*. Technical Report, (ERDS Document # 143).