



**Scientific Development and Promise of The Memory Works® Products
For Helping People Improve their Memory Performance**

Executive Summary

In the early 1990's a plan was conceived by Compact Disc Incorporated to develop an innovative means of self memory-training based on newly developed interactive multi-media technology. Based on considerable research, this plan ultimately adopted a “multi-modal” approach for memory improvement (The Multi-Modal Model®). The purpose of this Executive Summary is to describe the methods and products that have been developed through a multi-modal approach and to explain the benefits that may be derived from the use of these methods and products.

From the beginning, Compact Disc Incorporated (CDI) developed products that would deliver memory training through the use of the new interactive multimedia compact disc based on read only memory (CD-ROM) technology. The scientists of CDI recognized that CD-ROM technology provided a means for self-training of memory skills of adults in

a way never possible previously, either with books, classroom courses, audiotape, or videos. CD-ROM technology offered a truly new and revolutionary means of self-training because of three advantages of this technology:

1. Users of CD-ROM technology interact with a program and progressively receive more and more sophisticated training as they make more and more use of the program. (Such interactions are not possible with any other memory-improvement method, including books, audio, video tapes, and non-interactive computer technologies presented on floppy disks, zip drives, and CDs. Such interactions with a tutor are possible but are prohibitively expensive for all but the very rich).

2. The memory training, presented to users of CD-ROM technology, is a program that develops memory skills according to the latest principles of learning as discovered by psychological research. (Other memory-improvement methods, including books, audio, video tapes, and non-interactive computer technologies presented on floppy disks, zip drives, and CDs, may also be based on recent science but these methods cannot develop skills in a way that is appropriate to a certain user. A tutor can develop skills in a way that is appropriate to a user but such a tutor would require a Ph.D. Ph.D.s in memory would be inclined to

do research or teach in college than to tutor. Again appropriately trained tutors would be prohibitively expensive for all but the very rich).

3. The memory training presented to users of CD-ROM technology may be as aesthetically pleasing as images presented on video tapes and non-interactive computer technology. However, CD-ROM technology can present dynamic images that are elicited only when the user's performance calls for a particular image. Because the images' appearance depends on a user's performance, these images will sustain a user's attention and motivate the user. It is difficult to conceive how a tutor could present images cued by a client's performance. It is doubtful that a tutor would want to do this and again appropriately trained tutors would be prohibitively expensive for all but the very rich).

4. Besides possessing the extraordinary capability for training, and besides being based on the latest scientific knowledge about how memory is improved, the CD-ROM products of CDI have been supported by science that was designed to test these products. This support originated in a series of grants from The National Institute on Aging of the National Institutes of Health. This report summarizes the effects of PMI's current products as used by healthy adults in general.

SCIENTIFIC DEVELOPMENT OF CD-ROM MEMORY TRAINING PRODUCTS

Memory Training Prior to Multi-Media CD-ROM Technology.

Although use of the mind alone has been challenged as a way to improve mental processing in general (Salthouse, 2006), there is no doubt that people can improve their use of memory skills (Rebok, Ball, Elias, Mann-Koepke, Marsiske, Morris, Tennstedt, Unverzagt, & Willis, 2004). In the past four decades, numerous research articles have reported considerable success at training people to improve their memory skills (Herrmann, Weingartner, Searleman, & McEvoy, 1992). Once it was well established that healthy young adults could have their memory skills improved, many investigations attempted to determine what were the best training procedures for improving the memory of adults in general (Anschutz et al., 1987; Herrmann, Weingartner, Searleman, & McEvoy, 1992; Poon, 1980; Stigsdotter-Neely & Bachman, 1993a, b; Verhaeghen, Marcoen & Goosens, 1992) and what were the best training procedures for older adults (Ball, Berch, Helmers, Jobe, Leveck, Marsiske, Morris, Rebok, Smith, Tennstedt, Unverzagt, & Willis, 2002; Best, Hamlett, & Davis, 1992; Cavallini et al., 1999; Floyd, & Scogin, 1997; Crowe et al., 2006; Greenberg & Powers, 1997; Hill, Shiekh, & Yesavage, 1988; Jobe, Smith, Ball, Tennstedt, Marsiske, Rebok, Morris, Willis, Helmers, & Leveck, 2000; Holhaus, 2006; Kessels & de Haan, 2003;

Margrett & Willis, 2006; McEvoy, & Moon, 1988; Mohs, Ashman, Jatzen, Albert, Brandt, Gordon, Rasmusson, Grossman, Jacobs & Stern, 1998; Neely & Backman, 1995; Neyroud, Israel, Raymond, Simeone, & Jeanneret, 1988; Paggi & Hayslip, 1999; Poon, 1980; Poon, Rubin & Wilson, 1989; Practical Memory Institute, 1999, 2000; Rasmusson, Rebok, Bylsma, & Brandt, 1999; Rebok, & Balcerak, 1989; Rebok, Rasmusson & Brandt, 1997a; Rebok, Ball, Elias, Mann-Koepke, Marsiske, Morris, Tennstedt, Unverzagt, & Willis, 2004; Rebok, Carlson, & Langbaum, in press; Willis, Tennstedt, Marsiske, Ball, Elias, Koepke, Morris, Rebok, Unverzagt, Stoddard, & Wright, in press; Saczynski & Rebok, 2004; Schacter, 2001; Small, 2002; Valentijn, Van Hooren, Bosma, Touw, Jolles, van Boxtel & Ponds, 2005; West, 1985, 1989; Wolinsky, 2006a,b; Woolverton, Scogin, Shackelford, Black, Duke, 2001).

The Need for A Better Method for Self Memory Training. Memory failures are common in everyday life (Gennaro, Herrmann, & Sarapata, 2006; Herrmann, Sheets, Gruneberg, & Torres, 2005; Herrmann, Gruneberg, Fiore, Schooler, & Torres, 2006; Herrmann, Yoder, Gruneberg, & Payne, 2006; Hoffman, Roesner, & McCandless, 2005) for adults of all ages (Adams-Price & Gonzales, 2005; Herrmann, O'Laughlin, & Bennett, in press; Osborne, 2005). Most practical work involved face-to-face or group training. However, not everyone can travel or wants to travel to receive such training. Also, many people are sensitive about having memory problems and prefer not to participate in training that requires open admission of having these problems. Some research has focused on self-training with audio tapes and video tapes (West &

Crook, 1992; Rasmusson, Rebok, Bylsma, & Brandt, 1999). Some people can improve themselves by reading memory improvement books; however, self improvement is not easy.

In the early 1990's, Compact Disc Incorporated (CDI), developed a plan to use CD-ROMs to provide self memory-training (Saczynski, Rebok, Whitfield, & Plude, 2004, 2006). Recognizing that the largest population of individuals who might benefit from self memory-training involved older Americans, CDI began working with the National Institute on Aging, which directed it to respected memory researchers. CDI and these researchers then incorporated recent investigations into the use of computers and the Web by older individuals (Adler, 2002; Czaja & Sharit, 1993; Echt & Morrell, 2003; Furlong, 1989; Hoot,& Hayslip, 1983; Gunther, Schafer, Holzner, & Kemmler, 2003; Marziali & Donahue, 2006; McConatha, McConatha & Dermigny, 1994; Morrell, 2002, 2005a,b; Morrell, Dailey, Stoltz-Loike, Feldman, Mayhorn, Echt, & Podany, 2005; Morrell, Harley, Herrmann, Rager, Rebok, Parente', in press; Hilt & Lipschultz, 2004; Mellor, Firth, & Moore, 2008; Morrell & Stoltz-Loike, in press; Pew Internet & American Life Project: Online life report, 2000; Rager, Morrell, Harley, Herrmann, Rebok, Parente', 2006; Stoltz-Loike, Morrell, & Loike, in press a; Pak & Stronge, 2008; Stronge, Walker, Rogers, in press; Webster & Martocchio, 1993) in proposals to NIA.

To focus the development of CD-ROM self memory-training products, CDI formed a subsidiary, the Practical Memory Institute (PMI) in

1995. The psychologists who made up the PMI team studied the memory improvement literature, conducted their own research, and formulated its plan for developing CD-ROM self memory training products. This research has been based on the latest procedures in computer graphic technology (Baldi, Plude, & Schwartz, 1996; Plude & Schwartz, 1996 a, b; Plude, Herrmann, & Schwartz, 2000; Herrmann & Plude, 1998; Herrmann, Plude, Yoder, Cook, Lopp, Gatling, Gathright, & Hartzler, 2002; Saczynski, Rebok, Whitfield, & Plude, 2004), the use of computers in memory training (Lynch, 2002; Rebok, Rasmusson, & Brandt, 1996),

and on five important principles about how memory functions, principles that indicate how memory skills might be improved. These five principles are as follows:

- I. memory training must capture the attention of the user (Plude, 1992; Plude & Murphy, 1992).
- II. procedures specific to different tasks must be incorporated (e.g., Baddeley, 1982; Ball, Edwards, & Ross, 2007).
- III. psychological processing modes other than memory (such as a person's physical state: Small, 2006; Small et al., 1997) and emotional state must be considered (e.g., Bendiksen & Bendiksen, 1992, 1996; Herrmann &

Gruneberg, 2008; Herrmann & Palmisano, 1992; Herrmann & Parente'. 1994; Herrmann & Plude, 1996; Herrmann & Searleman, 1990, 1992; Herrmann, Plude, Yoder, & Mullin, 1999; Herrmann, Yoder, Gruneberg, & Payne, 2006; Hertel, 1882, 1886; Newell, 1990; Searleman & Herrmann, 1994; Zachs, & Hasher, 1992).

IV. a person's knowledge about memory in general must be considered, knowledge that came to be called metamemory (Dellefield et al.1996; Hertzog & Dixon, 1994; Hertzog, Saylor, Fleece, & Dixon,1999; Higbee, 2005; Lachman, Weaver, Bandura, Elliot, & Lewkowicz, 1992); Metacalf, 2002).

V. users should be taught to take account of their individual readiness to perform memory tasks (Plude, Benaderet, & Herrmann, 2001; Poon et al., 1986).

The way in which these principles were identified and applied to the design of CD-ROM products (called "Memory Works" CD-ROMs) is as follows.

First, it has long been known that attention is crucial to memory. One virtue of CD-ROM presentations is that they enable the creation of graphics that are visually compelling. Consequently, extra effort has been devoted to the development of computer graphics in PMI CD-ROMs that are instrumental to the training and which attract and sustain attention (Plude, 1992; Plude & Murphy, 1992; see also Sohlberg, & Mateer, 1987). In addition, research investigated how a person's memory abilities might be best

assessed prior to training (Buschke, Kuslansky, Katz, Stewart, Sliwinski, Eckholdt, & Lipton, 1999; see also Folstein, Folstein, & McHugh, 1975).

Second, numerous investigations in the 1970s and 1980s demonstrated that most memory processes are task specific (Baddeley, 1982; Tulving & Craik, 2002). Therefore, memory is improved by teaching skills that address specific memory tasks. Consequently, PMI products have been designed to impart skills for those tasks that are especially important to people. Validity research demonstrated that the PMI CD-ROMs enables people to improve their skills at learning and remembering names and faces (Herrmann, Brubaker, Yoder, Sheets, & Tio, 1999), facts, figures, and various intentions such as appointments, chores, and taking medicine (Herrmann, Plude, Yoder, Cook, Lopp, Gatling, Arkisha Gathright, & Hartzler, 2002; Plude, Herrmann, & Schwartz, 2000); (The products that have been developed to address these memory tasks are called The Memory Works® for Names & Faces; The Memory Works® for Facts & Figures; and Best Intentions®).

Third, research in the 1980s and 1990s demonstrated that memory performance is affected by psychological modes other than memory and cognition (Bendixen & Bendixen, 1992, 1996; Goethals & Solomon, 1989; Herrmann & Searleman, 1990; Herrmann, Andrzejewski, & Rea, 1988; Herrmann, Plude, Yoder, & Mullin, 1999; Iran-Neja, & Ortony, 1984; Johnson, 1983; Matthews,

Davies, Westerman, & Stammers, 2000; McEvoy & Moon, 1988; Memoryzine (the new approach, 1996); Newell, 1990; Schacter, 1984; Searleman & Herrmann, 1994; Zacks & Hasher, 1992). These modes include a person's physical state (Butler, Forette, Greengross, 2004; Fillit, Butler, O'Connell et al., 2002; Kramer & Willis, 2002; McAuley, Blissmer, Marquez, Jerome, Kramer, & Katula, 2000; McDougall, 2002; Newson & Kemps, 2006; Parisi et al., 2007; Walker, 2006), and emotional state (Hertel, 1992, 1996; Mathews, 1996; Yoder & Elias, 1992), and the physical environment and social environment in which a memory task occurs (Bandura, 1986; Beatty, & Herrmann, 2001; McDougall, 1995; Wyer & Srull, 1989). Therefore, memory may be improved by enhancing a person's physical state, such as by improved sleep (Ellenbogen, Hulbert, Stickgold, Dinges, & Thompson-Schill, 2006), a better diet (Engelhart, Geerlings, Ruitenber, et al. 2002; Solfrizzi, Panza, Torres, Mastroianni, Del Parigi, Venezia, Capurso, 1999; Willett, Manson, & Liu, 2002) and increased exercise (Blissmer, Marquez, Jerome, & Kimiecik, in press; Colcombe, Kramer, Erickson, Scalf, McAuley, Cohen, Webb, Jerome, Marquez, and Elavsky, 2004; Dishman, Berthoud, Booth, Cotman, Edgerton et al., 2006; Elavsky, McAuley, Motl, Konopack, Marquez, Hu, Jerome, Diener, in press; Hageman, Walker, & Pullen, 2005; Kramer, Erickson, & Colcombe, 2006; Hillman, Snook, & Jerome, 2003; Kramer, 2000; Kramer, & Willis, 2002; Kramer, Hahn, McAuley, et al., 2001; Kramer, Colcombe, Erickson, Belopolsky, McAuley, Cohen, Webb, Jerome, Marquez, & Wszalek, 2002; Kramer, Colcombe, McAuley, Eriksen, Scalf, Jerome, Elavsky, Webb, 2003; Rebok & Plude, 2001; Podewils, LGuallar, Kuller, Fried, Lopez, Carlson, & Lyketsos, 2005; Studenski, Carlson, Fillit, Greenough, Kramer, & Rebok,

2006) and by arranging the physical and social environment to facilitate learning so as to stimulate remembering. Consequently, PMI developed CD-ROMs that would enable a person to monitor the readiness of the different modes for memory performance (Mullin, Herrmann, & Searleman, 1993; Poon et al., 1986; Plude, Benaderet, & Hermann, 2001). Once a person could assess his or her readiness, it was possible to prepare for memory tasks and enhance memory performance over what it would have been without knowledge of one's readiness. Accordingly, two of the task-specific CD-ROMs were equipped with simplified monitors (The Nature of Memory®; Best Intentions®) and a CD-ROM devoted to an extensive monitoring of readiness which is currently under development).

Fourth, research in the 1980s and 1990s found that meta-memory knowledge affects memory performance (Hertzog & Dixon, 1994; Hertzog, Saylor, Fleece, & Dixon, 1994; Metcalfe, 2002). Accordingly, all of our CD-ROMs endeavored to explain to users of our products how the training worked. In addition, one CD-ROM was created to summarize the history of different approaches to memory improvement (Herrmann & Chaffin, 1988; Herrmann & Searleman, 1992), to briefly review the process of monitoring of memory readiness, and illustrations of devices that externally aid and remind a person's memory (Herrmann, Brubaker, Yoder, Sheets, & Tio, 1999;

Walker & Herrmann, 2004; Yoder & Herrmann, 2002).

Fifth, research into the improvement of memory skills and the rehabilitation of memory impairment recognized that training must be tailored to the memory capabilities and medical backgrounds of individuals seeking a positive change in memory performance (Poon et al., 1986; Parente & Herrmann, 2003). A person seeking improvement must set goals for the kind of memory skill desired (Locke & Latham, 2002; Stadlander, & Coyne, 1990; West, Bagwell, & Dark-Freudeman, 2005; West, Welch, & Thorn, 2001; West, & Thorn, 2001; West, & Yassuda, 2004; West, Thorn, & Bagwell, 2003).

The multimodal approach assumed that training has to be adjusted to the memory competence a person brings to training, the unique ways of this person's approach to memory tasks, and the degree of confidence this person has in his or her memory at the beginning of training. Moreover, training must take account of a person's specific memory skills and the nature of their neurological impairments (Mayes, 1988).

Finally, the effectiveness of the PMI CD-ROM training lies in all of these factors working together in a person's use of a particular program. Step by step, users build their skills across a session within a program (Saczynski, Rebok, Whitfield, & Plude, 2004) and, of course, across sessions. CD-ROM training allows a user to monitor his or her progress and thereby know what to work on next (Dunlosky, Kubat-Silman, & Hertzog, 2003). In

addition, people become able to use their memory more effectively by increasing their health literacy, especially their cognitive health literacy, and about how memory functions and how it may be improved (Allen, 2000; Echt & Morrell, 2003; Burbank, Padula, & Nigg, 2000; U.S. Dept. of Health and Human Services, 2000; Giorgianni, 1998; Kickbush & Ratzan, 2001; Morrell, 2002, 2005a; National Academy on an Aging Society, 1998; National Work Group on Literacy and Health, 1998; Whitbourne, Deen, Spiro, & Echt, 2006; Wong, Clare, Gunn, & Holland, 1999).

Additionally, individuals seeking to improve memory and for caregivers seeking a deeper understanding of the origins of memory-improvement techniques (Herrmann & Chaffin, 1988; Herrmann & Searleman, 1992), PMI created a CD-ROM that reviews some of the history of memory improvement, i.e., the Nature of Memory®.

Publications of the Principles Underlying Memory Works Self-Training. After the development of the CD-ROM memory training, PMI developed other forms of training in order to reach individuals not accustomed to training with computers (Fox, 2004; Holhaus, 2006; McConatha, McConatha, & Dermigny, 1994; Morrell, Kelley, Park, & Mayhorn, 1997; Morrell, Mayhorn, & Bennett, 2000; Morrell, Mayhorn, & Bennett, 2001). PMI has created pamphlets that summarize the content of each of the CD-ROM courses. In addition, PMI has created Memory University® on the Web for adults

who prefer receiving knowledge by reading instead of viewing computer graphics. These courses present memory training for the same content covered on the CD-ROMs: names, faces, facts, figures, intentions, and knowledge verbally. Memory University courses can be taken on the Web or can be downloaded and read at one's own pace.

The Broader Effectiveness of PMI Products. Although PMI products have been developed for healthy elderly people, under the auspices of the National Institute for Aging, these products have also been found effective by some clinicians for people diagnosed with various forms of neurological impairment (Cicerone, Dahlberg, Kalmar, Langenbahn, Malec, Berquist, Felicetti, Giacino, Harley, Harrington, Herzog, Kneipp, Laatsch, & Morse, 2000). PMI products have been used by one or more clinicians in treating the memory problems of the following conditions: age-related memory impairment (Crook et al., 1985; Elias & Treland, 2000); head injury (Harley, J. P., et al., 1992; Herrmann & Parente, 1994; Parente & Anderson-Parente, 1996; Parente & Herrmann, 2003; Parente & Stapleton, 1999); and dementia (Alzheimer's Association, 2008; Fox-Grage, 2000; Fratiglioni, Paillard-Borg, & Winblad, 2004; Luchsinger, Tang, Shea, Mayeux, 2002; Mattson, 2000; Wilson, Bennett, Bienias, Aggarwal, Mendes De Leon, Morris, Schneider, & Evans, 2002; Wilson, Mendes De Leon, Barnes, Schneider, Bienias, Evans, Bennett, 2002; see also Parente & Herrmann, 2003; Rebok, Holtzman, Koh, Miles, & Saczynski, 2004; Verghese, Lipton, Katz, Hall, Derby, Kuslansky, Ambrose,

Sliwinski, & Buschke, 2003) be used more effectively with people with certain medical histories depending upon the nature and extent of neurological impairment (Herrmann, Schooler, Caplan, Lipman, Grafman, Schoenbach, Schwab, & Johnson, 2001). These courses are designed to conform to the principles and findings of effective caregiver treatment developed by Milttleman (2002, 2003). One form of caregiver training will soon exist in the form of a Web course (Herrmann, 2002). In addition, PMI will soon publish a small and very readable book that advises caregivers how to help individuals with serious memory impairments (Parente, Herrmann, & Rebok, in preparation).

The Broader Effectiveness of PMI Products

The effectiveness of PMI CD-ROMs was made possible by grants awarded by the National Institute on Aging of the National Institutes of Health and by the team of many scientists in PMI who worked to create these products. They are easily understood by a very wide range of normal healthy adults. They have been used widely by clinicians to deal with older adults with age-related memory impairment.

From the beginning, it was the hope of the scientists on the PMI team that their products in some form would eventually be used to help people with all manner of memory problems. Service providers will make the ultimate decisions as to how PMI products may be used and/or revised to be used more effectively with people with certain medical histories depending upon the nature and extent of neurological

impairment (Herrmann, Schooler, Caplan, Lipman, Grafman, Schoenbach, Schwab, & Johnson, 2001). To date, these products have been useful to adults of any age, to older adults with concerns about memory, to older adults with age-related memory impairment (Rybash, 1999), and to adults who have suffered head injury (Herrmann & Parente, 1994; Parente & Herrmann, 2003). Most recently The Memory Works CD-ROMs, especially Best Intentions[®], is being used by the Veterans Administration in their poly-trauma centers and other rehabilitation locations nationwide for memory and cognitive rehabilitation of veterans returning from the Gulf conflicts.

In addition to developing products to help people who desired to improve their memory performance, the PMI team has also developed courses for caregivers of individuals with serious memory impairments. These courses are designed to conform to the principles and findings of effective caregiver treatment developed by Mittleman (2002, 2003). One form of caregiver training currently exists and will be available in the form of a Web course (Herrmann, 2002). In addition, PMI will soon publish a small and very readable book that advises caregivers how to help individuals with serious memory impairments (Parente, Herrmann & Rebok, in preparation).

A recent pilot study, characterized as ‘promising’ by Mary Mittleman, Dr. P.H. at NYU School of Medicine, in personal communication with PMI disclosed to PMI an example of the growing body of scientific thought that cognitive intervention, applied properly, can provide benefits for a very broad range of memory impairment conditions including dementias. An abstract of “A Pilot Study of Psychosocial Interventions for Individuals with MCI” (Marini & Mittleman, submitted for review), is presented with permission.

ABSTRACT

Objective: Individuals who suffer from Mild Cognitive Impairment (MCI) exhibit normal functioning in daily activities and general cognitive ability, but their memory is abnormally poor for their age and education. A number of research studies have shown beneficial effects of memory training interventions in normal elderly, but very few have been conducted among people with MCI. This research attempts to test the efficacy of a psychosocial intervention for individuals with MCI.

Method: A pilot study of an intervention composed of memory training classes and exercises, utilizing a wait-list control design with an MCI population was conducted.

Results: The immediate intervention group showed a significant increase in ability to recognize faces, compared to a the wait-list control group, as evidenced by improved performance on the Face Recognition subtest of the WMS-III. Subjects in the wait-list control group also significantly improved in their recall of items in the Free and Cued Selective Reminding Test, after they received memory training.

Conclusion: These results suggest that further studies utilizing similar interventions are warranted, as they may lead to better memory functioning in tasks of every-day-life in individuals suffering from MCI.

In conclusion, memory intervention using modern science-based methods is being broadly applied in mainstream clinical cognitive rehabilitation. Further, based on acceptance by the general public and among leading clinicians and researchers in the field of cognitive rehabilitation, the staff at PMI believe that their products are the most effective science-based tools available for training and retraining memory skills and should be considered for use by professional service providers with persons with mild to moderate traumatic brain injury as well as persons with MCI and dementia, including dementia of the Alzheimer's

type (AD). That said, we believe that the Memory Works memory skills building programs represent a strong leg in the 3-legged stool of Lifetime Memory Fitness™.

The PMI team has carefully considered how its products might be used effectively with victims of Alzheimer's disease. Because PMI products have proved useful with individuals with age-related memory impairment and with some neurological impairment, these products will be useful to some individuals in the early stage of Alzheimer's disease, especially those with MCI. Growing evidence in support of the usefulness of computerized training for individuals with age-related memory deficits (Gunther, Schafer, Holzner, & Kemmler, 2003) and Alzheimer's disease (Hofmann, Hock, & Muller-Spahn, 1996; Hofmann, Rosler, Schwarz, Muller-Spahn, Krauchi, Hock, & Seifritz, 2003) has recently been reported. There also have been recent reviews (see De Vreese, Neru, Fioravanti, Belloi, & Zanetti, 2001; Grandmaison & Simard, 2003) supporting the effectiveness of various memory treatment approaches that are similar to the ones incorporated within the PMI memory training products. These reviews include procedures for minimizing the occurrence of errors or mistakes during the learning phase (the so-called *errorless learning* technique) and for testing for the repeated recall of newly learning information at increasingly longer retention intervals or with an increasing number of intervening items (the so-called *space retrieval* technique). These techniques, when used in combination with the other training methods featured in the PMI CD-ROMs, offer a set of powerful tools for improving memory in patients with AD, MCI, and other age-related memory impairments (Cahn-Weiner, Malloy, Rebok, & Ott, 2003; Grandmaison & Simard, 2003; Hawley, & Cherry, 2004; Rebok, Holtzman, Koh, Miles, & Saczynski, 2004) and where appropriate, revised to be

especially useful to caregivers of Alzheimer's patients (Mittelman, 2002, 2003).

References

Adams-Price, C. E., & Gonzales, C. (2005). The memory failure cause recall interview: A phenomenological study of memory failures in younger and older adults. *Cognitive Technology, 10*, 33-39.

Alzheimer's Association (2008). Centers for Disease Control and Prevention and the Alzheimer's Association The Healthy Brain Initiative: A National Public Health Roadmap to Maintaining Cognitive Health. Chicago, IL: Alzheimer's Association. (see summary outline: <http://www.cdc.gov/osi/goals/people/people50andup.html>).

Adler, R. (2002). The age wave meets the technology wave: Broadband and older Americans.

Allen, C.E. (2000, May). Literacy essential to health. *The Nation's Health*. American Public Health Association.

Anschutz, L. et al. (1987). Remembering mnemonics: a three-year

- follow-up. *Experimental Aging Research*, 13, 141-143.
- Backman, L et al. (1991).** The generalizability of training gains in dementia: effects of an imagery based mnemonic on face-name retention duration. *Psychol Aging*, 6, 489-492.
- Baddeley, A. D. (1982).** Domains of recollection. *Psychological Review*, 89, 708-729.
- Baldi, R., A., Plude, D. J., & Schwartz, L.K. (1996).** New technologies for memory training with older adults. *Cognitive Technology*, 1, 25-35.
- Ball, K., Edwards, J.D., & Ross, L.A. (2007).** The impact of speed of processing training on cognitive and everyday function. *Journals of Gerontology: Psychological Sciences*, 62B, 19-31.
- Ball, K., Berch, D.B., Helmers, K.F., Jobe, J.B., Leveck, M.D., Marsiske, M., Morris, J.N., Rebok, G.W., Smith, D.M., Tennstedt, S.L., Unverzagt, F.W., & Willis, S.L. (2002).** Effects of cognitive training interventions with older adults: A randomized controlled trial. *JAMA*, 288, 2271-2281.
- Bandura, A. (1986).** *Social foundations of thought and action. A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bendiksen, M. & Bendiksen, I. (1996).** Multi-modal memory rehabilitation for the toxic solvent injured population. In D.

- Herrmann, M. Johnson, C., McEvoy, C. Hertzog, and P. Hertel (Eds.).
Basic and Applied memory Research: New Findings. Hillsdale, NJ:
Erlbaum.
- Bendiksen, M. & Bendiksen, I. (1992).** A multidimensional interention
program for toxic solven injured population. *Cognitive
Rehabilitation*, 10, 20-27.
- Beatty, P. & Herrmann, D. (2001).** To Answer or Not To Answer:
Decision Processes Related to Item Non-Response. In R. Groves, D.
Dillman, J. Eltinge, and R. Little (eds.), Survey Nonresponse. Boston:
Wiley. New York.
- Best, D., Hamlett, K. W., & Davis, S. W. (1992).** Memory complaint and
memory performance in the elderly: The effects of memory-skills
training and expectancy change. *Applied Cognitive Psychology*, 6,
405-416.
- Bherer L, Kramer AF, Peterson MS, Colcombe S, Erickson K, Becic E.**
(2006). Testing the limits of cognitive plasticity in older adults:
Applications to attentional control. *Acta Psychol.* Mar 2006: Epub
ahead of print.
- Blissmer, B., Marquez, D. X., Jerome, G. J., & Kimiecik, J. C. (in press).**

Theory and application in promoting exercise behavior. In D. Hackfort, J. Duda, and R. Lidor (Eds.), *Handbook of research in applied sport and exercise psychology*. Morgantown, WV: Fitness Information Technology.

Boyle, P.A., Paul, R.H., Moser, D.J., & Cohen, R.A. (2004). Executive impairments predict function declines in vascular dementia. *Clinical Neuropsychology*, 18, 75-82.

Burbank PM, Padula CA & Nigg CR. (2000). Changing health behaviors of older adults. *Journal of the American Dietetic Association*, 100(3):335-42.

Butler, R. N, Forette, F., Greengross, B. S. (2004). Maintaining cognitive health in an ageing society. *The Journal of the Royal Society for the Promotion of Health*, 124, 119-121.

Cahn-Weiner, D.A., Malloy, P.F., Rebok, G.W., & Ott, B.R. (2003). Results of a randomized placebo-controlled study of memory training for mildly impaired Alzheimer's disease patients. *Applied Neuropsychology*, 10, 215-223.

- Camp, C.J., Mirkley, R.P., & Kramer, J.J. (1983).** Spontaneous use of mnemonics by elderly individuals. *Educational Gerontology*, 9, 57-71.
- Campbell, R.J., & Nolfi, D.A. (2005).** Teaching elderly adults to use the Internet to access health care information: before-after study. *J Med Internet Res.* Jun 2005; 7(2):e19.
- Caprio-Prevette, M.D. et al. (1996).** Memory enhancement program for community-based. *Exp Aging Res.*, (review), 22, 281-303.
- Cavallini E. et al. (1999).** Aging and everyday memory: the beneficial effect of memory training. *Archives of Gerontological Geriatrics*, 37(3), 241-57.
- Cavanaugh, J. C., & Baskind, D. (1996).** Relations among basic processes, beliefs, and performance: A lifespan perspective. In D. Herrmann, C. McEvoy, C. Hertzog, P. Hertel, and M. Johnson. *Basic and Applied Memory: Practical Aspects.* Hillsdale, N. J.: Erlbaum.
- Christians, S-A. (1997).** On emotional stress and memory: We need to recognize threatening situations and we need to "forget" unpleasant experiences. In D. G. Payne and F. G. Conrad (Eds.). *Intersections in basic and applied memory research.* Mahwah, N.J.: Erlbaum.
- Cicerone, K. D., Dahlberg, C., Kalmar, K., Langenbahn, D., Malec, J. F.,**

Berquist, T. F., Felicetti, T., Giacino, J. T., Harley, J. P., Harrington, D. E., Herzog, J., Kneipp, S., Laatsch, L. and Morse, P. (2000) Evidence-based cognitive rehabilitation: recommendations for clinical practice. *Archives of Physical Medicine and Rehabilitation*, 80, 1596-1615.

Claire, L et al. (2000). Intervening with everyday memory problems. *Journal of Clinical Experimental Neuropsychology*, 22,132-146.

Colcombe, S.J., Kramer, A.F., Erickson, K.I., Scalf, P., McAuley, E., Cohen, N.J., Webb, A.J., Jerome, G.J., Marquez, D.X., and Elavsky, S. (2004). Cardiovascular fitness, cortical plasticity, and aging. *Proceedings of the National Academy of Sciences*, 11, 3316-3321.

Crook, T., Bartus, R. T., Ferris, S. H., Whitehouse, P., Cohen, G. D., & Gershon, S. (1986). Age-associated memory impairment: Proposed diagnostic criteria and measures of clinical change -- Report of a National Institute of Mental Health Work Group. *Developmental Neuropsychology*, 2, 261-276.

Crowe, M., Andel, R., Wadley, V., Cook, S., Unverzagt, F., Marsiske, M., & Ball, K. (2006). Subjective cognitive function and decline among older adults with psychometrically defined amnesic MCI. *International*

Journal of Geriatric Psychiatry, 12, 1187-1192.

Czaja, S. I., & Sharit, J. (1993). Age differences in the performance of computer-based work. Psychology & Aging, 8, 59-67.

Dellefield, K.S., et al. (1996). Increasing metamemory in older adults. Nursing Research, 45,284-290.

Derwinger A, Stigsdotter Neely A, MacDonald S, Bäckman L. (2001). Forgetting numbers in De Vreese, L.P. Neru, M. Fioravanti, M., Belloi, L., & Zanetti, O. Memory rehabilitation in Alzheimer's disease: A review of progress. International Journal of Geriatric Psychiatry, 16, 794-809.

De Vreese, L.P. Neru, M. Fioravanti, M., Belloi, L., & Zanetti, O. (2001). Memory rehabilitation in Alzheimer's disease: A review of progress. International Journal of Geriatric Psychiatry, 16, 794-809.

Dishman, R.K., Berthoud, H.R., Booth, F.W., Cotman, C.W., Edgerton, V.R., et al. (2006). Neurobiology of Exercise. Scandinavian Journal of Medicine, Science, Sports, 16, 470.

Dunlosky, J., Kubat-Silman, A.K., & Hertzog, C. (2003). Training monitoring skills improves older adults' self-paced associative

- learning. *Psychology and Aging*, 18, 340-355.
- Echt, K. V., & Morrell, R. W. (2003).** Promoting Health Literacy in Older Adults: An Overview of the Promise of Interactive Technology. Bethesda, MD: National Institute on Aging.
- Elavsky, S., McAuley, E., Motl, R.W., Konopack, J.F., Marquez, D.X., Hu, L., Jerome, G.J., Diener, E. (in press).** Physical activity enhances long-term quality of life in older adults: Efficacy, esteem, and affective influences. *Annals of Behavioral Medicine*.
- Elias, J., & Treland, J. (2000).** Executive function and cognitive rehabilitation. In R. Hill, L. Backman, & A. Neely (Eds.). *Cognitive rehabilitation in old age* (pp. 159-174). New York: Oxford Press.
- Elliot, E., & Lachman, M.E. (1989).** Enhancing memory by modifying control beliefs, attributions, and performance goals in the elderly. In P.S. Fry (Ed.), *Psychological perspectives of helplessness and control in the elderly* (pp. 339-367). Amsterdam: Elsevier.
- Ellenbogen, J., Hulbert, J., C.2, Stickgold, R., Dinges, D. F., Thompson-Schill, S. L. (2006)** Interfering with Sleep and Memory: Sleep, Declarative Memory, and Associative Interference. *Current Biology*, 16, 1290-1294.

- Engelhart, M. J., Geerlings, M.I., Ruitenbergh, A., et al. (2002).** Dietary intake of antioxidants and risk of Alzheimer disease. JAMA;287;3223-9.
- Fillit, H., M., Butler, R.N., O'Connell, A.W., et al. (2002).** Achieving and maintaining cognitive vitality with aging. *Mayo Clinic Proceedings*, 77, 681-696.
- Floyd, M., & Scogin, F. (1997).** Effects of memory training on the subjective memory functioning and mental health of older adults: a meta-analysis. *Psychology and Aging*, 12, 150-161.
- Folstein, MF, Folstein, S, & McHugh, P., (1975).** A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, 12, 189-198.
- Furlong, M.S. (1989),** An electronic community for older adults: The Senior-Net network. *Journal of Communication*, 39, 145-153.
- Fox, S. (2004)** Pew Internet Project of The Pew Research Center. Older Americans and the Internet, March 25, 2004, <http://www.pewinternet.org/reports/toc.asp?Report=117>
- Fox-Grage, W. (2000).** Alzheimer's disease & related dementias: A

legislative guide. National Conference of State Legislatures,
Washington, DC.

Fratiglioni, L., Paillard-Borg, S., and Winblad, B. (2004). An active and socially integrated lifestyle in late life might protect against dementia. *Neurology* 2004: 3:343-53.

Garcia, M. P., Garcia, J. F. G., Guerrero, N. V., Triguero, J. A. L., & Puente, E. (1998). Neuropsychological evaluation of everyday memory. *Neuropsychology Review*, 8(4), 203-227

Gennaro, R., Herrmann, D. & Sarapata, M. (2006) Aspects of the unity of consciousness and everyday memory failures. *Consciousness and Cognition*, 15, 372-385.

- Giorgianni, S.** (1998). Perspectives on health care and biomedical research: Responding to the challenge of health literacy. *The Pfizer Journal, 2*(1).
- Goethals, G. R. & Solomon, P. R.** (1989) Interdisciplinary perspectives on the study of memory. In P. R. Solomon, G. R. Goethals, C. M. Kelley, and B. R. Stephens (Eds.) *Memory: Interdisciplinary Approaches*, New York: Springer Verlag.
- Grandmaison, E., & Simard, M.** (2003). A critical review of memory stimulation programs in Alzheimer's disease. *Journal of Neuropsychiatry and Clinical Neuroscience, 15*, 130-144.
- Greenberg, C. & Powers SM** (1997). Memory improvement among adult learners. *Educational Psychology, 12*, 385-394.
- Gunther, V.K., Schafer, P., Holzner, B.J., & Kemmler, G.W.** (2003). Long-term improvements in cognitive performance through computer-assisted cognitive training. *Aging & Mental Health, 7*, 200-206.
- Hageman, P.A., Walker, S.N., & Pullen, C.H.** (2005). Tailored versus standard Internet-delivered interventions to promote physical activity in older women. *Journal of Geriatric Physical therapy, 28*, 28-33.

- Harley, J. P., et al. (1992)** Guidelines for Cognitive Rehabilitation: Head Injury Interdisciplinary Special Interest Group of the American Congress of Rehabilitation Medicine. *NeuroRehabilitation*, 2, 62-67.
- Hawley, K.S., & Cherry, K.E. (2004).** Spaced-retrieval effects on name recognition in older adults with probable Alzheimer's disease. *Behavior Modification*, 28, 276-296.
- Herrmann, D. (2002).** A Caregiver's Guide to Helping People with Memory Impairment. Professional Continuing Education Courses, Learning Information Technologies, Inc. <http://www.learning-infotech.com>.
- Herrmann, D. J., & Chaffin, R. (1988).** Memory in historical perspective: The literature before Ebbinghaus. New York: Springer-Verlag.
- Herrmann, D. & Gruneberg, M. (2008).** SuperMemory II. New York: Strategic Book Publishing

- Herrmann, D. & Parente', R. (1994).** A multi-modal approach to cognitive rehabilitation. *NeuroRehabilitation*. 4, 133-142.
- Herrmann, D. & Plude, D. (1998).** The effectiveness of face-name memory training as a function of the training technologies and learning ability. Practical Memory Institute (PMI Technical Reports, Terre Haute, Indiana.
- Herrmann, D., & Plude, D.J. (1996).** Museum memory. In J. Falk & L. Dierking (Eds.) *Public institutions for personal learning: The long-term impact of museums* (pp. 18-33). Washington, D. C.: American Association of Museums.
- Herrmann, D. & Searleman, A. (1992).** Memory improvement and memory theory in historical perspective. In D. Herrmann, H. Weingartner, A. Searleman, and C. McEvoy (Eds.) *Memory Improvement: Implications for Memory Theory*. New York: Springer Verlag, 1992, pp 8-20.
- Herrmann, D. & Searleman, A. (1990).** A multi-modal Approach to memory Improvement. In G. H. Bower (Ed.) *Advances in Learning and Motivation*. New York: Academic Press.
- Herrmann, D., Weingartner, H., Searleman, A., & McEvoy, C. (Eds.). (1992).** *Memory Improvement: Implications for Theory*. New York:

Springer Verlag.

Herrmann, D., Brubaker, B. Yoder, C., Sheets, V., & Tio, A. (1999).

Devices that Remind. In F. Durso (Ed.). Handbook of Applied Cognitive Psychology, Mahwah, N.J.: Erlbaum.

Herrmann, D., Plude, D., Yoder, C., Cook, S., Lopp, T., Gatling, J.,

Arkisha Gathright, A., & Hartzler, B. (2002). The Validity of Memory Training Provided by a CDi or a CD-ROM. Practical Memory Institute (PMI) Technical Report, Terre Haute, Indiana.

Herrmann, D., Plude, D., Yoder, C., & Mullin, P. (1999). Cognitive and

Extrinsic Psychological Systems: A Holistic Model of Cognition. *Zeitschrift fur Psychologie*, 207, 123-147.

Herrmann, D., Yoder, C., Gruneberg, M., & Payne, D., C. (2006) Applied

Cognitive Psychology. Mahwah, N.J.: Erlbaum.

Herrmann, D., Sheets, V., Gruneberg, M., & Torres, R. (2005) Are Self

Reports of Memory Failure Accurate? *Applied Cognitive Psychology*. 19, 821-841.

Herrmann, D., Gruneberg, M., Fiore, S., Schooler, J. & Torres, R. (2006).

Accuracy of Reports of Memory Failures in Everyday Life. In L. Nilson & N. Ohta (Eds.), *Memory & Society*, London: Routledge.

- Herrmann, D., Schooler, C., Caplan, L. J., Lipman, P. D., Grafman, J., Schoenbach, C., Schwab, K., & Johnson, M. L. (2001).** The latent structure of memory: A confirmatory factor-analytic study of memory distinctions. *Multivariate Behavioral Research*, 36, 29-51.
- Hertel, P. (1996).** Practical aspects of emotion and memory. In D. Herrmann, C. McEvoy, C. Hertzog, P. Hertel, and M. Johnson. *Basic and Applied Memory: Theory in Context*. Hillsdale, N. J.: Erlbaum.
- Hertel, P. (1992).** Improving memory and mood through automatic and controlled procedures of mind. In Herrmann, D.J., Weingartner, H., Searleman, A. & McEvoy, C. (Eds.), *Memory improvement: implications for theory* (pp. 43-60). New York: Springer-Verlag.
- Hertzog, C., & Dixon, R. (1994).** Metacognitive development in adulthood and old age. In J. Metcalfe & A.P. Shimamura (Eds.), *Metacognition: Knowing about knowing* (pp. 227-251). Cambridge, MA: MIT Press.
- Hill, R.D., Shiekh, J.I., & Yesavage, J.A. (1988).** The effect of mnemonic training on perceived recall confidence in the elderly. *Experimental Aging Research*, 14, 207-211.
- Hertzog C, Saylor L.L., Fleece, A.M., & Dixon, R.A. (1994).** Metamemory and aging: Relations between predicted, actual and perceived memory

- task performance. *Aging and Cognition*, 1, 203-237.
- Higbee, K.** (2005). What aspects of their memories do people most want to improve? *Cognitive Technology*, 10, 15-17.
- Hill, J.O., Sallis, J.F., and Peters, J.C.** (2004). Economic analysis of eating and physical activity: A next step for research and policy change. *Am J Prev Med* 27(3S):111-116.
- Hill, R.D. et al.** (1988). Three pretraining methods enhance mnemonic training in the elderly. *Experimental-Aging-Research*, 14, 207-211.
- Hillman, C.H., Snook, E., & Jerome, G.J.** (2003). Acute cardiovascular exercise and executive function. *International Journal of Psychophysiology*, 48, 307-314.
- Hilt, M. L., & Lipschultz, J. H.** (2004). Elderly Americans and the Internet: E-mail, TV news, information and entertainment websites. *Educational Gerontology*, 30, 57-72.
- Hoffman, A., Roesner, N., & McCandless, S.** (2005) The Validity of Memory Failure Self Reports. *Cognitive Technology*. 11, 45-53.
- Hofmann, M., Hock, C., & Muller-Spahn, F.** (1996). Computer-based cognitive training in Alzheimer's patients. *Annals of the New York Academy of Sciences*, 17, 249-254.

Hofmann, M., Rosler, A., Schwarz, W., Muller-Spahn, F., Krauchi, K., Hock, C., & Seifritz, E. (2003). Interactive computer-training as a therapeutic tool in Alzheimer's disease. *Comprehensive Psychiatry*, 44, 213-219.

Holhaus, L. (2006). Remembering to age successfully: Evaluation of a successful aging approach to memory enhancement. *Int Psychogeriatr.* Jun; 29:1-14.

Holt, B. J. (2000). Creating senior-friendly web site. *Center for Medicare Education Newsletter*, 1,1-8.

Hoot, J.L., & Hayslip, B. (1983). Microcomputers and the elderly: New directions for self-sufficiency and life-long learning. *Educational Gerontology*, 9, 493-499.

Hultsch, D., Hertzog, C., Small, B., & Dixon, R.A. (1999). Use it or lose it: Engaged lifestyle as a buffer of cognitive decline in aging? *Psychology and Aging*, 14, 245-263.

Humphreys, M. S., & Revelle, W. (1984). Personality, motivation, and performance: A theory of the relationship of individual differences and information processing. *Psychological Review*, 91, 153-184.

Iran-Nejad, A., & Ortony, A. (1984) A biofunctional model of distributed mental content, mental structures, and attention. *Journal of Mind*

and Behavior, 5, 171-210.

- Jobe, J.B., Smith, D.M., Ball, K., Tennstedt, S.L., Marsiske, M., Willis, S.L., Rebok, G.W., Morris, J.N., Helmers, K., Leveck, M.D., & Kleinman, K.** (2001). ACTIVE: A cognitive intervention trial to promote independence in older adults. *Controlled Clinical Trials*, 22, 453-479.
- Johnson, M. H.** (1983) A multiple-entry, modular memory system. In G. H. Bower (Ed.) *The Psychology of Learning and Motivation*, Vol. 17, New York: Academic Press.
- Kessels, R. P., & de Haan, E. H.** (2003). Mnemonic strategies in older people: A comparison of errorless and errorful learning. *Age Ageing*. 32(5):529-33.
- Kickbush, I. & Ratzan, S. C.** (2001). Health literacy: Making a difference in the USA (editorial). *Journal of Health Communication*, 6, 87-88.
- Kramer, A. F.** (2000). Physical and mental training: Implications for cognitive functioning in old age. *Journal-of-Aging-and-Physical-Activity*, 8(4), 363-365.
- Kramer, A.F., & Willis, S.L.** (2002). Enhancing cognitive vitality of older adults. *Current Directions in Psychological Science*, 11, 173-177.
- Kramer, A. F., Colcombe, S.J., McAuley, E., Eriksen, K.I., Scalf, P., Jerome, G.J., Marquez D.X., Elavsky S., Webb A.G.** (2003). Enhancing brain

and cognitive function of older adults through fitness training.

Journal of Molecular Neuroscience, 20(3), 213-22.

Kramer, A.F., Colcombe, S., Erickson, K., Belopolsky, A., McAuley, E., Cohen, N.J., Webb, A., Jerome, G. J., Marquez, D.X., & Wszalek, T.M.

(2002). Effects of aerobic fitness training on human cortical function. *Journal of Molecular Neuroscience*, 19, 227-231.

Kramer, A.F., Erickson, K.I., & Colcombe, S.J. (2006). Exercise, cognition, and the aging brain. *Journal of Applied Physiology*, 101, 1237-1242.

Kramer AF, Hahn S, McAuley E, et al. (2001) Exercise, aging and cognition: Healthy body, healthy mind? In Fisk AD, Rogers W (eds). *Human modes Interventions for the Health Care of Older Adults*. Erlbaum, Hillsdale, NJ.

Lachman, M.E., Weaver, S.L., Bandura, M., Elliot, E., & Lewkowicz, C.

(1992). Improving memory and control beliefs through cognitive restructuring and self generated strategies. *Journal of Gerontology: Psychological Sciences*, 47, P29

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, 57, 705-717

- Luchsinger JA, Tang MX, Shea S, Mayeux R. (2002).** Caloric intake and the risk of Alzheimer disease. *Arch Neurol*;549:1258-63.
- Margrett, J. A., & Willis, S. L. (2006).** In-home cognitive training with older married couples: Individual versus collaborative learning. *Aging, Neuropsychology, and Cognition*, 13, 173-195.
- Marziali, E., & Donahue, P. (2006).** Caring for others: Internet video-conferencing group intervention for family caregivers of older adults with neurodegenerative disease. *Gerontologist*, 46, 398-403.
- Matthews, G., Davies, D. R., Westerman, S. J., & Stammers, R. B. (2000).** Human performance: Cognition, stress, and individual differences. Philadelphia: Taylor and Francis.
- Mathews, A. (1996).** Selective encoding of emotional information. In D. Herrmann, C. McEvoy, C. Hertzog, P. Hertel, and M. Johnson. *Basic and Applied Memory: Practical Aspects*. Hillsdale, N. J.: Erlbaum.
- Mayes, A. R. (1988).** Human organic memory disorders. Cambridge, England: Cambridge University Press.
- McAuley, E., Blissmer, B., Marquez, D.X., Jerome, G.J., Kramer, K.F., & Katula, J. (2000).** Social relations, physical activity, and well-being in older adults. *Preventive Medicine*, 31, 608-617.
- McAuley, E., Jerome, G.J., Marquez, D.X., Canaklisova, S., & Ramsey, S.N.**

(2003). Prediction of long-term maintenance of physical activity in older adults. *Preventive Medicine, 37*, 110-118.

McConatha, D., McConatha, J.T., & Dermigny, R. (1994). The use of interactive computer services to enhance the quality of life for long-term care residents. *The Gerontologist, 34*, 553-556.

McDougall, G. (1995). Memory self-efficacy and strategy use in successful elders. *Educational Gerontology, 21*:357-73.

McDougall, GJ (2002). Memory improvement in octogenarians. *Applied Nursing Research*, 15, 2-10.

McDougall, GJ et al. (1998). Decreasing mental frailty in at-risk elders. *Geriatric Nursing*, (review), 19, 220-24.

McEvoy, C.L., & Moon, J.R. (1988). Assessment and treatment of everyday memory problems in the elderly. In M.M. Gruneberg, P.E. Morris, & R.N. Sykes (Eds.), *Practical aspects of memory: Current research and issues* (Vol. 2; pp. 155-160). Chichester, UK: Wiley & Sons.

Mellor, D., Firth, L., & Moore, K. (2008). Can the Internet improve the well-being of the elderly? *Ageing International*, 32, 25-42.

Metcalfe, J. (2002). Metamemory: Theory and data. In E. Tulving and F. I. M. Craik (Eds.). *The Oxford Handbook of memory*. Oxford University Press: New York.

Mittelman, M. (2003). The role of counseling and support for family caregivers in the management of Alzheimer's disease: Evidence From the Three Country Study. *International Psychogeriatrics*. 2003;15:17.

Mittelman, M. (2002). Family caregiving for people with Alzheimer's disease: Results of the NYU spouse caregiver intervention study.

- Generations: Journal of the American Society on Aging, 26:10.
- Mohs, R.C., Ashman, T.A., Jantzen, K., Albert, M., Brandt, J., Gordon, B., Rasmusson, X., Grossman, M., Jacobs, D., & Stern, Y. (1998).** A study of the efficacy of a comprehensive memory enhancement program in healthy elderly persons. *Psychiatry Research*, 77, 183-95.
- Morrell, R. W. (2002).** *Older Adults, Health Information, and the World Wide Web.* Lawrence Erlbaum.
- Morrell, R. W. (2005a).** *Older Adults, Health Literacy, and the Internet.* Paper presented to the Wayne State University Institute of Gerontology, Detroit, MI.
- Morrell, R. W. (2005b).** <http://nihseniorhealth.gov>: The process of construction and revision in the development of a model web site for use by older adults. *International Journal: Universal Access in the Information Society*, 4/1, 24 – 38.
- Morrell, R.W., & Echt, K. V. (1997).** Designing instructions for computer use by older adults. In A. D. Fisk and W. A. Rogers (Eds.), *Handbook of human factors and the older adult* (pp. 335 - 361). San Diego, CA: Academic Press.
- Morrell, R. W., & Stoltz-Loike, M. (in press).** *Making the Internet*

Century Accessible to Older Adults. Lawrence Erlbaum Associates.

Morrell, R. W., Dailey, S. R., Stoltz-Loike, M., Feldman, C., Mayhorn, C. B., Echt, K. V., & Podany, K. (2005). *Older Adults and Information Technology: A Compendium of Scientific Research and Web Site Accessibility Guidelines.* Gaithersburg, MD: Practical Memory Institute.

Morrell, R.W., Mayhorn, C.B., & Bennett, J. (2000). A survey of worldwide web use in middle-aged and older adults. *Human Factors*, xx, xxx.

Morrell, R.W., Mayhorn, C.B., & Bennett, J. (2001). Older adults online in the Internet century. In R.W. Morrell (Ed.), *Older adults, health information, and the world wide web.* Mahwah, NJ; Erlbaum.

Morrell, R.W., Kelley, C.L., Park, D.C., & Mayhorn, C.B. (1997). The effect of training method on learning to use electronic communications software in older adults. Unpublished manuscript, Center on Aging, University of Michigan, Ann Arbor, MI.

Morrell, R.W., Harley, J.P., Herrmann, D., Rager, R., Rebok, G., Parente', R. (in press) Developing an Online Intervention for Memory Improvement in Mature Adults: The Sharper Memory Project. *Cognitive Technology.*

- Mittelman, M. (2003).** The role of counseling and support for family caregivers in the management of Alzheimer's disease: Evidence From the Three Country Study. *International Psychogeriatrics*.2003;15:17.
- Mittelman, M. (2002).**Family caregiving for people with Alzheimer's disease: Results of the NYU spouse caregiver intervention study. *Generations: Journal of the American Society on Aging*, 26:10.
- Mullin, P., Herrmann, D. J., & Searleman, A. (1993).** Forgotten variables in memory research. *Memory*, 15: 43.
- National Academy on an Aging Society. (1998).** Understanding Health Literacy: New Estimates of the Costs of Inadequate Health Literacy. Paper presented at the Pfizer Conference on Health Literacy "Promoting Health Literacy: A Call to Action. October, Washington, D.C.
- National Press Club Briefing, June 26, 2002.** Washington, D.C.
- National Work Group on Literacy and Health. (1998).** Communicating with patients who have limited literacy skills. *The Journal of Family Practice*, 46, 168 - 175.
- Neely, A.S., & Backman, L. (1995).** Effects of a multifactorial memory training in old age: generalizability across task and individuals. *Journal of Gerontology Social Science*, 50(3), 134-140.

Newell, A. (1990) *Unified Theories of Cognition*. Cambridge, Mass.: Harvard University.

Newson, R.S., Kemps, E.B. (2006). The influence of physical and cognitive activities on simple and complex cognitive tasks in older adults. *Experimental Aging Research*.

Neyroud, I., Israel, L., Raymond, L., Simeone, I., & Jeanneret, O. (1988). Randomised trial of memory training in the over-60s. *Lancet*, 1, 932.

O'Hara, R., Brooks, J.O. III, Friedman, L., Schröder, Morgan, K.S., Kraemer, H. Long-term effects of mnemonic training in community-dwelling older adults. (2006). *Journal of Psychiatric Research*.

Paggi, Kay, Hayslip, Bert Jr. (1999). Mental aerobics: Exercises for the mind in later life. *Educational Gerontology*, 25(1), 1-12.

Pak, R., & Stronge, A. (2008). Health maintenance, older adults, and the Internet. Retrieved from <http://www.apa.org/science/psa/nov08-sci-brief.html>

Parente,' R., & Anderson-Parente,' J. (1991). Retraining memory:

Techniques and applications. Houston, TX: CSY Publishing.

Parente,' R. & Herrmann, D. (2003). Retraining Cognition. Gaithersburg,

MD: Aspen.

Pew Internet & American Life Project: Online life report. (2000). The

online health care revolution: How the Web helps Americans take

better care of themselves. Available online:

<http://www.pewinternet.org/>.

Parente' , R., Stapleton, M. (1999). Development of a cognitive

strategies group for vocational training after traumatic brain injury.

NeuroRehabilitation, 13(1), 13-20.

Pew Internet & American Life Project: Online life report. (2001). More

online, doing more: 16 million newcomers go on Internet access in

the last half of 20000 as women, minorities, and families with

modest incomes continue to surge online.

<http://www.pewinternet.org/>.

Plude, D. (1992) Memory improvement and attention training. In D. Herrmann, H. Weingartner, A. Searleman, & C. McEvoy (Eds.). *Memory Improvement: Implications for Theory*. New York: Springer Verlag.

Plude, D. (1992) Memory improvement and attention training. In D. Herrmann, H. Weingartner, A. Searleman, & C. McEvoy (Eds.). *Memory Improvement: Implications for Theory*. New York: Springer Verlag.

Plude, D.J. & Murphy, L.J. (1992). Aging, attention, and everyday memory. In R. West & J.D. Sinnot (Eds.), *Everyday memory and aging: Current research and methodology* (pp. 235-245). NY: Springer-Verlag.

Plude, D. J., & Schwartz, L. K. (1996a). The promise of Compact Disc-interactive memory training with the elderly. *Educational Gerontology*, 22, 507-521.

Plude, D. J., & Schwartz, L. K. (1996b). The promise of Compact Disc-interactive technology for memory training with the elderly. In D. Herrmann, C. McEvoy, C. Hertzog, & P. Hertel, & M. Johnson (Eds.). *Basic and Applied Memory: Vol. 2. New Findings*, Mahwah, N. J. Erlbaum.

- Plude, D.J., Benaderet, T., & Hermann, D.J. (2001).** Aging, memory self assessment and self-reported functioning. *Cognitive Technology*, 6, 38-40.
- Plude, D.J., Herrmann, D.J., & Schwartz, L.K. (2000).** The MemoryWorks: Multimedia CD-ROM programs for remembering names, lists, and intentions. Presented at the meetings of the Gerontological Society of America, Washington, D.C., November.
- Practical Memory Institute (PMI) (2002).** The validity of memory training provided by the Memory Works CDs. PMI Technical Reports, 2, 1-13.
- Podewils, L.J., Guallar, E., Kuller, L.H., Fried, L.P., Lopez, O.L., Carlson, M., and Lyketsos, C.G. (2005)** Physical Activity, APOE Genotype, and Dementia Risk: Findings From the Cardiovascular Health Cognition Study. *American Journal of Epidemiology*, 161, 639–651.
- Poon, L.W. (1985).** Differences in human memory with aging: Nature, causes, and clinical implications. In J.E. Birren & K.W. Schaie (Eds.), *Handbook of the psychology of aging* (2nd ed., pp. 427-462). New York: Van Nostrand Reinhold.
- Poon, L.W. (1980)** A systems approach for the assessment and

treatment of memory problems. In J. M. Ferguson & C. B. Taylor (Eds.). *The Comprehensive Handbook of Behavior Medicine*, Vol 1, 191-212.

Poon, L., Rubin, D. & , B. (Eds.), *Everyday Cognition in Adult and Late Life*. New York: Cambridge.

Rager, R, Morrell, R.W., Harley, J.P., Herrmann, D., Rebok, G., Parente', R. (2006).

Web-based Approaches for Cognitive Training and Memory Improvement in Older Adults. Presented at the 3rd Annual R13 NIA Supported Conference of the American Geriatrics Society concerning "Does Mental and Physical Activity Promote Cognitive Vitality in Late Life", Philadelphia, March.

Rasmusson, D.X., Rebok, G.W., Bylsma, F.W., & Brandt, J. (1999). Effects of three types of memory training in normal elderly. *Aging, Neuropsychology, and Cognition*, 6, 56-66.

Rebok, G. W., & Balcerak, L. J. (1989). Memory self efficacy and performance differences in young and old adults: Effects of mnemonic training. *Developmental Psychology*, 25, 714-721.

Rebok, G. W., & Plude, D. J. (2001). Relation of physical functioning to memory functioning in older adults: The Memory Workout Program.

Rybash, J. M. (1999). Memory Works: A CD-i Memory Training Program for Older Adults. *Cognitive Technology*, 3, 39-41.

- Saczynski, J.S., Rebok, G.W., Whitfield, K.E., & Plude, D.J. (2004).**
Effectiveness of CD-ROM memory training as a function of within-session autonomy. *Cognitive Technology*, 9, 25-33.
- Saczynski, J.S., & Rebok, G.W. (2004).** Strategies for memory improvement in older adults. *Topics in Advanced Practice Nursing*. 4(1). Available at: <http://www.medscape.com/viewarticle/465740>
- Schacter, D. L. (1984)** Toward the multidisciplinary study of memory: Ontogeny, phylogeny, and pathology of memory systems. In L. R. Squire and N. Butters (Eds.) *Neuropsychology of Memory*, New York:Guilford.
- Searleman, A. & Herrmann, D. J. (1994).** *Memory from a Broader Perspective*. New York: McGraw Hill.
- Small, G. W. (2006).** Effects of a 14 day healthy longevity lifestyle program on cognition and brain function. *American Journal of Geriatric Psychology*, 14, 538-545.
- Small, G. W. et al. (1997).** Mnemonics usage and cognitive decline. *International Psychogeriatrics*, 9,47-56.
- Snowdon, D. (2002).** *The Nun Study: Aging with Grace*. Department of Neurology in the College of Medicine, University of Kentucky.
- Sohlberg, M.M., & Mateer, C.A. (1987).** Effectiveness of an attention-

training program. *Journal of Clinical and Experimental Neuropsychology*, 9, 117-130.

Solomon, P.R., Goethals, G.R., Kelley, C.M., & Stephens, B.R. (1989).

Memory: Interdisciplinary approaches. New York: Springer-Verlag.

Stigsdotter-Neely, A. & Bachman, L. (1993a). Maintenance of gains

following multifactorial and unifactorial memory training in late adulthood. *Educational Gerontology*, 19, 105-117.

Stigsdotter-Neely, A. & Bachman, L. (1993b). Long-term maintenance

of gains from memory training in older adults. Two 3_ year followup studies. *Journal of Gerontology*, 48, 233-237.

Stoltz-Loike, M., Morrell, R.W., & Loike, J. (in press). Can e-learning be used as a successful training format for people over age 50? A pilot study. *Gerontechnology*.

Stronge, A. J., Walker, N., Rogers, W. A. (in press). Searching the

World Wide Web: Can older adults get what they need? In W. A.

Rogers & A. D. Fisk (Eds.), *Human factors interventions for the health care for older adults*. Mahwah, NJ: Earlbaum Associates.

Studenski, S., Carlson, M.C., Fillit, H., Greenough, W.T., Kramer, A.,

Rebok, G.W. (2006). From bedside to bench: Does mental and

physical activity promote cognitive vitality in later life? *Sci Aging Knowledge Environ.* 10:pe21.

Tomey, A. M., Fernandez, R. M., & Herrmann, D. (2005). The Effects of Stress on Cognitive Performance, Ninth Annual Research And Health Care Issues Conference, University of Southern Indiana, April.

Troyer, A.K. (2001). Improving memory knowledge, satisfaction, and functioning via an education and intervention program for older adults. *Aging, Neuropsychology, and Cognition.* 2001; 8:256-68.

Valentijn, S., Van Hooren, S., Bosma H, Touw DM, Jolles J, van Boxtel MPJ, Ponds R. (2005). The effects of two types of memory training on subjective and objective memory performance in healthy individuals aged 55 years and older: A randomized controlled trial. *Patient Education and Counseling.* 57:106-14.

Vergheze, J., Lipton, R.B., Katz, M.J., Hall, C.B., Derby, C.A., Kuslansky, G., Ambrose, A.F., Sliwinski, M., & Buschke, H. (2003). Leisure activities and the risk of dementia in the elderly. *The New England Journal of Medicine,* 348, 2508-2516.

- Verhaeghen, P., Marcoen, A., & Goosens, L. (1992).** Improving memory performance in the aged through mnemonic training: A meta-analytic study. *Psychology and Aging, 7*, 242-251.
- Walker, M.P. (2006),** Sleep to Remember, *American Scientist*, July-August:
<http://www.americanscientist.org/template/AssetDetail/assetid/51962>
- Walker, R. W., & Herrmann, D. J. (Eds) (2004).** *Cognitive Technology: Transforming Thought and Society.* Jefferson, N.C.: McFarland
- Webster, J., & Martocchio, J. J. (1993).** Turning work into play: Implications for microcomputer software training. *Journal of Management, 19*, 127-146.
- West, R.L. (1989).** Planning practical memory training for the aged. In LW Poon et al. (Eds.), *Everyday cognition in adulthood and late life.* Publisher-Cambridge England: Cambridge University Press, 573-597.
- West, R.A. (1985).** Memory fitness over forty. Gainesville, FL: Triad.
- West, R. L., Bagwell, D.K., & Dark-Freudeman, A. (2005).** Memory and goal setting: The response of older and younger adults to positive and objective feedback. *Psychology and Aging, 20*, 195-201.
- West, R. L., & Yassuda, M.S. (2004).** Aging and memory control beliefs:

Performance in relation to goal setting and memory self-evaluation.

Journal of Gerontology: Psychological Sciences, 59, 56-65.

West, R. L., Thorn. R. M., & Bagwell, D. K. (2003). Memory performance and beliefs as a function of goal setting

Whitbourne, S.B., Deen, J.E., Spiro, A. III, & Echt, K.V. (2006). Sensory and cognitive predictors of high health literacy in older men. Paper presented at the meeting of the Gerontological Society of America. Dallas, TX.

Woolverton, M., Scogin, F, Shackelford, J, Black, S, Duke, L (2001).

Problem-targeted memory training for older adults. *Aging,*

Neuropsychology and Cognition, 8(4), 241-255.

Wyer,, R. S., & Srull, T.K. (1989). *Memory and cognition: In its social context.* Hillsdale, NJ: Erlbaum.

Yoder, C. Y. & Elias, J. W. (1991). The role of affect in memory. In R. L. West and J. P. Sinnot (Eds.). *Everyday memory and aging: Current research and methodologies.* New York: Springer Verlag.

Zachs, R. T., & Hasher, L. (1992). Memory in life, lab, and clinic: Implications for memory theory. In D. Herrmann, H. Weingartner, A. Searleman, & C. McEvoy (Eds.) *Memory Improvement: Implications for memory theory.* (pp. 232-248). New York: Springer Verlag.

APPENDIX A

SUMMARY OF RESEARCH BY PMI RESEARCHERS THAT SUPPORT THE
VALIDITY OF IT'S MEMORY TRAINING PRODUCTS

Baldi, R., A., Plude, D. J., & Schwartz, L.K. (1996). New technologies for memory training with older adults. *Cognitive Technology*, 1, 25-35.

Herrmann, D. (2002). A Caregiver's Guide to Helping People with Memory Impairment. Professional Continuing Education Courses, Learning Information Technologies, Inc.

<http://www.learning-infotech.com>>

Herrmann, D.J., & Parente', R. (1994). A multi-modal approach to Cognitive rehabilitation. *NeuroRehabilitation*, 4, 133-142.

Herrmann, D., Yoder, C., Gruneberg, M., & Payne, D., C.(2006) Applied Cognitive Psychology. Mahwah, N.J.: Erlbaum.

Herrmann , D., Plude, D., Yoder,C., Cook, S., Lopp , T., Gatling , J., Gathright , A., & Hartzler, B. (2002). The Validity of Memory Training Provided by a CD-i or a CD-ROM. Practical Memory Institute

(PMI) Technical Report, Terre Haute, Indiana.

Herrmann, D. & Plude, D. (1998). The effectiveness of face-name memory training as a function of the training technologies and learning ability. Practical Memory Institute (PMI Technical Reports, Terre Haute, Indiana.

Herrmann, D., & Searleman, A. (1990). The new multimodal approach To memory improvement. In G.H. Bower (Ed.), *Advances in learning and motivation* (Vol. 26, pp. 175-205). New York: Academic Press.

- Morrell, R. W. (2002). *Older Adults, Health Information, and the World Wide Web*. Lawrence Erlbaum.
- Morrell, R. W. (2005a). *Older Adults, Health Literacy, and the Internet*. Paper presented to the Wayne State University Institute of Gerontology, Detroit, MI.
- Morrell, R. W. (2005b). <http://nihseniorhealth.gov>: The process of construction and revision in the development of a model web site for use by older adults. *International Journal: Universal Access in the Information Society*, 4/1, 24 – 38.
- Morrell, R. W., Dailey, S. R., Stoltz-Loike, M., Feldman, C., Mayhorn, C. B., Echt, K. V., & Podany, K. (2005). *Older Adults and Information Technology: A Compendium of Scientific Research and Web Site Accessibility Guidelines*. Gaithersburg, MD: Practical Memory Institute.
- Morrell, R. W., & Stoltz-Loike, M. (in press). *Making the Internet Century Accessible to Older Adults*. Lawrence Erlbaum Associates.
- Morrell, R.W., Harley, J.P., Herrmann, D., Rager, R., Rebok, G., Parente', R. (in press) Developing an Online Intervention for Memory Improvement in Mature Adults: The Sharper Memory Project. *Cognitive Technology*.

- Parente, R., & Anderson-Parente, J.:** Retraining memory: Techniques and applications. Houston, TX: CSY Publishing, 1991.
- Parente, R. & Herrmann, D. (2003).** Retraining Cognition. Gaithersburg, MD: Aspen.
- Parisi, J. M., Greene, J. C., Morrow, D. G., & Stine-Morrow, E. A. L. (2007).** The Senior Odyssey: Participant experiences of a program of social and intellectual engagement. *Activities, Adaptation, & Aging*, 31, 31-49.
- Plude, D. (1992)** Memory improvement and attention training. In D. Herrmann, H. Weingartner, A. Searleman, & C. McEvoy (Eds.). *Memory Improvement: Implications for Theory*. New York: Springer Verlag.
- Plude, D.J. & Murphy, L.J. (1992).** Aging, attention, and everyday memory. In R. West & J.D. Sinnot (Eds.), *Everyday memory and aging: Current research and methodology* (pp. 235-245). NY: Springer-Verlag.
- Plude, D. J., & Schwartz, L. K. (1996a).** The promise of Compact Disc-interactive memory training with the elderly. *Educational Gerontology*, 22, 507-521.
- Plude, D. J., & Schwartz, L. K. (1996b).** The promise of Compact

Disc-interactive technology for memory training with the elderly. In D. Herrmann, C. McEvoy, C. Hertzog, & P. Hertel, & M. Johnson (Eds.). *Basic and Applied Memory: Vol. 2. New Findings*, Mahwah, N. J. Erlbaum.

Plude, D.J., Benaderet, T., & Hermann, D.J. (2001). Aging, memory self assessment and self-reported functioning. *Cognitive Technology*, 6, 38-40.

Plude, D.J., Herrmann, D.J., & Schwartz, L.K. (2000). The Memory Works: Multimedia CD-ROM programs for remembering names, lists, and intentions. Presented at the meetings of the Gerontological Society of America, Washington, D.C., November.

Practical Memory Institute (PMI) (2002). The validity of memory Training provided by the Memory Works CDs. *PMI Technical Reports*, 2, 1-13.

Rager, R., Morrell, R.W., Harley, J.P., Herrmann, D., Rebok, G., Parente', R. (2006). Web-based Approaches for Cognitive Training and Memory Improvement in Older Adults. Presented at the 3rd Annual R13 NIA Supported Conference of the American Geriatrics Society concerning "Does Mental and Physical Activity Promote Cognitive Vitality in Late Life", Philadelphia, March.

- Rasmusson, D.X., Rebok, G.W., Bylsma, F.W., & Brandt, J. (1999).** Effects of three types of memory training in normal elderly. *Aging, Neuropsychology, and Cognition*, 6, 56-66.
- Rebok, G. W., & Balcerak, L. J. (1989).** Memory self efficacy and performance differences in young and old adults: Effects of mnemonic training. *Developmental Psychology*, 25, 714-721.
- Rebok, G. W., & Plude, D. J. (2001).** Relation of physical functioning to memory functioning in older adults: The Memory Workout Program. *Educational Gerontology*, 27, 247-259.
- Rebok, G. W., Rasmusson, D. X., & Brandt, J. (1997).** Improving memory function in community elderly through group-based and individual memory training. *Applied cognitive psychology*, 10, 211-224.
- Rebok, G. W., Rasmusson, D. X., & Brandt, J. (1996).** Prospects for computerized memory training in normal elderly: Effects of practice on explicit and implicit memory tasks. *Applied Cognitive Psychology*,

10,

211-223.

Rebok, G. W., Rasmusson, D. X., Bylsma, F. W., & Brandt, J. (1997).

Memory

improvement tapes: How effective for elderly adults? *Aging,*

Neuropsychology, and Cognition, 4, 304-311.

Rebok, G. W. Holtzman, R. E. ,Koh, S. H. Miles, Q., & Saczynski, J. S.

(2004,

August). *Evidenced-based Treatments (EBTs) in Memory Training.*

Paper presented at the American Psychological Association

meeting, Honolulu.

Rebok, G.W., Ball, K., Elias, J., Mann-Koepke, K., Marsiske, M., Morris, J.,

Tennstedt, S., Unverzagt, F., & Willis, S. (2004, April). Durability of

training effects on cognitive abilities in the ACTIVE study. Paper

presented at the meeting of the Cognitive Aging Conference,

Atlanta.

Saczynski, J.S., & Rebok, G.W. (2004). Strategies for memory

improvement in

older adults. *Topics in Advanced Practice Nursing*. 4(1). Available at:

<http://www.medscape.com/viewarticle/465740>

Saczynski, J. S., Rebok, G. W., Whitfield, K. E., & Plude, D. J. (2004).

Effectiveness of CD-ROM memory training as a function of within-session autonomy. Cognitive Technology, 9, 25- 33.

Stoltz-Loike, M., Morrell, R. W., & Loike, J. (2006). Usability testing of

BusinessThinkingTM e-learning CD-ROMs with older adults.

Educational Gerontology.

Wolinsky, F., Unverzagt, F., Smith, D., Jones, R., Wright, E., & Tennstedt,

S. (2006). The effects of the ACTIVE cognitive training trial on clinically relevant declines in health-related quality of life. Journal of Gerontology: Social Sciences, 61, 281-287.

Wolinsky, F., Unverzagt, F., Smith, D., Jones, R., Stoddard, A., &

Tennstedt, S. (2006). The ACTIVE cognitive training trial and health-related quality of life: protection that lasts for 5 years.

Journal of Gerontology: Medical Sciences, 61, 1324-1329.