Internet and Email Utilization by a Nursing Home Resident: A Single Subject Design Exploratory Study for Improved Quality of Life for the Elderly

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Abstract

The number of older people in America will increase dramatically during the 2010-2030. Research suggests moving into a resident/assisted-living or long-term care facility may lead to a sense of social isolation, loss of independence, and depression due to institutionalized living, especially for residents geographically removed from their family, friends, and community. Technology may allow aging adult residents in such facilities to maintain contact with their social support network. This may reduce the risks associated with aging and separation. Internet and email use by these aging residents will help empower and strengthen psychological, emotional and physical health for sustaining quality of life.

A single-subject design case study was used to explore if using the Internet and email might improve family, interpersonal and intrapersonal communication, the emotional and psychological health for one older adult long term care resident. Implications for research, development, education, and practice in human services and gerontology will be discussed.

Introduction

Literature and the media suggest that there will be significant in the numbers of elderly adults in the American and world populations. "The Baby Boomers will start turning 65 in 2011, and the number of older people will increase dramatically during the 2010-2030 period." (AgingStats,Gov. Retrieved April 19, 2006, from http://agingstats.gov/chartbook2004/population.html). Not only will adult children struggle to maintain two roles; meeting the needs of their own family and those of their aging parents, individuals and agencies in the public and private sectors dedicate to elderly care will have to address prominent policy, infrastructural, and procedural issues at the state, national, and international level in order to maintain a healthy functioning quality of life for this population.

Because of distance, time constraints, and the high cost of private duty care-givers, many families have had to make the decision to place a parent in a long term care facility. This can lead to a multitude of problems for the older adult (Saunders, 1997); a sense of loss/separation from their community, home, family, and friends of many years. Stripped of their independence both in terms of personal care and loss of privacy, these residents also faces personal changes, having to share a room with another adult resident, outliving many of their friends, siblings, spouse and sometimes even their children, have little or no social ties due to an inability to drive or because of health concerns. This combination of events can lead to depression in older adults and an increased sense of being alone. Therefore, the older adult population may be at a higher risk for self- or other imposed isolation from family and the community.

However, technology may be a way to provide a means for the older adult residing in a long term care facility to remain in contact with their social support network. This can serve to reduce the risk of social isolation and depression by enabling the older adult to remain an active and engaged member of their community and family. A large segment of society commonly utilizes both the Internet and email in all aspects of daily life. The Internet and email offer instantaneous visual communication, through use of a video and audio communication, including access to massive amounts of information for news and resources. The introduction of the Internet and email to a long term care resident may help maintain their connectedness to support systems necessary for quality of life and a greater sense of involvement with family and community.

Within the next ten to twenty years many "Baby Boomers" will be retiring. However, this will be the generation that has had extensive experience with using the Internet and email and will not be satisfied with the current state of long term care facilities, nursing home, and assisted living facilities. It is important for family members and particularly administrators of programs for the elder consider the utilization of computer technology, both as a therapeutic intervention and a tool to promote social and community contacts, and respond to the inevitable demand by a more sophisticated, computer oriented consumer.

By using a single-subject design case study method, this research will explore if and how the use of the Internet and email may improve the communication, physical and mental health, social condition, and quality of life for one older adult long term care resident.

Literature Review

The Administration on Aging reports within thirty to forty years, there will be an increase in the older adult population to add to the existing rise of older adult citizens (Administration on Aging Statistics. Retrieved October 8, 2005, from http://www.aoa.gov/prof/Statistics/future-growth/aging21/). Nie (2001) reports that "The Internet today has been greeted with much the same enthusiasm as telephones, radio, and television were following their introductions into American society" (p. 422). This increased utilization of computer technology is observed throughout every facet of society and its infrastructure. Computer technology has advanced so rapidly that we are now able to do multiple tasks via Internet and email. We can make purchases, bank, pay bills, take classes, talk in chat rooms, Blogs, find a date, get the news, watch movie, video, listen and to and down load music. We can interface with our cell phones, iPods, PDA's, Lap Tops, our personal camera, or web-cam to instantaneously visually connect with any number of location around the

world, street corners, satellites images, highways, or with family or friends locations from the our office and home.

The current elderly adult population has not been as proactive as younger generations in utilizing either the Internet or email. One reason could be that Web sites target younger users. Pepper (2002) found that seniors felt that "the Internet often seems like a clubhouse created by 20 year-olds for other 20 year-olds, with an 'Old folks not welcome' sign posted out front"(p. 60). Therefore, the older adult may feel that learning and using the latest technology is not designed for them. Literature suggests that "residents of senior living communities are among those who have the lowest Internet usage rate of any demographic in America, with the possible exception of people living in prisons" (Pepper, 2002, p. 60). York, (2004). Suggest that most feel it is too late for them to learn how to use the Internet and communicate via email. The "ageism" and prejudice in society seems to promote the same idea, "some people say nursing home residents are 'too old' or 'too disabled' to use computers" (York, 2004, p. 30). This is an ageist comment and those who have devoted time and technology to the older adult population are finding out that this is quite contrary to ageist beliefs and prejudice. Kiel (2005) suggests with a comfortable learning environment patience, and reinforcements, older adults are able to succeed in participating in Internet options such as on-line banking, merchandise purchases, and web surfing.

Older adults are at a higher risk for social isolation, leading to a negative affect on their mental health and quality of life. Goleman (1985) states that, if one becomes socially isolated, they are at a higher risk of illness and possibly death. The loss of their independence, family ties, autonomy as well as lack of social connection often coexist with depression (Han, 1997). "Research indicates that social support network size and satisfaction with social support affect health outcomes including affective states, such as feelings of depression or loneliness" (White, 2002, p. 213). Han also suggests that "a significant burden of functional incapacity could be reduced among elderly persons if coincidental depressive symptoms could be alleviated with medical treatment and deficits in their social environments remedied" (p. 218). Thus, not only is social isolation a problem, which may lead to depression, but that depression as a result of social isolation that may lead to other health concerns and issues. Intervention may fall on an overworked and underpaid paraprofessional and professionals. When faced with long term care placement, depression may increase since adjustment to a new lifestyle is very stressful. "The elderly people felt displaced, vulnerable, and abandoned, they had to deal with losses of physical abilities, relationships, and accustomed space"

(Patterson, 1995, p. 683). Therefore, by determining an individual's level of emotional needs, other health factors may be alleviated. Goleman (1995) states that "Many patients can benefit measurably when their psychological needs are attended to along with their purely medical ones" (p.185). By addressing an individual's psychological needs, overall well-being, personal goals, autonomy, self-esteem and empowerment may decrease their medical needs.

In their feeling of isolated from families and friends long term care residents may look toward the nursing staff to fill this void for companionship. Patterson (1995) states "...perception of support from family members decreased over time, and was mentioned less frequently by key informants than newly admitted residents. It appears that, over time, there is for some residents a shift in support from family to the nursing staff" (p. 688). Perhaps this is due to lack of communication between families and the long term care residents, especially for families that reside elsewhere. Namazi (2003) supports the use of computers within a nursing facility since it offers the older adult a direct link of communication with their family and friends.

Maintaining communication within families can be difficult in the best of situations in contemporary society. However, separating an older adult parent by placing them in a long term care facility commonly leads to a decline in communication with family and an increase in social isolation. Social ties are fragile and they become vulnerable to social isolation, depression and ultimately death. Getting the older adult online may disrupt this process.

In order to assist long term care residents with staying connected to family, friends and social news, introducing Internet and email to long term care residents need not only be encouraged but governments and agencies need to be more willing to provide the tools and accessibility to their residents in order for them to remain connected and alleviate social isolation. "The Internet, including email, has the potential to enhance social support and psychosocial well-being for many older adults in a variety of ways" (White, 2002, p. 213). Zinn, (2001) notes, "Another benefit of getting residents online is that email gives them something else to think about besides why they're in a long-term care facility (, p. 26).Therefore, by educating long term care residents on the use of computer technology, determining residents' emotional level and integrating this into their daily needs, there may be outcome improvement. Currently, offering computer access to residents is uncommon. Namazi (2003) states that "although many believe that communication with the outside world is essential and a necessity for an elderly person's well-being in a long-term care facility, computers are seldom included as a tool to access those outside sources"(p. 536). Some factors to

consider in implementing computers in a long-term care environment are the additional expenses involved. Technology, personnel, training and additional space would be necessary, time-consuming and expensive to the organizations. For example, SeniorNet, a computer center that teaches the older adult how to utilize Internet and email as well as basic computer skills, costs approximately $12,000 to get started and $500 annually with $40 membership dues per person (SeniorNet. Retrieved September 13, 2005, from http://www.seniornet.org).

Other costs and equipment may be necessary for the older adult. Adaptive equipment to accommodate the older adult with physical and mental disabilities is available so that the older adults are able to use the computer. York (2004) indicates that the following equipment can be purchased for people with disabilities and/or who are older. Adaptive keyboards create a more user-friendly keyboard by having the keys in alphabetical order rather than the standard QWERTY configuration or with larger keys or white on black keys; trackballs are larger balls that replace the mouse; visual magnification software is available for visually impaired individuals; touch screen monitors allow the user to simply touch the screen, eliminating the use of a mouse; portable computers are also used so that the computer can be taken to the user, especially if sitting or mobility is a factor.

Some facilities have even incorporated the use of Internet with physical and rehabilitation therapy. York (2004) indicates that speech therapists have utilized the Internet for cognitive therapy. For example, they have electronic puzzles that the client completes on a touch screen. Physical therapists can utilize the computer by connecting what is called a "Sim cycle" a device that can be pedaled using their hands or feet, to a computer (p. 32). Both of these interventions allow a resident to participate in therapy without feeling that they are actually doing therapy since it is fun and more interactive. Literature suggests that while this therapy remains challenging, it also has an element of fun.

Facilities that do provide computers are noticing positive verbal feedback from their residents. McConatha noticed in his Internet study that the older adult flourished with the use of Internet instruction and he saw an increase in morale and a drop in depression for the participants (LexisNexis Academic. Retrieved May 26, 2005, from http://web.lexis-nexis.com). One facility reports that the activity director incorporates the Internet into an activity for the residents by connecting a television to the computer and playing Wheel of Fortune while residents play along. Another facility has empowered residents by assigning them as mail carriers for email responses.

They then take the email to other, more debilitated residents and read their email to them. Also, they will record and send a reply to the sender. So, not only is the Internet and email reconnecting residents to outside people and to other residents in the home, it is empowering them and giving them a new outlook on long term facility living. Although the trend is not fully matured with Internet and email accessibility for long term care residents, Zinn (2001) noted that "Residents benefit from this newfound avenue of human interaction" (p. 21). Thus, there does seem to be a positive potential benefit with Internet and email and with programs such as SeniorNet and Linking Ages available.

With the use of Internet and email by long term care residents, their lives may become more enriched, their overall outlook may improve and negative and depressive behavior may be alleviated. The literature suggest "further research in this area is needed to determine more precisely, which older adults, residing in which environmental contexts are more likely than others to benefit from this rapidly expanding information and communication link"(White, 2002, p. 220)..

A literature review raises several questions that guided this research. First, would teaching a long term care resident who has little social communication and is geographically separated from family, the use of Internet and email, create a higher sense of well-being, as measured in the Minimum Data Set (MDS), the Bar-On Emotional Quotient Inventory (EQ-i) and by participant self-reporting? Secondly, does utilizing Internet and email at a long term care facility improve, a resident's communication with family and sense of community involvement as measured by MDS, Bar-On EQ-i and participant reporting?

It is hypothesized that teaching the use of Internet and email as a therapeutic intervention will reduce participant depression and increase overall self-esteem, as measured by the Bar On EQ-i pre-test and post-test results, as well as the quarterly MDS reports. It is further hypothesized that communication with family and friends will increase, as evidenced by email messages and by amount of time surfing the Web. A third hypothesis is that a resident will have an increase in self-esteem as well as an increase in a sense of empowerment as evidenced by more involvement with activities and social functions reported on the MDS report.

Methodology

Design

The research design selected for this study is the single system/single case design (SSD). This design supports the focused concentration on one participant. The utilization of a Single

Case/Single Subject AB Design (SSD) to determine the benefits that Internet and email can have on a specific long term care resident's emotional needs supports evidence-based practice. Social work practitioners are encouraged to utilize evidence-based or empirically-based interventions. This type of intervention is to use, develop and document the achievement of identified treatment goals. This is accomplished by researching multiple or single interventions, implementing those interventions and measuring the effectiveness through empirical methods (Crane & Hafen, 2002). This differs from other forms of research in that it applies research to current practice and expands based upon the research using results and thus directly influence current practice by the potential development of new or innovative interventions (Corrie & Callanan, 2001).

The SSD allows empirical data from practice evaluation to be analyzed in order to practice effectively (Orme & Cox, 2001). In using an SSD, data about the client's progress, data is charted and collected over time to determine the effects (Baer, 2001). Literature from Baer, Corrie and Callanan, as well as Orme and Cox suggest SSD provides valuable information to clinicians. Chart a participant's progress over time requires a baseline of participant functioning before the start of treatment. The clinician's primary responsibility is to the participant, so there must be a continuous focus on treatment while conducting research. However, gaining adequate baseline data often encompasses more than one session. The focus should be on what is best for the participant, which does not allow for delaying treatment until baseline data is obtained (Baer, 2001). Another limitation to SSD is once the intervention (phase B) has been stopped, the participant is at risk for returning to previous targeted behaviors (Baer, 2001). Thus, it is crucial for clinicians using SSD to be aware of and consider the limitations of this evaluative method when implementing or drawing conclusions. The use of SSD can yield valuable information to improve a clinician's practice and promote further research There are two phases within the SSD. The A phase, consists of observations of the participants behavior, called the baseline. This particular SSD will involve the use of two instruments, the Minimum Data Set (MDS) and the BarOn Emotional Quotient Inventory (BarOn EQ-i).

Instruments

Minimum Data Set (MDS)

This information will be collected from the long term care facility to monitor the participant's targeted behavior. The Centers for Medicare and Medicaid Services, as part of their Quality Improvement Organization program, mandates that all long term care facilities complete the

MDS on each person upon admission to the long term care facility, quarterly, or when there has been a significant change in a resident's condition. While the MDS is composed of seven (7) sections as follows: 1) The AB Section to determine demographic information; 2) the AC Section to determine Customary Routine; 3) Section A. Identification and Background Information; 4) Section B. Cognitive Patterns; 5) Section E. Mood and Behavior Patters; 6) Section F. Psychosocial Well-being; and 7) Section N. Activity Pursuit Patterns (Appendix A), only three (3), Sections B, E, F will be the main focus in this study.

This will be an effective SSD tool. "One of the major strengths of the Minimum Data Set (MDS) is its reliance on routine, daily observations by nursing home staff. These assessments provide a more complete picture of residents' status than self-reports or one-time interviews, which are often fragmented and confounded by the negative events of the day" (Hendrix, 2003, p. 308). The MDS will be used to establish baseline data; the nursing facility staff computes data related to the resident's overall condition. "The Centers for Medicare and Medicaid is committed to regular revisions to improve the quality of the instrument and to ensure that it remains consonant with the standards of clinical practice in nursing homes" (Hendrix, 2003, p. 312). Each section of the MDS is completed by persons who are trained to complete that particular section. Therefore, supporting an accurate assessment of the baseline information as well as focused expertise to integrated post-test findings to determine an effectiveness intervention. However, a limitation of the MDS is that it is "only as good as its rater" (Hendrix, 2003, p. 312). But because SSD is of short duration, the MDS Pre and Post test information will be entered by the same staff members.

Bar-On Emotional Quotient Inventory (EQ-i)

The Bar-On Emotional Quotient Inventory (EQ-i) (Appendix B) will be used as the pre- and post-testing instrument to assess the subjects overall emotional function. The EQ-i was developed based on normed data from worldwide samples of seventeen years of research by Israeli psychologist Dr. Reuven Bar-On. The EQ-i addresses the components underlying emotion and expression and what leads to and supports those reactions. Bar-On states, the EQ-i "attempts to satisfy the need for an empirically developed, multi-factorial, and theoretically eclectic test of emotional intelligence" (p. 7). In formulating a rationale for the EQ-i, he also stated, "it is important to stress that a number of psychological theories are not easy to understand, nor do they lend themselves readily to being operationally defined and useful, due to the lack of semantic and conceptual clarity... the EQ-i will provide valuable feedback for the respondent by quantitative

indicating emotional skills that need improvement. The eventual presentation of detailed EQ and IQ results will help give a balanced view of the person's general intelligence and true potential for succeeding in life; cognitive and emotional intelligence combined is a powerful combination" (p. 7).. Thus EQ-i is a method that can provide a balanced and broader view of the subject of this SSD while at the same time supporting a practical foundation for intervention/program development, in a wide-variety of settings, including corporate, educational, clinical, medical, research and prevention.

The EQ-i was chosen because its administration does not require special training beyond knowledge of general principles of testing, psychometrics, "normal" human behavior and psychopathology (Bar-On, 1997, p. 12). It is composed of one hundred thirty-three questions measuring fifteen factorial components (sub-scales) in five functional areas; 1) Intrapersonal (emotional self-awareness, assertiveness, self-regard, self-actualization, independence); 2) Interpersonal (empathy, interpersonal relationship, social responsibility); 3) Adaptability (problem solving, flexibility, reality testing); 4) Stress Management (stress tolerance, impulse control); and 5) General Mood (optimism, happiness). It uses a five-point self-rating Likert scale (1 = "Very Seldom or Not True of Me"; 2 = "Seldom True of Me"; 3 = Sometimes True of Me"; 4 = "Often True of Me"; and 5 = "Very often True of Me or True of Me").

The reading level of the Bar-On EQ-i in English has been assessed at the North American sixth-grade level and developed for individuals sixteen years old and above. There are no imposed time limits but takes approximately 30-40 minutes to complete, Participants from a prison population sample were able to understand and complete the inventory with no apparent problems; approximately one third of the subjects had a formal education ranging from the fourth to the ninth grade, with an IQ ranging from 70-85" (Bar-On, 1997, p. 80).

The normative data is based on fourteen thousand individual participants over seventeen years from Argentina, Germany, India, Israel, Nigeria, South Africa Chile, Great Britain, Holland, Mexico, the Philippines, Sweden and South Korea. The largest sample, the North America Normative Sample, described as "the most diverse with regards to age, socioeconomic, educational, occupational/professional breakdown... high school and college students, military personnel, health care professionals and employees of insurance companies, financial institutions, and the automotive industry" (Bar-On, 1997, p. 82). It was also said to be "geographically representative of North Americans." There were two additional North American samples taken from the military.

The average Cronbach alpha coefficients for all sub-scales range from .69 (Social Responsibility) to .86 (Self-Regard), with an overall internal consistency coefficient of .76 (Bar-On, 1997, p. 95). These results would seem to indicate adequate reliability. Test-retest reliability refers to the stability of an instrument over time. In one study, the average stability coefficient was .85 after one month and .75 after four months.

This would indicate there is good consistency in the finding from one administration to the next, but the correlation is not too high as to suggest that emotion and intelligence is unchangeable. EQ-i scores are not similar to some personality test scores that change little over time. Instead, components of emotional intelligence as measured by the EQ-i are changeable and can be improved with training and practice. The test-retest correlation suggests that while the EQ-i provides consistent results, it is also sensitive to changes in emotional and social functioning (Bar-On, 1997, p. 71).

The ability of the Bar-On EQ-i to measure that which it was designed to measure was determined through nine types of validity studies over the past seventeen years (content, face, factorial, construct, convergent, divergent, criterion-group, discriminant and predictive validity).

The advantage of the Bar-On EQ-i over other instruments is that it seems to offer an opportunity to look beyond the emotional reactions, behaviors or expressions. It appears to be constructed to assess what may be considered the underlying motivations and individual understanding of the expression, perhaps in effect, the "intelligence" behind the behavior. If so, it may be a tool that enables individuals to improve their emotional behavioral reasoning process, to expand their repertoire of responses and to enhance their emotional intelligence. Thus, this instrument will be used to gain both pre-test and post-test knowledge of the participant's emotional function.

Participant/Subject

Permission to conduct this research was obtained from the long term care facility's administrator in Cheyenne, Wyoming (Appendix C) and was reviewed and approved by the Institutional Review Board for the Study of Human Subjects through the Research Office of the University of Wyoming (Appendix D). The participant was a divorced, white, 64-year old female. She was selected based on the following criteria: her family is geographically displaced from her and she exhibits negative consequences due to lack of family involvement as evidenced in the MDS Section E) Mood and Behavior Patterns; and Section F) Psychosocial Well-Being.

The final selection of the participant was made by the facility administrator and her social worker at the long term care facility in which she resides. Since adaptive equipment and software was not going to be used nor purchased, another factor for selecting this resident was that there were no visual or cognitive impairments and her ability to see the computer's cursor as well as dexterity to manipulate the mouse and keyboard were not a factor. Also, she does not have any gross learning disability or dementia which may inhibit learning or remembering tasks, which were based on MDS Section B) Cognitive Patterns. Demographic information was also obtained from the MDS Section AB.

Process

The research process involves three phases. Phase A is the pre-test to establish a base line of data and the education/training of the participant/subject in the use of the computer, internet and email. After obtaining the baseline data, the single system-design "allows a social work practitioner to track systematically his or her progress with a client or client unit" (Baer, 2001, p. 127).

Phase B will be introducing the treatment or intervention. In this particular case, the participant/subject's actual use of the Internet and email to determine impact on the targeted behaviors and quality of life issues. "The most elementary SSD is the B design or a case study in which there are not baseline or follow-up data and the worker simply tracks what happens in regard to the independent variable while the intervention is occurring" (Sheafor, 2000, p. 587). By implementing the intervention of the use of the Internet and email over time, this will determine if the intervention has impacted the participant's prior baseline "data collected across time allow the worker to examine the client's response to intervention" (Baer, 2001, p.127). This will allow a measure of effectiveness with one long term care resident.

Phase C is the Post-Test. During both A and C phases, an informal interview will also take place to determine the participant's family and friend communication style, as well as computer skills. A log will also be obtained to determine how often the participant requests or uses the computer throughout the time of the research. The log will track time in, time out, and activity on the computer.

As a single case study the 64 year old female was the only participant and after screening for potential compatible subjects, had been asked to participate voluntarily. An incentive for her to

participate was learning to use the Internet and email as a communication tool for maintaining contact with her family and friends.

Once selected, the participant met with the researcher and her social worker to determine her willingness to participate in this study. At that time, the nature of the research was explained to her, she was encouraged to ask questions and receive answers to her satisfaction. After agreeing to participate, the researcher provided the participant with the Informed Consent (Attachment E). The researcher, social worker and participant read the Informed Consent aloud. Some of the possible negative effects of the study's outcome were also explained. For example, she may become frustrated with the computer or her family and/or friends may not respond to email. Also, it was explained that her personal identification, such as name, institution of residence and other revealing information will not be documented in the study. After explaining the research design and answering questions the consent was signed. She requested that her copy be kept with her other information in the social worker's office.

She agreed and gave the researcher permission to view a copy of her MDS to determine her baseline information. The actual research began when the Bar-On-EQ-i was reviewed and administered for pre-testing information. An informal interview was conducted to gather information related to her family communication and computer experience. After the Bar-On-EQ-i and the initial interview were completed, the researcher explained to her and her social worker the need to keep a computer activity log. This log was used to keep track of how long and how often she utilized the computer as well as what type of activity she prefers, i.e., email or Internet.

During the research, the participant was allowed to use a computer, located in the social worker's office at the long term care facility, Monday through Friday for one hour each day. The social worker's computer was on a separate work station so that other resident and sensitive information remained confidential from the participant. The participant was at first instructed by her social worker and later by the occupational therapist at the long term care facility on basic computer skills and use of Internet and email components. Initially, the participant had email addresses for her family and friends so the staff member arranged for an email account through Yahoo.com, which offers free email services. The participant was instructed on basic computer skills, such as how to turn on/off the computer, use of the mouse, cursor and other options. The participant was then shown the computer email components and was assisted with sending messages to her family and friends. Success in the email usage was measured by her ability to send and receive messages from her

family and friends without assistance. The staff member drafted a "cheat sheet" for the participant to utilize so that she was able to follow these steps independently. Staff was readily to assist the participant in using the computer in case she had questions or needed further support.

The participant was also instructed on the use of the Internet. Initially, the participant was limited to browsing the Internet to determine the success of accessing information from various search engines. She was asked to conduct a GOOGLE search on a topic of personal interest to determine how easily information can be accessed. Once she felt comfortable with various Internet sites, she was able to browse web sites independently. The training phase was determined to be successful based on the participant's ability to learn and retain information about accessing internet sites for information. It was originally anticipated that the participant would be able to communicate via email and explore the Internet independently rather quickly. However, the participant did experience several medical issues that altered her independence. Therefore, the staff did need to remain available during her sessions since she required constant reminders on accessing both the email and Internet.

After four months, the most recent MDS was reviewed; the Bar-On-EQ-i was again administered and a second personal interview was conducted to measure the change in the participant's quality of life after her involvement with the computer. The computer activity log was also reviewed to determine the frequency of use as well as what activity the participant preferred, i.e., Internet or email. This information was gathered to determine if the intervention of the Internet and email positively impacted the participant's quality of life at the long term care facility.

Results

The results will be presented in three parts: 1) the results of the MDS, 2) the results of the Bar-On-EQ-I, and 3) the results of the personal interview and review of the log to determine computer activity.

The Quarterly MDS that was completed on September 9, 2005 was compared to the Quarterly MDS completed on January 25, 2006. The MDS was completed by the Social Service Director at the long term care facility. Section B (Cognitive Patterns) of the MDS was reviewed and indicated that she did have an improvement in her cognitive status. Section E (Mood and Behavior Patterns) showed minor deterioration. Section E., *Verbal Expression of Distress*, subsection (i), "e.g. repetitive anxious complaints/concerns (non-health related) e.g. persistently seeks attention/reassurance regarding schedules, meals, laundry, clothing, relationship issues", indicated

an increase from "0 indicator, not exhibited in last 30 days" to "1 indicator of this type exhibited up to five days a week." Also, in Section E, the "Sad, Apathetic, Anxious Appearance, subsection (n) - repetitive physical movements e.g., pacing, hand wringing, restlessness, fidgeting, picking", showed an increase from "0 indicator - not exhibited in last 30 days" to "1 indicator of this type exhibited up to five days a week. Section F (Psychosocial Well-being) indicated no significant change from September to January (See Appendix A1 and A2).

The BarOn-EQ-i was administered as a pre-test on October 1, 2005, and the results were compared with the results from the post-test administered on January 31, 2006. The results showed a marked increase in all scales and sub-scales of the EQ-i. The participant's pre-test Total EQ score of 74 increased to a post-test score of 104. The Composite Scale score for Intrapersonal EQ, which includes the sub-scales, self-regard, emotional self-awareness, assertiveness, independence, self actualization, at pre-test was 85, and at post-test was 107. The Interpersonal EQ, which includes subscales, empathy, social responsibility and interpersonal relationship at pre-test was 92 and 116 at post-test. Stress Management EQ, with subscales of stress tolerance and impulse control rose from a pre-test score of 62 to a post-test score of 89. Adaptability EQ, with subscales, reality testing, flexibility and problem solving, pre-tested at 78 and post-tested at 102. And finally, General Mood EQ, optimism and happiness pre-test at 71 and had a post-test increase to 100. The results of this data suggest her effective functioning increased in all areas of the Bar-On-EQ-i after the intervention of the Internet and email, (Appendix B1 & B2).

The Intrapersonal subsection Self-Regard was the only sub scale that remained below effective functioning range. This, too, could possibly be the result of her current illness, her bipolar diagnosis, or perhaps that she is a 64-year old female who is residing in a long term care facility or any combination of these factors. However, the results from her pre-test to her post-test still indicate marked improvement on this scale, from 67 to 87, despite the limitation of her current living situation, age, medication, diagnosis and recent hospitalization. Another area that did improve, but still remained low, was Stress Management. Again, this could be due to the fact that she resides in a long term care facility where she has little or no control over when she will get her medications, meals, baths, or other personal care needs. Also, she resides with a roommate in a very small room. The participant also deals with another resident, down the hallway, who screams "Help me!" all day and, according to the participant, all night long as well.

Subjectively, the participant and staff agree that her participation in this study was positive in reuniting with her family and friends, in improving her self-esteem, and in her overall functioning. The participant stated she did not spend much time exploring the Internet due to being unable to really think of anything of interest to look up. She indicated some of the interests she did explore became frustrating since she would get a "no access" message. This may be due to certain Internet accessibility being blocked, by the facility, for their employees. She did have an interest in the medication that caused her tremors and this was her main search on the Internet. Otherwise, she felt that she had more interest in the email and favored it over the Internet. However, she thought she needed more time on the Internet and plans to continue with this exploration.

An initial interview to determine her pattern of communication with her family and her computer experience was conducted on December 1, 2005. She indicated that she lives alone in Cheyenne, Wyoming, and had a college degree in nursing with 30 years of experience as an RN. She indicated that she has a bi-polar diagnosis that is controlled by the medications, Risperdal, Prozac, Buspar, and Xanax. She indicated that she enjoys the facility's activities, described herself as "very social", enjoying her participation in the Resident Council Meetings. She has experienced some "knee problems" which placed limits on her physical abilities and activities, however, she is working with physical therapy to regain some strength.

She has friends in various states and family in California, Washington, Nebraska, Colorado, her youngest son is deployed in Iraq. Visits with her children, one daughter and two sons are primarily via telephone. She indicates weekly contacts with her children and usually she will ask one to call the other in order for them to call her. Her youngest son has a wife and new baby in Colorado and since his deployment, she has maintained contact through written communication. Because, it typically takes about two weeks to get a letter to him overseas, she remains in contact with her daughter-in-law, who contacts her frequently, updating her on her son and grandson. Her older son lives in Nebraska, visits monthly.

Though she had a computer her computer experience was described as minimal and her computer, described by her son "a dinosaur" As it did not have Internet or email access, and she used it to play Solitaire. She indicated that she did not feel very comfortable with learning the computer, especially since her typing skills are marginal. She expressed an interest in taking a typing tutorial but "never got around to it." She appeared excited with the prospect of what the computer and participating in this study had to offer her.

Her overall demeanor during the interview seemed to be excitement at learning a new way to communicate with her family and friends. She seems to have a strong willingness to learn new things and seemed to be objective at the prospects this study has to offer. Also, she had visited with her family and they too appeared to be excited about her participation in this study. Her room is filled with various family photos of her children and grandchildren which might reflect the importance of her family to her.

The post-intervention interview was held on January 31, 2006. She again appeared to be very excited to meet with the researcher. She thanked the researcher for the opportunity to participate in the research, indicating this was a very good experience for her. She became tearful when she explained all of the email she was able to receive and send to various family and friends. She indicated receiving a picture of her grandchild which she was able to print and hang in her room. She indicated that her favorite component of the whole experience was her ability to pick out e-cards. She cried as she explained that prior to this project, she had to have her friend in Washington purchase cards for birthdays or illness and then send them to her so she could address them to her family. Now, by utilizing the computer, she is able to pick out the "perfect card" and e-mail it to her family. Recently, she was able to send a get well card to her daughter who was suffering a bad sinus infection and she also was able to send her grandson his "first birthday card!"

She appeared to be very animated during our interview, communicating both verbally and nonverbally. Her mood appeared happy as she rocked back and forth in her wheelchair when describing all of the aspects the study had to offer her. Also, as the researcher, watching her verbal and nonverbal reaction to how she described this study's effects on her was "heartwarming" as she described how the use of sending e-cards has affected her life. At one point she said she has not worried as much about her son in Iraq since she gets instant messages from him on his well-being, instead of the two week delay with letter writing. From her description, she appeared well able to maintain contact with her friends more frequently and in a timelier manner. One particular friend was said to be so excited that she could communicate via email, that she was "almost writing too much", stating that during her illness, she had 13 email messages from her in two days all "riddled" with worry. Due to her being ill she was unable to reply and had to call her to inform her that she had been sick. She stated she had to inform some friends not to send "silly forwarded jokes" since she felt her time would be better spent sending new messages to family or friends rather than simply reading what she called "nonsense." Overall the personal interview and the participant's subjective

responses would seem to support the results of the MDS and the Bar-On EQ-i in that her experience with email and the Internet lead to a significant improvement in her interpersonal and intrapersonal interaction with family and friends.

The Computer Activity Log, which the participant kept, was reviewed and further supports her interest in using the email and the Internet. She began her computer work on December 2, 2005 with setting up her email account and then sending and receiving email messages. She was hospitalized from December 21, 2005 through December 28, 2005 for what was called "mental status" changes. Apparently the long term care facility nurse noticed that she was despondent and not answering questions appropriately. She was subsequently admitted for evaluation of this change in cognition. It was originally thought that she had suffered a stroke. During her hospitalization it was discovered that a new medication prescribed to her was interacting with another medication and this resulted in her acute mental status changes. A residual effect of the medication interaction was uncontrollable tremors in her hands. As a result, she was unable to utilize the computer since she had no effective control over the mouse. This prevented her from using the computer from December 29, 2005 until January 11, 2006.

Since the participant was unexpectedly ill during the course of this study, it was decided to interview her occupational therapist as part of the study. The occupational therapist indicated the participant had difficulty remembering tasks and needed one-on-one "attention to details" of accessing email and Internet. However, she noticed an improvement the next day. Tasks that she could not do the previous day seemed to be completed more easily. The occupational therapist felt the computer worked as a motivator to participate in therapy and indicated that although the patient did require a lot of attention during the process of accessing her email, the time was worthwhile since the participant was rewarded with receiving email messages from her family and friends. Other informal interviews with various staff members concurred that "this was the best thing that happened to her." The administrator of the long term care facility stated that he is hoping to purchase more computers for the residents to use.

Returning to the project appeared to be important to her as manifested by her asking her physical therapist if there was any way she could tie the computer in as part of her therapy. The staff received occupational therapy orders and the occupational therapist began working with her fine motor skills and computer use from January 12, 2006 until January 31, 2006. From January 12, 2006 until January 20, 2006, the participant and her occupational therapist reviewed her basic computer

skills, maneuvering the mouse as well as the keyboard, even though her tremors remained. They mainly worked on email, sending and receiving messages, as well as her typing skills. From January 23, 2006 until the termination of the project on January 31, 2006, the occupational therapist assisted the participant with checking email and searching the various websites. The participant was able to receive one-on-one assistance from the occupational therapist, Monday through Friday for 45-minute sessions.

Discussion

The results suggest the intervention of Internet and email usage was beneficial to this particular participant in expediting and supporting her access and connectedness to her family and friends. It was hypothesized that teaching the use of Internet and email as a therapeutic intervention would reduce her depression and increase overall self-esteem. It appears that this hypothesis was supported as evidenced by the BarOn EQ-i pre/post-testing results, as well as the MDS reports. It was also hypothesized that communication with her family will increase, which would enhance her quality of life. This hypothesis also seems to have been supported as suggested by subjective interviews and assessment of the participant and informal conversations with the skilled facility's social worker and occupational therapist. This appears to support the benefits that email and Internet had on the participant's emotional and physical functioning during the course of this study. The participant was able to correspond with her family, as well as, friends and was able to independently send e-cards and download pictures from her family and friends. By being able to complete these tasks, the participant appeared to manifest an increase in self-esteem and in a sense of empowerment, and computer competence which again contributes to her overall quality of life.

It is significant to note that the overall improvement in the participant quality of life occurred despite her hospitalization due to problems with her medication, the resultant change mental status and the residual side effect of tremors. She disclosed one effect of her bipolar disorder and her medications can cause tremors in her hands. Her hospitalization delayed her ability to participate in the study due to her hand tremors. This may also have been the reason for her repetitive physical movements not in subsection (n) of the MDS. The increased anxiety and concerns as noted in subsection (i) of the MDS may have been participant being worried about her inability to respond to her email.

Implications

While more research needs to be done, this study suggest major implications the processes and structuring of care for the elderly members of our community as well as for the use of computer

not only for the elderly in long term care residents, but also to those who are "homebound" and those in assisted living homes, especially when family and friends may resides at distant locations. Literature from Kiel, Han and Namazi indicate that teaching older adult how to access the Internet and email will increase their autonomy, decrease depression and increase overall well-being. This single case design seems to support this conclusion. The so called "baby boomer" are much more computer, internet and email literate than the participant in this study. They will come to the various facilities set up for the care of the elderly, being use to having access to computers the internet and email on a daily basis for work, play, and personal use. Their children, so call "Generation X", the future population of elderly, are even more ingrained in the IPOD, BlueTooth, and computer technology. Computer's and its subsequent program, soft ware and hardware, permeate all aspect of social life and our infrastructure, from shopping and paying bills online, to down loading movies, song, photos, view live web and satellite cameras to "instant messaging". We see that university are offering degree programs online, doctor are communicating and diagnosing with clients and patients online, we see the growing interface between computers and cell phone technology. And what does the future hold in store as computer, technology and application expand almost exponentially, Administrators, both public and private, as well as those in program and policy development in and around medical and social issues for the elderly must be more proactive, and visionary in order to provide more effective treatment and services for this population. Much as the business and many other entities in society have embraced and incorporated computer technology into their respective processes, so too do those facilities directly responsible for the direct care this population. Our failure to take the long view, to be visionary and proactive in the development and incorporation of computer technology as integral to the quality of life of people who are elderly will limit treatment and intervention opportunities and option on many levels. It may foster a continued decline and deterioration in the physical, social, and emotional functioning of this group. Leading to higher mental and physical health care cost. It will undoubtedly be met with resistance from future generation of people who will expect to find computer in retirement, assisted Living, residential care and nursing homes and communities. This aspect of our social order seems to lag behind the rest of society in the incorporation of the internet and email for direct elderly client/patient use. Is our lack of attunement predicated on ageism, the still lingering prejudice and negative image of "old age". We must first move away for the view of the helpless elderly and to this end computer in facilities that support the elderly may serve to help dispel the myth of how people in their later year can

function. It just might be helpful in keeping the minds and bodies of people who are elderly active, healthy and function at a quality level longer, thus reducing overall health care cost.

Future research could involve setting up a computer lab in long term care facilities and assisted livings facilities, incorporating computer training into daily activities, offering various components of online activity to residents, such as email or Internet. The possibilities exist for future application of utilizing the Internet and/or email as an intervention tool not only for the profession of social work but also for other disciplines such as occupational or physical therapy. For example, the use of the occupational therapist working with the participant on the computer and utilizing therapy to enhance her fine motor skills validates York's (2004) study of how therapy is moving in this direction. Not only was the participant able to work on her tremors, she was able to have fun in her therapy by maintaining contact with her family and friends. She also received the one-on-one individual computer training necessary for her to repetitively learn the tasks on email and Internet. Recent in the media it has been suggested that there are cognitive test that have been helpful in diagnosis Alzheimer's which can be put into a computer for the elderly client or patient to access.

Limitations

One of the limitations of this study was the fact that there was only one volunteer/participant which clearly means that the results cannot be generalized to the larger population of elderly men and women. Also during her medication health crisis, the participant was not able to work on the compute which may have also affected the results of this study. Thus, while it was originally planned to have the participant work independently on the computer, this never fully developed due to the participant's health concerns required her to have some one-on-one assistance.

Another limitation within the study was the lack of computer availability. The participant felt that she was "rushed" during her time on the computer since the computer was only available for an hour in the morning when the staff member was at meetings. Therefore, in future studies, a designated computer would be helpful so the participants could work freely, at any time of their choosing, and without imposed time limits.

A limitation to the single subject AB design (SSD) is that once the intervention is stopped the participant is at a higher risk to return to previous targeted behaviors (Baer, 2001). However, since this study's outcomes showed favorable results and the participant was engaged in this activity, the long term care facility's administrator consented to allowing the participant the continued use of the computer for Internet and email access after the study has stopped. This alone is a positive direction

in supporting the use of this technology as a therapeutic intervention for continued use with the study participant, as well as other residents at the long term care facility.

Conclusion

It is projected that in the future, most nursing facilities will have to change their structure, policy, and procedures to accommodate for more computers to keep up with society's technological advances and their resident's and technological computer access needs, especially as the more compute savvy "Baby Boomers" retire. The technological and computer revolution as we can see is an unstoppable juggernaut rolling toward a future of increased and definite changes in society's infrastructure, it's various systems and subsystems, in the ways and means people and institutions interact, utilize and process information and the quality of life for all population groups. The failure of one group or any group, or institution, particular those dealing with and providing services to a vulnerable and at risk population such as people who are elderly, not to be far-sighted, visionary and thus proactive in equipping all nursing homes, residential, and assisted living facilities with computers for email and internet access in not an option that can be accepted. More research definitely needs to be done. Larger more expanded studies need to be conduct, across the spectrum of elder care. This study suggest that even the elderly with little or no computer knowledge and experience may experience emotional, physical, mental health and quality of life benefits for simply have independent and direct access to the internet and email. There was a time, early in the care of elderly population when at a long term care facility most of the rooms did not have private telephones or televisions. However, with the competitive market to keep census high, the nursing facility needed to provide these accommodations to keep resident census, satisfaction, and quality from declining. A lesson can be taken for the world's educational institutions where computer, internet, and email access is without exception, where every student can get online to complete his or her education requirements; where in some case educational institution gave students their book, they now give them a laptop, where class room are wire for world wide access not only for information, but to other students, universities, search engines; for online classes and meeting. Society as a whole, institutions and service provider's for the elderly in particular must follow this example if the physical, mental, emotional, and quality of life of the world's elderly population is to be at a level to facilitate the maintenance and support of their dignity, respect and self worth in the twilight of their lives. The quality of a society is found in how well it treats, how compassionate it relates to its least and most vulnerable citizens.

It is anticipated that in the future, utilizing computer technology will become a more important intervention and adjunct to treatment and service delivery, this small study may lead the way to future exploration into how other agencies and disciplines can utilize Internet and email as an intervention tool to enhance a person's quality of life for people who are elderly.

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Appendix A1

Anxiety - Risperdal
Depression - Prozac
Buspar - Anxiety
Xanax - Anxiety

Reside

COPY

10.	ADVANCED DIRECTIVES	*(For those items with supporting documentation in the medical record, **check all that apply**)*			
		a. Living will	a.	f. Feeding restrictions	f.
		b. Do not resuscitate	b.	g. Medication restrictions	g.
		c. Do not hospitalize	c.	h. Other treatment restrictions	h.
		d. Organ donation	d.	i. *NONE OF ABOVE*	i.
		e. Autopsy request	e.		

SECTION B. COGNITIVE PATTERNS

1.	COMATOSE	*(Persistent vegetative state/no discernible consciousness)* 0. No 1. Yes **(If yes, skip to Section G)**	0
2.	MEMORY	*(Recall of what was learned or known)*	
		a. Short-term memory OK—seems/appears to recall after 5 minutes 0. Memory OK 1. Memory problem *2*	0
		b. Long-term memory OK—seems/appears to recall long past 0. Memory OK 1. Memory problem *2*	0
3.	MEMORY/ RECALL ABILITY	***(Check all** that resident was **normally able to recall during last 7 days**)*	
		a. Current season ✓	d. That he/she is in a nursing home ✓
		b. Location of own room ✓	e. *NONE OF ABOVE* are recalled
		c. Staff names/faces ✓	
4.	COGNITIVE SKILLS FOR DAILY DECISION-MAKING	*(Made decisions regarding tasks of daily life)*	
		0. *INDEPENDENT*—decisions consistent/reasonable	
		1. *MODIFIED INDEPENDENCE*—some difficulty in new situations only. *2*	1
		2. *MODERATELY IMPAIRED*—decisions poor; cues/supervision required. *2*	
		3. *SEVERELY IMPAIRED*—never/rarely made decisions. *2, 5B*	
5.	INDICATORS OF DELIRIUM—PERIODIC DISORDERED THINKING/ AWARENESS	*(Code for behavior in the **last 7 days.**)* **[*Note: Accurate assessment requires conversations with staff and family who have direct knowledge of resident's behavior over this time*].**	
		0. Behavior not present	
		1. Behavior present, not of recent onset	
		2. Behavior present, over last 7 days appears different from resident's usual functioning (e.g., new onset or worsening)	
		a. EASILY DISTRACTED—(e.g., difficulty paying attention; gets sidetracked) *1, 17**	0
		b. PERIODS OF ALTERED PERCEPTION OR AWARENESS OF SURROUNDINGS—(e.g., moves lips or talks to someone not present; believes he/she is somewhere else; confuses night and day) *1, 17**	0
		c. EPISODES OF DISORGANIZED SPEECH—(e.g., speech is incoherent, nonsensical, irrelevant, or rambling from subject to subject; loses train of thought) *1, 17**	0
		d. PERIODS OF RESTLESSNESS—(e.g., fidgeting or picking at skin, clothing, napkins, etc; frequent position changes; repetitive physical movements or calling out) *1, 17**	0
		e. PERIODS OF LETHARGY—(e.g., sluggishness; staring into space; difficult to arouse; little body movement) *1, 17**	0
		f. MENTAL FUNCTION VARIES OVER THE COURSE OF THE DAY—(e.g., sometimes better, sometimes worse; behaviors sometimes present, sometimes not) *1, 17**	1
6.	CHANGE IN COGNITIVE STATUS	Resident's cognitive status, skills, or abilities have changed as compared to status of **90 days ago** (or since last assessment if less than 90 days) 0. No change 1. Improved 2. Deteriorated *1, 17**	1

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2.	INTERVEN-noN PROGRAMS FOR MOOD, BEHAVIOR, I COGNITIVE LOSS	(Check alt interventions or strategies used in last 7 days—no matter where received)	
		a. Special behavior symptom evaluation program	a.
		b. Evaluation by a licensed mental health specialist in last 90 days	b.
		c. Group therapy	c.
		d. Resident-specific deliberate changes in the environment to address mood/behavior patterns—e.g., providing bureau in which to rummage	d.
		e. Reorientation—e.g.. cueing	ie.
		f. NONE OF ABOVE	!f.

SECTION E: MOOD AND BEHAVIOR PATTERNS

INDICATORS OF DEPRESSION, ANXIETY, SAD MOOD

(Code for indicators observed in last 30 days, irrespective of the assumed cause)

0. Indicator not exhibited in last 30 days
1. Indicator of this type exhibited up to five days a week
2. Indicator of this type exhibited daily or almost daily (6-7 days a week)

VERBAL EXPRESSIONS OF DISTRESS

a. Resident made negative statements—e.g., *"Nothing matters; Would rather be dead; What's the use; Regrets having lived so long; Let me die"* — 0

b. Repetitive questions—e.g., *"Where do I go; What do I do?"* — 0

c. Repetitive verbalizations—e.g., calling out for help. *("God help me")* — 0

d. Persistent anger with self or others—e.g., easily annoyed, anger at placement in nursing home; anger at care received — 0

e. Self deprecation—e.g., *"I am nothing; I am of no use to anyone"* — 0

f. Expressions of what appear to be unrealistic fears—e.g., fear of being abandoned, left alone, being with others — 0

g. Recurrent statements that something terrible is about to happen—e.g., believes he or she is about to die, have a heart attack — 0

h. Repetitive health complaints—e.g., persistently seeks medical attention, obsessive concern with body functions — d

i. Repetitive anxious complaints/concerns (non-health related) e.g., persistently seeks attention/ reassurance regarding schedules, meals, laundry, clothing, relationship issues — 1

SLEEP-CYCLE ISSUES

j. Unpleasant mood in morning — 0

k. Insomnia/change in usual sleep pattern — 0

SAD, APATHETIC, ANXIOUS APPEARANCE

l. Sad, pained, worried facial expressions—e.g., furrowed brows — 1

m. Crying, tearfulness — 0

n. Repetitive physical movements—e.g., pacing, hand wringing, restlessness, fidgeting, picking — 0

LOSS OF INTEREST

o. Withdrawal from activities of interest—e.g., no interest in long standing activities or being with family/friends — 0

p. Reduced social interaction — 0

(E1a - E1p = 1,2) 8

(E1n = 1,2) 17*

(E1o = 1,2) 7

MOOD PERSISTENCE

One or more indicators of depressed, sad or anxious mood were not easily altered by attempts to "cheer up", console, or reassure the resident over last 7 days

0. No mood indicators — 1. Indicators present, easily altered. 8 — 2. Indicators present, not easily altered. 8 — 1

CHANGE IN MOOD

Resident's mood status has changed as compared to status of 90 days ago (or since last assessment if less than 90 days)

0. No change — 1. Improved — 2. Deteriorated 1, 17* — 0

BEHAVIORAL SYMPTOMS

(A) *Behavioral symptom frequency in last 7 days*
0. Behavior not exhibited in last 7 days
1. Behavior of this type occurred 1 to 3 days in last 7 days
2. Behavior of this type occurred 4 to 6 days, but less than daily
3. Behavior of this type occurred daily

(B) *Behavioral symptom alterability in last 7 days*
0. Behavior not present OR behavior was easily altered
1. Behavior was not easily altered

	(A)	(B)
a. WANDERING (moved with no rational purpose, seemingly oblivious to needs or safety) 9, 11	0	0
b. VERBALLY ABUSIVE BEHAVIORAL SYMPTOMS (others were threatened, screamed at, cursed at) 9	0	0
c. PHYSICALLY ABUSIVE BEHAVIORAL SYMPTOMS (others were hit, shoved, scratched, sexually abused) 9	0	0
d. SOCIALLY INAPPROPRIATE/DISRUPTIVE BEHAVIORAL SYMPTOMS (made disruptive sounds, noisiness, screaming, self-abusive acts, sexual behavior or disrobing in public, smeared/threw food/feces, hoarding, rummaged through others' belongings) 9	0	0
e. RESISTS CARE (resisted taking medications/ injections, ADL assistance, or eating) 9	0	0

CHANGE IN BEHAVIORAL SYMPTOMS

Resident's behavior status has changed as compared to status of 90 days ago (or since last assessment if less than 90 days)

0. No change — 1. Improved 9 — 2. Deteriorated 1, 17* — 0

SECTION F: PSYCHOSOCIAL WELL-BEING

1.	SENSE OF INITIATIVE/ INVOLVEMENT	a. At ease interacting with others	a. ✓
		b. At ease doing planned or structured activities	b. ✓
		c. At ease doing self-initiated activities	c. ✓
		d. Establishes own goals 7	d.
		e. Pursues involvement in life of facility (e.g., makes/keeps friends; involved in group activities; responds positively to new activities; assists at religious services)	e.
		f. Accepts invitations into most group activities	f. ✓
		g. *NONE OF ABOVE*	g.
2.	UNSETTLED RELATIONSHIPS	a. Covert/open conflict with or repeated criticism of staff 7	a.
		b. Unhappy with roommate 7	b.
		c. Unhappy with residents other than roommate 7	c.
		d. Openly expresses conflict/anger with family/friends 7	d.
		e. Absence of personal contact with family/friends	e.
		f. Recent loss of close family member/friend	f.
		g. Does not adjust easily to change in routines	g.
		h. *NONE OF ABOVE*	h. ✓
3.	PAST ROLES	a. Strong identification with past roles and life status 7	a.
		b. Expresses sadness/anger/empty feeling over lost roles/status 7	b.
		c. Resident perceives that daily routine (customary routine, activities) is very different from prior pattern in the community 7	c.
		d. *NONE OF ABOVE*	d. ✓

Verified and Submitted by

Date: 09/09/05

Appendix A2

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10.	ADVANCED DIRECTIVES	*(For those items with supporting* ***documentation*** *in the medical record,* ***check all that apply****)* a. Living will [a.] b. Do not resuscitate [b.] c. Do not hospitalize [c.] d. Organ donation [d.] e. Autopsy request [e.] f. Feeding restrictions [f.] g. Medication restrictions [g.] h. Other treatment restrictions [h.] i. *NONE OF ABOVE* [i.]	

SECTION B		**•r;-41**	
1.		• *-rsistent vegetative state/no discernible consciousness)* No 1. Yes Of yes, skip to Section G)	
2.	MEMORY	*(Recall of what was learned or known)* a. Short-term memory OK—seems/appears to recall after 5 minutes 0. Memory OK 1. Memory problem *2* b. Long-term memory OK—seems/appears to recall long past 0. Memory OK 1. Memory problem *2*	
3.	**MEMORY/ RECALL ABILITY**	*(Check all That resident* ***was normally able*** *to* ***recall during last*** *7 days)* a. Current season *lin* b. Location of own room **MIN** c.-Staff names4aces **Min** d. That he/she is in a nursing home d. e. *NONE OF ABOVE are* recalled e.	
4.	COGNITIVE SKILLS FOR DAILY **DECISION-** MAKING	*(Made decisions regarding tasks of daily life)* a *INDEPENDENT—decisions* consistenVreasonable 1. ~~*MODIFIED INDEPENDENCE—some difficulty in new situations*~~ *2* 2. *MODERATELY IMPAIRED--decisions* poor; cues/supervision required. *2* 3. *SEVERELY IMPAIRED—never/rarely* made decisions. *2, 5B*	
5.	INDICATORS OF *DELIRIUM*— PERIODIC DISORDERED THINKING/ AWARENESS	*(Code for behavior in the last 7* ***days) [Note: Accurate assessment requires conversations with staff and family who have*** *direct knowledge of resident's behavior over this lime].* 0. Behavior not present 1. Behavior present, not of recent onset 2. Behavior present, over last 7 days appears different from resident's usual functioning (e.g., new onset or worsening) a. EASILY DISTRACTED—(e.g., difficulty paying attention; gets sidetracked) ***1,17**** b. PERIODS OF ALTERED PERCEPTION OR AWARENESS OF SURROUNDINGS—(e.g., mows lips or talks to someone not present believes he/she is somewhere else; confuses night and day) *1,* ***17**** c. EPISODES OF DISORGANIZED SPEECH—(e.g., speech is incoherent, nonsensical, irrelevant, or rambling from subject to subject loses train of thought) ***1,17**** d. PERIODS OF RESTLESSNESS—ie.g., fidgeting or picking at skin, clothing, napkins, etc; frequent position changes; repetitive physical movements or calling out) ***1,17**** e. PERIODS OF LETHARGY--(e.g., sluggishness; staring into space; difficult to arouse; little body movement) *1,* ***17**** *f.* MENTAL FUNCTION VARIES OVER THE COURSE OF THE DAY—(e.g., sometimes better, sometimes worse; behaviors sometimes present, sometimes rot) ***1,17****	*IL*
6.	**CHANGE IN COGNITIVE STATUS**	Resident's cognitive status, skills, or abilities have changed as compared to status of 90 days **ago** (or since last assessment if less than 90 days) 0. No change 1. Improved 2. Deteriorated ***1,17****	

2.	**INTERVEN-TION PROGRAMS FOR MOOD, BEHAVIOR, COGNITIVE LOSS**	**(Check all interventions or strategies used in last 7 days—no** *matter where received)* a. Special behavior symptom evaluation program [a.] b. Evaluation by a licensed mental health specialist in **last 90 days** [b.] c. Group therapy [c.] d. Resident-specific deliberate changes in the environment to address mood/behavior patterns—e.g., providing bureau in which to rummage [d.] e. Reorientation—e.g., cueing [e.] f. *NONE OF ABOVE* [f.]	

CTION E. MOOD AND BEHAVIOR PATTERNS

ICATORS OF EPRES-SION, NXIETY, D MOOD

(Code for indicators observed in last 30 days, irrespective of the assumed cause)
0. Indicator not exhibited in last 30 days
1. Indicator of this type exhibited up to five days a week
2. Indicator of this type exhibited daily or almost daily (6, 7 days a week)

VERBAL EXPRESSIONS OF DISTRESS

a. Resident made negative statements—e.g., *"Nothing matters; Would rather be dead; What's the use; Regrets having lived so long; Let me die"*

b. Repetitive questions—e.g., *"Where do I go; What do I do?"*

c. Repetitive verbalizations—e.g., calling out for help, *("God help me")*

d. Persistent anger with self or others—e.g., easily annoyed, anger at placement in nursing home; anger at care received

e. Self deprecation—e.g., *"I am nothing; I am of no use to anyone"*

f. Expressions of what appear to be unrealistic fears—e.g., fear of being abandoned, left alone, being with others

g. Recurrent statements that something terrible is about to happen—e.g., believes he or she is about to die, have a heart attack

h. Repetitive health complaints—e.g., persistently seeks medical attention, obsessive concern with body functions

i. Repetitive anxious complaints/concerns (non-health related) e.g., persistently seeks attention/ reassurance regarding schedules, meals, laundry, clothing, relationship issues

SLEEP-CYCLE ISSUES

j. Unpleasant mood in morning

k. Insomnia/change in usual sleep pattern

SAD, APATHETIC, ANXIOUS APPEARANCE

l. Sad, pained, worried facial expressions—e.g., furrowed brows

m. Crying, tearfulness

n. Repetitive physical movements—e.g., pacing, hand wringing, restlessness, fidgeting, picking

LOSS OF INTEREST

o. Withdrawal from activities of interest—e.g., no interest in long standing activities or being with family/friends

p. Reduced social interaction

OD RSIS-NCE — **One or more indicators of depressed, sad or anxious mood were not easily altered by attempts to "cheer up", console, or reassure the resident over last 7 days**
0. No mood indicators — 1. Indicators present, easily altered. *8* — 2. Indicators present, not easily altered. *8*

NGE OOD — Resident's mood status has changed as compared to status of 90 days ago (or since last assessment if less than 90 days)
0. No change — 1. Improved — 2. Deteriorated *1, 17**

IORAL TOMS

(A) Behavioral symptom frequency in last 7 days
0. Behavior not exhibited in last 7 days
1. Behavior of this type occurred 1 to 3 days in last 7 days
2. Behavior of this type occurred 4 to 6 days, but less than daily
3. Behavior of this type occurred daily

(B) Behavioral symptom alterability in last 7 days
0. Behavior not present OR behavior was easily altered
1. Behavior was not easily altered

	(A)	(B)
a. WANDERING (moved with no rational purpose, seemingly oblivious to needs or safety) *9, 11*		
b. VERBALLY ABUSIVE BEHAVIORAL SYMPTOMS (others were threatened, screamed at, cursed at) *9*		
c. PHYSICALLY ABUSIVE BEHAVIORAL SYMPTOMS (others were hit, shoved, scratched, sexually abused) *9*		
d. SOCIALLY INAPPROPRIATE/DISRUPTIVE BEHAVIORAL SYMPTOMS (made disruptive sounds, noisiness, screaming, self-abusive acts, sexual behavior or disrobing in public, smeared/threw food/feces, hoarding, rummaged through others' belongings) *9*		
e. RESISTS CARE (resisted taking medications/ injections, ADL assistance, or eating) *9*		

GE IN IORAL TOMS — Resident's behavior status has changed as compared to status of 90 days ago (or since last assessment if less than 90 days)
0. No change — 1. Improved *9* — 2. Deteriorated *1, 17**

SECTION F. PSYCHOSOCIAL WELL-BEING

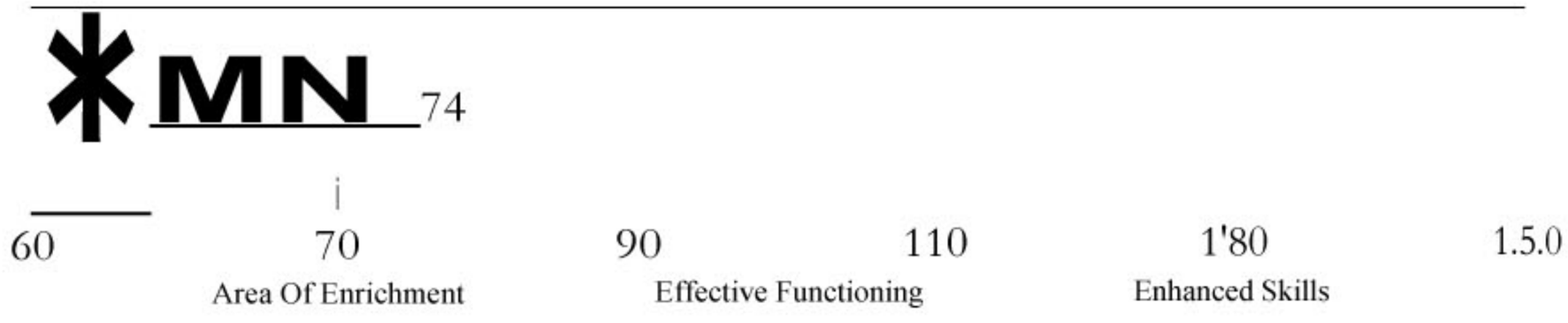
1.	SENSE OF INITIATIVE/ INVOLVE-MENT	a. At ease interacting with others	a. ✓
		b. At ease doing planned or structured activities	b. ✓
		c. At ease doing self-initiated activities	c. ✓
		d. Establishes own goals *7*	d.
		e. Pursues involvement in life of facility (e.g., makes/keeps friends; involved in group activities; responds positively to new activities; assists at religious services)	e.
		f. Accepts invitations into most group activities	f.
		g. *NONE OF ABOVE*	g.
2.	UNSETTLED RELATION-SHIPS	a. Covert/open conflict with or repeated criticism of staff *7*	a.
		b. Unhappy with roommate *7*	b.
		c. Unhappy with residents other than roommate *7*	c.
		d. Openly expresses conflict/anger with family/friends *7*	d.
		e. Absence of personal contact with family/friends	e.
		f. Recent loss of close family member/friend	f.
		g. Does not adjust easily to change in routines	g.
		h. *NONE OF ABOVE*	h. ✓
3.	PAST ROLES	a. Strong identification with past roles and life status *7*	a.
		b. Expresses sadness/anger/empty feeling over lost roles/status *7*	b.
		c. Resident perceives that daily routine (customary routine, activities) is very different from prior pattern in the community *7*	c.
		d. *NONE OF ABOVE*	d. ✓

Verified and Submitted b

Date: 1/25/06

pr.

Total EQ



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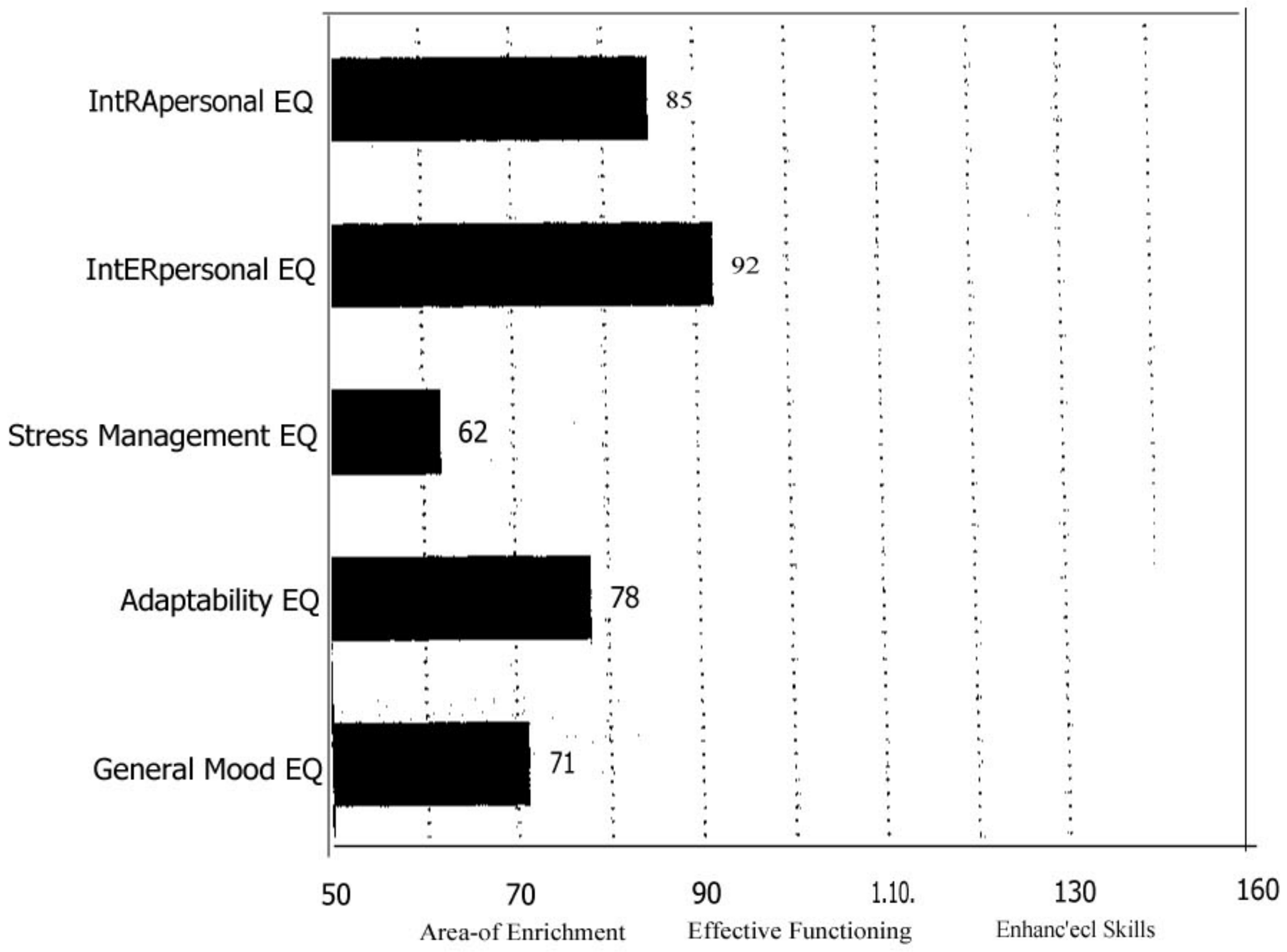

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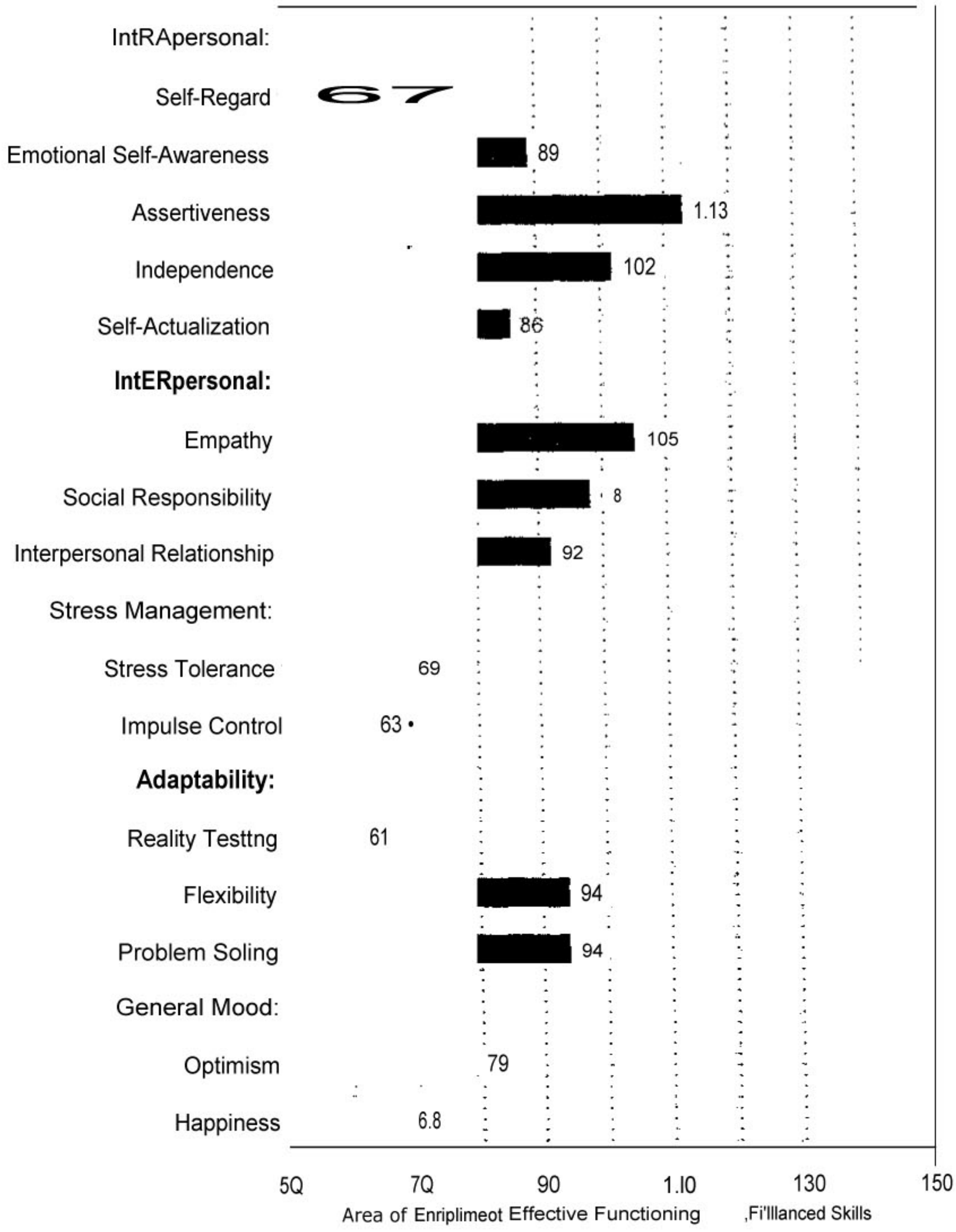

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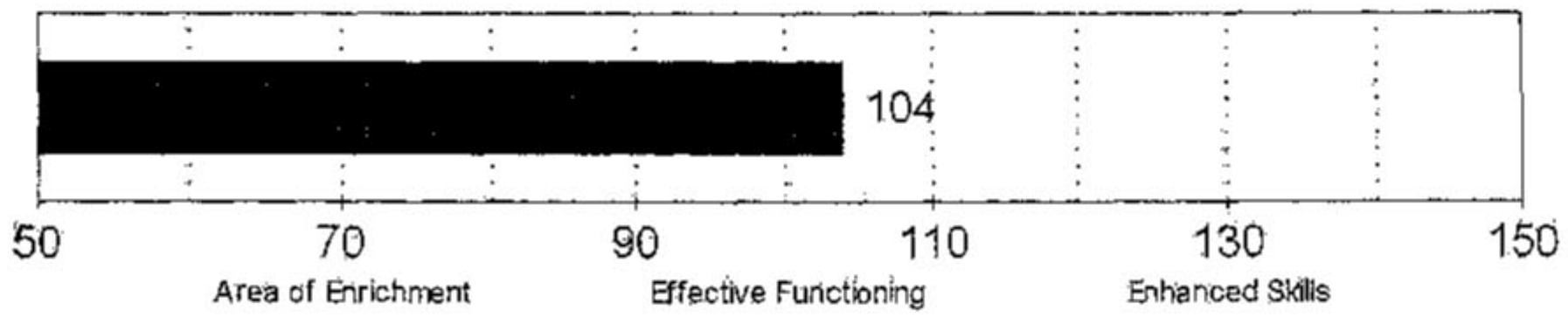

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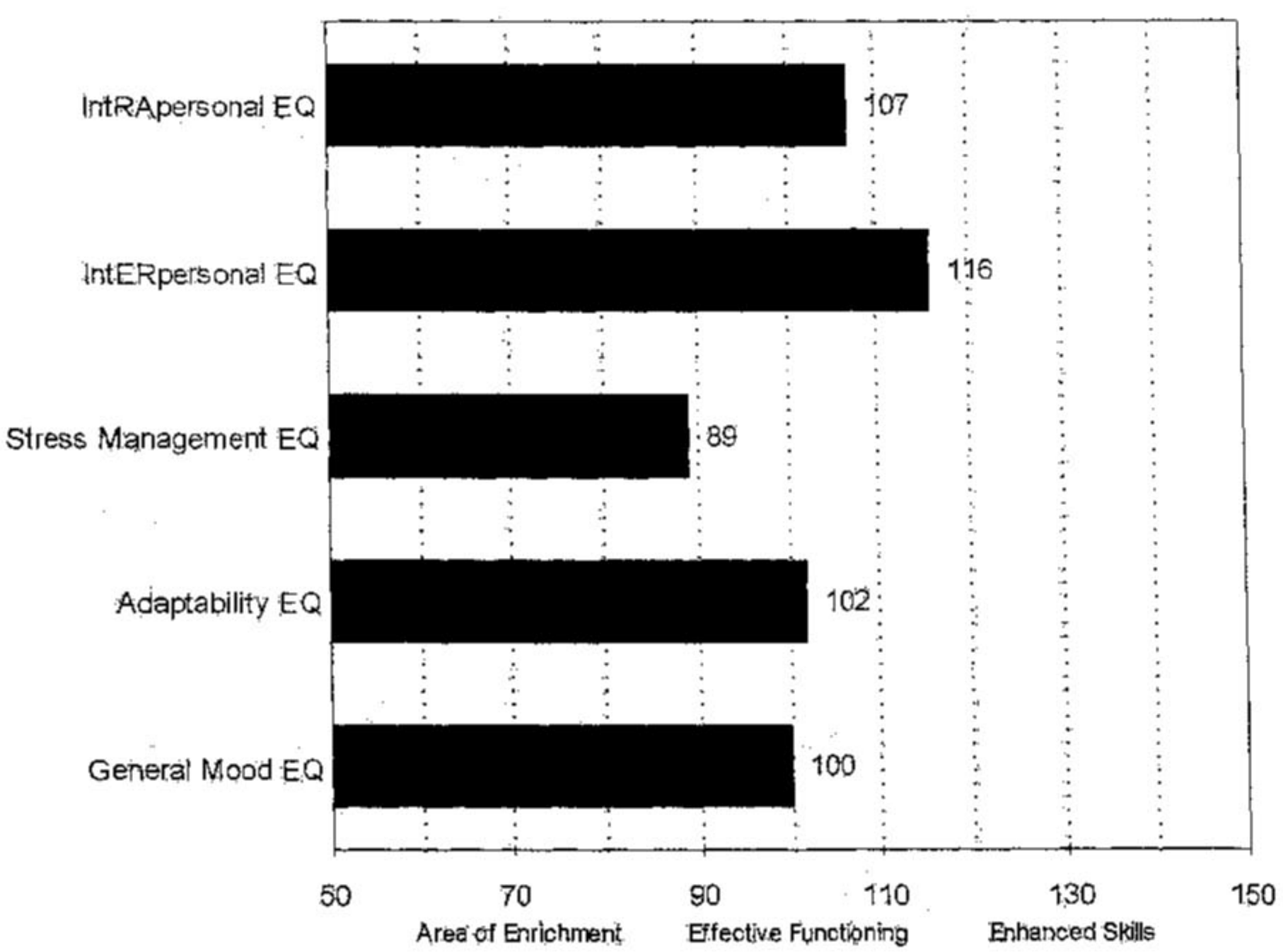

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