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CREATIVITY IN OLDER ADULTS: A PLETHORA OF POSSIBILITIES

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Aging continues to be an important topic of study. For many older adults, the elder years can be a challenging, if not difficult, time. Creativity interventions have been shown to positively affect mental and physiological health indicators. The process of creating and one's attitude toward life may be more important than the actual product or tangible outcome. While many activities are those typically thought of as creative, such as painting, there are also a number of useful interventions that are not traditionally identified as creative ones, but that are, in fact, creative activities. This paper describes recent work with creativity in older adults, including research and clinical projects, and earlier works that could be refined as creative interventions. Recommendations for further investigation of creativity also are presented.

Aging is an increasingly popular and important topic for research. Currently there are 54 longitudinal studies underway through the National Institute of Aging (National Institute of Aging, 2005). In 2000, there were 35.0 million people, or about one in every eight people, 65 years of age or older in the U.S. (Administration on Aging, 2001). In

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2001, life expectancy at birth reached a record high of 77.2 years, in contrast to a 47.3 year life expectancy projected in 1900 for someone born that year (Centers for Disease Control and Prevention [CDC], 2003). Heart disease, hypertension, arthritis, and cancer are among the most common and costly chronic conditions affecting older adults (Federal Interagency Forum on Aging, 2005), and at least 80% of those persons over age 65 have at least one chronic health condition (Varcarolis, 2002). In light of statistics such as these, it is understandable that aging is a challenge for many older adults. The purpose of this paper is to present and discuss research findings that support the role of creativity, a useful characteristic for aging successfully. Synthesis of these findings demonstrates that creative endeavors are desired by older adults, and have comprehensive positive health benefits.

ADAPTATION TO CHALLENGES OF AGING

Problems such as increasing numbers and severity of health problems, declining functional abilities, financial constraints, and loss of social status are a few of the potentially life-changing issues that older adults may face. According to Tabloski, "Psychological changes and chronic illness associated with older adulthood may affect a person's functional abilities; however, the psychosocial changes associated with older adulthood are often the most challenging and demanding" (Tabloski, 2006, p. 190). Many psychosocial challenges are due to changes in roles, relationships, losses, and living environments (Tabloski). Certain age-related changes are inevitable; deaths of friends, retirement, decreased autonomic nervous system performance, and reduced cardiac contractility are examples (Berk, 2004). Developing creative coping strategies can enable older adults to adapt more effectively to physical, psychological, and psychosocial changes that occur during old age.

This emphasis on adaptability or coping is central in many theories of well-being and health in later life (Rowe & Khan, 1998; Stowell, Kiecolt-Glaser, & Glaser, 2001). Roy and Andrews (1999) reference Erikson's (1985) developmental theory in their work. In the Roy Adaptation Model, Roy defines adaptation as the process and outcome whereby individuals use conscious awareness and choice to create human and environmental integration. Through their decisions, people are responsible for the assimilation of creative processes (Roy & Andrews). Thus, adaptation involves some degree of creativity.

Many older adults might not describe themselves as creative and would be reluctant to engage in typical creative endeavors, such as painting or drawing. Indeed, Kerka (1999) notes that older adults seem

to experience a decrease in the ability to generate a quantity of novel ideas, but that later life may afford more time for reflection and creative pursuits aimed at construction of one's life story. Addams-Price (1998) concludes that late-life creativity reflects aspects of late-life thinking: synthesis, reflection, and wisdom. Therefore, in determining the presence of creativity from a developmental perspective, one should consider whether the characteristics of reflection, restructuring, synthesis, and wisdom are present.

Defining Creativity

Although there is some variation, definitions of creativity tend to share central characteristics, including problem-solving ability and creating novel products or outcomes. Creativity is a process requiring an individual to be open to new ideas and approaches, in order to seek an original solution for a problem or challenge at hand (Fisher & Specht, 1999). Creativity also has been described as the range of cognitive and emotional processes involved in the conception of meaningful products (Addams-Price, 1998); as a meta-cognitive process that generates novel and useful associations, attributes, elements, images, or sets of operations, and better solves a problem, produces a plan, or results in a product clearly not present before (Pesut, 1990); or as the ability to recognize a problem and experiment with new ideas to solve the problem using divergent and convergent thinking (Fasnacht, 2003). Ultimately, the creative process challenges one to use accumulated skills to manipulate tools and resources to express a vision or idea. From a problem-solving perspective, creativity is an asset in older adulthood, given the number of health, functional, and financial limitations likely to occur.

Besides a novel product or outcome, other positive changes occur as a result of creativity. Creativity offers a channel to respond to the limits and uncertainties of existence (Hickson & Housely, 1997). Through creative activity, the individual deepens an understanding of self and cultivates purposeful or meaningful involvements (Fisher & Specht, 1999). Older adults who engage in creative activities are strengthening a sense of self that is competent, efficacious, and capable of doing (Fisher & Specht). Therefore, in terms of novel productions, it is not only the end result, but the process of getting there that benefits the older adult. Through learning about oneself and contributing something to the world, it may be possible to experience personal growth and transcend the immediacy of problems associated with old age.

Potential benefits of creativity to elder health include mental clarity, increased awareness, and a means for expressing the elusive, such as

the divine or spiritual experiences of life, resolution of longstanding conflicts, continued adaptation, improved emotional states, and physical healing (Beck, 2005). Given the benefits of creativity for older adults, it is understandable that creativity has been the focus of a number of clinical projects and research studies. Purposeful or productive activity has been shown to be related to well-being in later life (Fisher 1995; Fisher, Day, & Collier, 1998). Having some form of social activity, leisure activity, or hobby has been identified as important for surviving in old age (Glass, de Leon, Marattoli, & Berkman, 1999; Lennartsson & Silverstein, 2001). Many projects and studies have involved participants utilizing original thinking and problem-solving abilities in order to make new products, or engaging in various forms of leisure or favorite pastimes. However, while they possess the characteristics of creative activities, many of these works have not been recognized as creative interventions per se. If one considers creativity from a developmental perspective, interventions that stimulate individuals' reflection, restructuring, and synthesis of ideas and wisdom also could be characterized as creative activities. Older adults who have been asked about creativity or aging have suggested similarly.

QUALITATIVE RESEARCH

A qualitative study by Fisher and Specht (1999) examined the meanings older adults attached to successful aging and aging's relationship to creativity. The researchers' content analysis identified six features of successful aging: a sense of purpose, interaction with others, personal growth, self-acceptance, autonomy, and health. Participants believed successful aging encompassed a coping orientation involving a positive attitude toward life and aging. The researchers concluded that this coping pattern probably had its roots earlier in life and continued to be used a strategy for successful living. When asked to define creativity, participants identified actual production of artwork or practicing of skills, and thinking about things in new ways. The two categories of creativity described capture the notion of creativity as both a way of thinking and a way of doing. Thus, for participants, creativity involved a connection between thought and imagination, and application of these ideas through the process of creating something. Fisher and Specht concluded that creative activity contributes to successful aging by encouraging development of problem-solving skills that translate into a practical creativity in older adults' daily living. They also found that creativity fostered a sense of competence, purpose, and growth, also contributing to successful aging. In describing creativity, Fisher and Specht's participants identified problem-solving abilities and creation of artistic

products. For these older adults, it was the process of creative activity as well as the outcomes that were important related to successful aging.

Another study (Bickerstaff et al., 2003) examined how older adults in nursing homes dealt with losses in later life. Participants were asked open-ended questions about their life in a long-term care facility and what behaviors helped keep them as healthy as possible. Just over 50% of the 180 participants spoke of behaviors suggestive of self-transcendence. The researchers identified five categories of self-transcendence: generativity, introjectivity, temporal integration, body transcendence, and relationships with self/others/Higher Being. A component of the introjectivity category of self-transcendence was interiority (being involved in hobbies, travel, and lifelong learning), activities that are indicative of creativity. Specific activities cited by the participants included crafting, deriving pleasure in remembering the past (reminiscence), and presenting travelogues to fellow residents. Interestingly, the body-transcendence category in this same study also reflected creative processes; exhibiting industry in the face of adversity, from the flexibility subcategory, was a behavior that reflects creativity.

The older adult participants in the study by Bickerstaff and colleagues (2003) identified creativity in the form of problem-solving and the ability to think of things in new and different ways, and in instances where positive outcomes resulted. Just as important as the outcomes reached was the profound personal growth participants experienced through the use of their creativity, which allowed transcendence of the difficulty of loss during late life. The findings of Fisher and Specht (1999) and Bickerstaff et al. (2003) indicate a cognitive process-oriented notion of creativity, which is in line with the assertions of Addams-Price (1998), Beck (2005), and Kerka (1999).

QUANTITATIVE RESEARCH

Activities that are typically identified as creative include dance, music, poetry, and theater (Ebersole & Hess, 1998). However, other activities involve the features of creativity: openness to new ideas, problem-solving abilities, creating novel, meaningful products, solutions, or outcomes, and convergent and divergent thinking. These activities include reminiscing and different kinds of group work. Older adults' participation in these kinds of activities requires and may also cultivate creative abilities. Moreover, reminiscing and group work have been linked with positive mental health. More traditional creative activities, including art therapy, poetry, and journaling, have been associated with positive outcomes in older adults as well.

Art Therapy

The largest study of creativity to date is Cohen's (2005) investigation of the impact of professionally conducted cultural programs on older adults. This study involved 150 treatment and 150 control participants aged 65 and older, who were matched in terms of health and functioning at the start of the study. Control participants were permitted to engage in their routine activities; however, none of them became involved in rigorous and sustained participation in art programs during the course of the study (Cohen). Treatment participants met for 35 weekly meetings and were also given between-session assignments as well as outings to exhibitions, concerts, and concerts (Cohen).

Participants were measured in terms of mental health, physical health, and social functioning at the beginning, midway through, and at the end of the art programs. A general health systems survey measured health data and number of medications; the Philadelphia Geriatric Center Morale Scale, the UCLA Loneliness Scale, and the Geriatric Depression Scale measured mental health; and a detailed inventory about the nature, frequency, and duration of activities measured social functioning (Cohen, 2006). Start dates for the study were staggered for the three sites, and the study remains underway at two of them. However, preliminary data from the Levine School of Music site are complete and look promising. These participants were involved in a chorale group, which practiced together and performed a number of concerts over the duration of the study. At this site, many people actually improved their health over the course of the study. These findings are especially remarkable for a sample whose average age of 80 (range of ages is 65–100) is greater than the current life expectancy (Cohen, 2005).

Preliminary findings show that the treatment group reported better health one year after baseline starting point measures; the control group reported their health was not as good one year post baseline measures (Cohen, 2006). Furthermore, the intervention group reported an average of 9.27 doctor visits per year while the control group reported an average of 13.19 visits per year. Both groups had more visits when compared to baseline, but the control group's visits increased at a greater rate (Cohen, 2006). Likewise, the control group reported significantly more falls during the past 12 months than did the treatment group; the treatment group reported less falls at one year follow up than they did at baseline, while the control group reported more falls than they did at baseline (Cohen, 2006). The results also showed a significant difference in the number of self-reported hip damage between the groups over the

past 12 months; the control group reported a significantly higher mean number of incidences of hip damage than did the intervention group (Cohen, 2006).

Medication use also was influenced; medication use increased at a greater rate in the control group as compared to the intervention group. Mean differences revealed that at one-year follow-up, participants in the control group reported taking more medications than at baseline; the average number of medications reported by the intervention group at the one-year follow-up was 6.97, while the average number of medications reported by the control group at the one year follow-up was 8.48. Vision problems diminished over time in the intervention group; participants in the intervention group reported less vision problems at one-year follow-up than at baseline. Mental health was positively affected by the intervention as well; an examination of the means revealed that the intervention group revealed significantly lower levels of depression than did the control group after one year. An examination of the Loneliness Scale means showed that the intervention group had a mean loneliness score of 34.47 while the control group reported a mean score of 37.05 (significantly higher than the intervention group; the higher the score, the more lonely) (Cohen, 2006). The intervention also group had a self-reported morale score that was significantly higher (higher morale) than the control group (14.07 and 13.07, respectively) one year after baseline measures.

After a year, activity levels had changed in both the intervention and the control groups, but in different directions; the intervention group increased by an average of two activities per person, while activities among those in the control group dropped by an average of two activities per person. Based on the data from Cohen's Levine School site, the effects of participation in a music arts program has a wide range of therapeutic health benefits that affect many aspects of physical and mental health of older adults. Reasons for these initial outcomes include gaining a sense of mastery, experiencing social engagement, and the enjoyable, engaging nature of art experienced by treatment participants (Cohen, 2005). Thus far, only positive outcomes have resulted from this landmark study, and this trend is expected to continue as data from the remaining sites are analyzed. This study is exciting in that it is the largest and first longitudinal one that examines creativity in older adults.

Other favorable results include those of Krawczynski and Olszewski (2000), who designed a multimodal program aimed at influencing a group of 75 older adult participants' purpose in life, depression, and hypochondriasis, by targeting physical, mental, and spiritual well-being.

Interventions included rhythm and dance exercises; general physical exercises; recreational exercise outdoors; relaxation exercises; a creativity enhancement seminar; a seminar on psychology and philosophy of life; and a seminar on contact with other people and communication. The group sessions were conducted two days per week over a period of four months. The first day each week consisted of an hour of some form exercise and a two hour seminar. The second day each week was comprised of one hour of relaxation, an hour of exercise, and two hours of seminar on stimulating creativity. Purpose in life, depression, and hypochondria were three parameters of well-being that were measured pre and post-intervention. The Purpose in Life Scale (PIL) measured purpose in life, the Geriatric Depression Scale (GDS) assessed depressive symptoms, and the Hypochondriasis Scale Institutional Geriatric (HIP) determined the presence of hypochondria. There were statistically significant changes in test scores over time. Mean PIL scores increased from pre-intervention to post-intervention, suggesting greater purpose in life, and these scores remained increased at six months post-intervention. Scores for the GDS and the HIP decreased from pre-intervention to post-intervention, indicating a decrease in depressive symptoms and hypochondriasis, and continued to be significantly reduced six months post-intervention. Outcomes suggested that interventions were successful in improving quality of life as evidenced by increased purpose in life and decreased depression and hypochondriasis. Moreover, the program effects in the direction of positive mental health changes appeared to be stable.

Yet another instance where group artistic endeavors have shown promising results is a clinical project done by McGarry and Prince (1998). The clinicians developed a series of eight group sessions that utilized five types of creative formats that included individual and group poetry, storytelling, drawing, painting, and music. McGarry and Prince conducted the project on an inpatient psychiatric unit at a Veterans Administration hospital. The focus of the groups was creative expression in a noncompetitive, supportive environment. Goals for the project were for participants to express their feelings through the use of creative activities, to verbalize positive statements about themselves in relationship to creative experiences, and to verbalize positive statements about themselves in relationship to other patients in the group. To evaluate progress toward these goals, the clinicians asked participants what color best described them; to rate how they felt, using an adapted version of the Smiley Five Face scale; whether they were creative or not creative; whether they felt safe or not safe; and, whether they felt accepted or not accepted. Overall, group members gave positive feedback about the

creative group sessions. Poetry and storytelling were identified as their favorite activities. In terms of change, there was little or no difference in measures of facial affect, feeling creative, feeling safe, or feeling accepted. However, this was not a research study and the methodology lacked rigor. The questions the clinicians asked were not validated measures and they modified the Smiley Five Face Scale from its original form. Therefore, it is likely that these issues affected their findings. Qualitatively speaking, the project had many positive effects on group members. Seventy-three percent of the participants ($n = 81$) remained involved throughout the course of the project and completed the pre- and post-tests. The clinicians noted "much laughter and camaraderie" (McGarry & Prince, 1998, p. 22) during the group poetry session. The participants liked the poetry activity so much that they decided to write an additional poem to summarize all of the poems they had written in group. Participants also gave positive feedback about the storytelling activity. One participant commented that there should have been a bigger smile on the faces scale to denote how good he felt. McGarry and Prince also cite other incidents that occurred that suggested that participating in the groups was a meaningful experience for individual participants.

Research studies and clinical projects about the benefits of creativity groups for older adults suggest that there are multiple therapeutic effects. Group members may experience enhanced self-esteem, life satisfaction, improved problem-solving ability, and increased creativity. Moreover, a sense of universality and belonging can occur as peer relationships are developed.

Poetry

One popular activity from McGarry and Prince's project was poetry. Poetry offers many benefits for the older adult by provoking insight, promoting life reviews, and encouraging the resolution of unresolved conflicts (Edwards, 1990). The process of writing poetry can evoke creative ability in older adults, and the product of writing poetry, a poem, is a creative art form. Sluder (1990) conducted a poetry writing project in an outpatient geriatric continuing treatment program. The aim of Sluder's project was to get elderly clients to express themselves and to talk about their feelings. Sluder introduced her clients to poetry by reading them poems written by elderly people. Initially, she introduced a theme, such as love, to participants. All statements of what love meant or what thoughts it evoked were then recorded and used to compose a poem. Sluder then facilitated a group discussion about the poem. Later in the project, Sluder expanded the topic of the poems to include the environment or current

events, and she implemented the use of props such as flowers. She also engaged participants in writing group poetry, and later, in writing their own poems. "Through creating a poem, clients had a positive sense of accomplishment and, through sharing their poems, they had a feeling of connectedness with others in the group" (Sluder, 1990, p. 27). Participants became more talkative and became more able to identify their feelings. Poetry writing became an effective therapeutic tool in the program; patterns emerged that aided the staff in gaining better insight into the thoughts and feelings of the elderly clients, which enabled the staff to develop more effective treatment plans (Sluder, 1990).

Yet another example of the therapeutic use of poetry with the elderly was the work of Dickson (1999), who involved her ninth grade English class in a poetry project with nursing home residents. After a training session with poet Kenneth Koch, teens were paired with elderly residents. All the students and their partners worked together on group poems as well as individual poems composed by the pairs. The project was well-received by the elderly, who actively participated, and it provided a good opportunity for the elderly to recall events from their past and share their memories with a younger generation. Thus, poetry was not only a vehicle for creative expression, but also stimulated reminiscence and allowed transmission of values and stories to others.

Journaling

In addition to poetry-writing, other forms of writing have also proven useful for older adults. Journal writing provides an opportunity for people to reflect on and analyze their lives and the events and people surrounding them (Snyder & Lindquist, 2002). Events and experiences are documented in journals with emphasis placed on the person's reflections about these events and the personal meaning assigned to them. Proff (1975) contends that journaling enables people to draw on their inherent resources and to strengthen inner capacities. Baldwin (1990) states that through journaling, a person possesses the power to deal with life and assumes responsibility for his or her own growth. Journal writing has been linked to creativity, expansions of consciousness, and the deepening of spiritual awareness and growth (Baldwin, 1990; Cameron, 1992; Rainer, 1997). Through journal writing people are able to connect with the continuity of their lives, enhancing wholeness (Snyder & Lindquist, 2002). Therefore, journal writing could be a useful practice for older adults.

Despite much anecdotal and theoretical support, there is a paucity of research to substantiate the value of journaling in the elderly. Brady

and Sky (2003) conducted a qualitative study to explore past and current journal writing practices of older learners with special attention to questions of the perceived benefits of journaling in old age. They found that most participants had kept a journal intermittently during their lifetime. A common pattern was to resume the practice of keeping a journal because of a critical incident occurring in their life. Ten of the fifteen participants reported being in favor of sharing their journals with others or had already done so.

Brady and Sky (2003) categorized the benefits of journal writing as the ability to cope, the joy of discovery, and the nurturing of voice and spirit. Coping referred to functions that assisted the participants in their day-to-day lives. Some ways that journaling helped them to cope were self-therapy (identifying and working through feelings), sorting out issues in relationships, helping make decisions, and compensating for poor memory. The joy of discovery related to learning things about oneself and one's environment. Over half the participants reported that their journals were a sort of milestone for "measuring one's own progress in the journey of human development" (Brady & Sky, 2003, p. 159). Participants also reported paying more attention and seeing things with greater detail because of their practice of writing things down. The third category, nurturing of voice and spirit, dealt with developing the confidence that one has something meaningful to say. Writing regularly can build confidence (Brady & Sky). Participants grew more confident as they realized that they did have important things to say. A number of participants explicitly referred to the quiet time that was required for journaling and how these contemplative moments had helped to nurture their spiritual lives.

One of the most compelling challenges of aging, according to Brady and Sky (2003), is the quest to derive significance from years of lived experience. "Experiences themselves do not have meaning until a person reflects on, recollects, and interprets them. Writing has long been and continues to be one of the most useful tools at the disposal of human beings to do this important, reflective, and integrative work" (p. 161). The study by Sky and Brady suggested multiple reasons that journal writing would be useful in promoting successful aging. Through the process of reflecting on and spending time writing down one's thought and feelings, an aging person could experience spiritual growth and enrichment, exercise creativity, and work toward integration.

Another study that showed promise for journal writing in elders was that of Campbell (1992). Campbell's study was developed within Roy's Adaptation Model and involved elderly assisted living residents who exhibited symptoms of depression. One aim of this study was to see

whether nursing intervention strategies made a significant difference in levels of depression in otherwise healthy elderly. All participants had been identified as having depressive symptoms. Participants were assigned to one of three groups by stratified random sample according to gender. The intervention treatment group received eight weeks of individual therapy. A control group received no nursing interventions and a third group received classes on crafts. Nursing intervention strategies included cognitive therapy involving journaling and self-esteem enhancement. Participants engaged in two one-hour sessions of individual therapy per week. This therapy included reviewing and discussing the participants' journals with the nurse and self-esteem enhancement. Participants kept daily journals to record their thought patterns and environmental stimuli. The daily entries were sources for discussion and clarifying thoughts and ideas the participants were experiencing. Nurses encouraged reminiscence and focused on positive aspects of the past. Participants enjoyed recounting memories of the past and roles played during different stages of their life (Campbell, 1992). "Often the participants had negative thoughts about their past or present situation and did not realize that these thoughts perpetuated feelings of depression" (p. 25). At the end of the eight-week intervention, all the participants in the intervention treatment group scored below 60 on the Zung Depression Scale, suggesting mild or no depression. The control group that received no intervention showed no change from their initial score; Zung scores remained above 69, showing moderate to severe depression. The difference in depression scores before and after the nursing interventions was statistically significant, showing evidence of change (Campbell). The group that received crafts instruction experienced a decrease in their level of depression, from an average score of 72 to one of 68, suggesting mild to severe depression. While Campbell's study showed promise for the use of journals in the elderly, several things must be considered. The journaling, individual therapy, or a combination of these things might have been responsible for the reduced depression. Since individual therapy also emphasized self-esteem enhancement, self-esteem interventions could have influenced participants' depression. An interesting outcome was the reduction in depression scores for the crafts group. It is possible that enhanced creativity occurred and affected depression scores in this group.

Reminiscence

One of the most frequently studied forms of creative activity is reminiscence. Although it is not typically considered a creative activity,

reminiscence does have some of the characteristics of creativity. Reminiscence may entail cognitive and emotional processes involved in the conception of meaningful solutions to past problems. Reminiscence has the potential to generate novel and useful associations, attributes, or elements, and produce a result (a new and different way of remembering the past) not present before. Through recall of memories, older adults may be able to identify innovative problem-solving strategies that enabled them to survive difficult times. During the process of reminiscing, older adults also may come up with different ways of remembering their past by reframing life events. As a result of reminiscence, past conflicts can be transformed into more stable and creative products. Reminiscing may serve as a stimulus for new ways of thinking and doing things, as older adults rethink past events where they (or others) used different strategies to cope with situations.

Reminiscence has beneficial physiological effects as well; memories are created when clusters of hundreds or thousands of neurons fire in a unique pattern (Cohen, 2005). During recall (i.e., when one is paying attention), the connections between these neurons are automatically strengthened; the more often a particular pattern is stimulated, the more sensitive and permanent are the connections between the neurons in the pattern (Cohen). Furthermore, autobiographical expression in later life, such as telling about one's past experiences, appears to be an example of bilateral involvement of brain hemispheres (Cohen). This finding is in contrast to recall of autobiographical events in younger adults, who primarily use the left hippocampal region of the brain. Thus, reminiscing could strengthen neural connections as well as exercise additional areas of the brain in older adults.

Westerhof, Bohlmeijer, and Valenkamp (2004) conducted a study of reminiscence in 57 older adults, who participated in 12 themed reminiscence sessions. The sessions consisted of structured reminiscence on topics such as first memories and early scents, childhood houses, and friendship. Personal meaning and depressive symptoms were measured pre- and post-intervention. The SELE-instrument was used to assess personal meaning (Dittmann-Kohli, 1995; Dittmann-Kohli & Westerhof, 1997). The SELE-instrument is a sentence completion questionnaire consisting of 28 sentence stems, that asks respondents to complete the stem by expressing what he or she considers to be true and important about his- or herself. Sentence stems are worded either positively, negatively, or neutrally, and prompt cognitive interpretations of self and life. Examples of items are "I am proud that . . .," "My weaknesses are . . .," and "When I think about myself . . ." (Westerhof, Bohlmeijer, & Valenkamp, 2004). The Centre of Epidemiological Studies Depression scale

(CES-D; Bouma, Ranchor, Sanderman, & van Sonderen, 1995) was used to measure depressive symptoms.

When compared with a demographically matched group of older adults from the Dutch Aging Survey (Steverink, Westerhof, Bode, & Dittmann-Kohli, 2001), the reminiscence participants tended to be more self preoccupied and have more negative personal meaning prior to the intervention. Participants tended to have more positive personal meanings after the intervention; systematic significant differences were found in particular with regard to becoming less negative about the self and social relationships (Westerhof, Bohlmeijer, & Valenkamp). The researchers compared the three tertile groups of the sample, according to change in depressive symptoms, and found that the group that did not improve also showed no significant change in personal meaning. The group whose depressive symptoms improved slightly mainly changed meaning problems from social relationships to activities. The group whose depressive symptoms improved slightly mainly changed from problems with meaning related to social relationships, to problems with meaning related to activities (Westerhof, Bohlmeijer, & Valenkamp). Overall, participants were more positive after the program, as compared to before, as evidenced by a medium sized standardized treatment effect.

These findings are in line with Hsieh and Wang's (2003) systematic review of reminiscence research. Of 24 studies involving reminiscence, the authors identified nine that involved older adults, were randomized controlled trials, included some measure of depression, and had either a control or a placebo group. Despite notable differences across the studies in terms of methodology, characteristics of participants (i.e., some had diagnoses of depression and some did not), and intervention protocols, reminiscence interventions appeared to have a positive effect on depression. Treatment groups in two of the six studies had significantly lower scores on depression as compared to a placebo control group; four out of eight studies with a standard care control group showed significantly lower depression scores for the treatment group post-intervention.

Wang (2004) investigated the effects of individual reminiscence sessions in a sample of 48 Taiwanese older adults, half of whom were institutionalized and half of whom were community-dwelling. Individuals participated in four months of once weekly one-on-one reminiscence sessions with a researcher. Mental health indicators that were measured pre and post intervention included self-esteem, perceived health, depression, and emotional states. The Rosenberg Self-Esteem Scale, Health Perception Scale, Geriatric Depression Scale, and Apparent Emotion Rating

Scale were administered to measure these constructs. Prior to the intervention, there were no significant differences between the two groups on any of the study variables. No significant differences were found between pre- and post-intervention tests in the non-institutionalized group. However, for the institutionalized group, there were significant differences between pre- and post-intervention in perceived health, depressive symptoms, and mood status. When the effectiveness of the reminiscence intervention was measured by comparing mean post intervention scores of the two groups, there was no significant difference in terms of self-esteem, health perception, and depressive symptoms. However, there was a significant difference between groups on mood status, suggesting that the institutionalized group experienced a significant effect on mood status after the intervention. These findings suggest that individual reminiscence has a more powerful effect for older adults in institutions than older adults who are not. It is possible that the effects in the institutionalized group are attributable to the socialization and individual attention these participants, who may feel more isolated than those who are community-dwelling, received. However, institutionalized older adults are likely to be more fragile and sicker than those who remain independent within the community. Therefore, it is also possible that the health and psychosocial circumstances of the individual influence their response to reminiscence.

Stinson and Kirk (2006) conducted an experimental study involving a reminiscence and standard activity control group in an assisted living facility. Twenty-four women ranging from 72 to 96 years in age participated. Depression was measured with the Geriatric Depression Scale and self transcendence was measured with the Self Transcendence Scale, at baseline, three, and six weeks. The intervention consisted of structured group reminiscence sessions twice weekly for six weeks. At baseline, four women (three controls and one standard treatment) were identified as severely depressed. Eight women were identified as mildly depressed, and twelve had no signs of depression. After the six week intervention, there was no significant change in depression or self transcendence for the treatment group, relative to the control group. Scores on the Geriatric Depression Scale and the Self Transcendence Scale were stable across time. However, there was a non-significant decrease in depression and a non-significant increase in self transcendence in the treatment group relative to the control group over time, indicating a positive result in reminiscence group sessions. The small sample size in this study may have obscured detection of intervention effects.

In terms of clinical projects, reminiscence has been shown to produce positive outcomes in older adults. One such example is that of Harrand

and Bolstetter (2000), who developed a community-based reminiscence group for older adults. The goal of the structured-format reminiscence intervention was health promotion. Session topics included childhood memories, positive influences on one's life, and hobbies. The importance of family heritage and the passage of values from generation to generation, ethnic and racial heritage, poetry, and reading were some of the central themes that emerged during groups. Participants unanimously agreed that the sessions were an enjoyable and positive experience. Harrand and Bollstetter noted positive outcomes from the project: the group linked accomplishments of the past to the present, participants unanimously agree that the sessions were an enjoyable and positive experience, and they talked about their cultural heritage, which were the three goals of the project.

Another example of the clinical application of reminiscence is the work of Nugent (1995), who used four case studies to illustrate how reminiscence was effective in helping clients mobilize coping resources to meet self-care demands by increasing self-esteem. Reminiscence was used to increase self-esteem, develop coping skills, decrease anxiety, and address altered self-concept in the case studies. Nugent concluded that reminiscence was an effective intervention because each client met his or her treatment goal.

Generally speaking, reminiscence has demonstrated positive outcomes, and a few negligible ones. It is an inexpensive, low-risk intervention and a novel way of facilitating creativity in older adults. In addition to reminiscence, other creative methods have been investigated. Research on a variety of types of groups has shown positive results for the usefulness of creativity. In a group setting, new ideas can be generated, group members can gain insight and new perspectives, and members may be motivated to try new activities or inspired to come up with new ways of thinking.

Groups

Phoenix, Irvine, and Kohr (1997) conducted a clinical project that consisted of creative psychoeducational groups for older adult females. The clinicians designed a series of 11 once-weekly group sessions. The weekly sessions were based on Maynard's (1993) model of integrated theories, which had been used as the foundation for the development of treatment methods in group work with women. The aim of their project was to help older adult women learn to cope with depression. Prior to beginning the intervention, the clinicians administered the Beck Depression Inventory, the Beck Anxiety Inventory, the Geriatric Depression

Scale, and the Sheehan Disability Scale. Themes of the sessions were depression, relationship of thoughts to depression, the role of social factors in depression, goal setting, self-esteem, understanding family of origin, assertiveness, stress management, caring for one's body, wellness education, and termination. Each group session included an introduction of the planned topic followed by group members' sharing of relevant personal stories.

After the series of group sessions was complete, the clinicians administered the same set of instruments again. The intervention appeared to be a somewhat helpful treatment modality for elderly women with depression. A comparison of pre- and post-interventions scores for all instruments showed that scores either stayed the same or improved. For those participants whose scores remained the same, the clinicians noted that these women had given anecdotal feedback that indicated their interpersonal stressors had increased during the course of the project. Subjective feedback from group members was positive; the women reported feeling more assertive and having increased self-esteem.

The Aging Gracefully Program was implemented by the nursing faculty at Johns Hopkins University School of Nursing in response to the health care needs of older adults living in low-income public housing. This health education program utilized creative strategies in its goals to focus on the more positive aspects of older adults' lives, prevent social isolation, enhance positive health behaviors, and offer resources for older adults to maintain independence despite the aging process (Gerson & Berg, 2004). The clinicians' innovative approach was comprised of seven group sessions which were conducted every six to eight weeks. For every session there was a particular theme and a specific approach. The themes were identified by "consumer-friendly" titles (Gerson & Berg, 2004). For example, the session titled "Holidays" was intended to reduce feelings of isolation around holidays and acknowledge cultural beliefs; participants were asked to think of something from the past. Participants were invited to select a gift from the table of gifts and talk about the memories evoked by the item. The clinicians used the story-telling process to facilitate this activity. "Recognizing the Blues" was a session to educate participants about signs of depression, and included a film on depression. Other sessions covered coping with stress; coping with physical changes of aging; redirecting one's energy after a winter of inactivity; clarifying decisions about end-of-life; and identifying strategies used to create joy in life. The clinicians utilized group discussion and list-making, story-telling, show and tell, reminiscence, films, and old photographs during the group sessions to achieve session objectives. Because this was a clinical project rather than research, the clinicians

did not collect quantitative data. However, outcomes of increased social interaction, increased participant responsiveness and group involvement, improved demeanor, and positive anecdotal feedback suggested that the project was successful.

THERAPEUTIC BENEFITS OF CREATIVITY

Psychosocial Benefits of Creativity

Creativity in the form of reminiscence, problem-solving activities, group activities, production of artistic creations, poetry, and journal writing has been explored. The research studies and clinical projects that have examined these creative modalities have shown promising evidence for the usefulness of creativity in older adulthood. Findings suggest that creative activities can improve problem-solving ability, self-esteem, coping skills, anxiety, internal locus of control, life satisfaction, depressive symptoms, and hypochondriasis. Moreover, creative interventions have generally elicited positive anecdotal feedback from older adult participants and stimulated their involvement and responsiveness.

In addition to these investigations of creativity, an extensive compilation of earlier studies has shown support for the benefits of creativity in older adults (Hickson & Housely, 1997). The earlier research is consistent with findings from the more recent creativity studies and clinical projects; whether problem-solving or artful, process or product, creativity is beneficial for older adults. All of the older research and most of the more recent work has demonstrated positive relationships between creativity and mental well-being of older adults. Thus, it is well established that creativity is advantageous to the mental well-being of older adults.

Physiological Benefits of Creativity

In addition to these findings, more recent research has shown positive physiological benefits of creativity. Normal changes of aging in the neurological system include decreased numbers of neurons with accumulation of senile plaques and neurofibrillary tangles, decreased brain size and weight, decreased blood flow to the brain, and decreased short term memory (Tabloski, 2006). Neurons involved in memory and intellectual function communicate with each other through dendrites and through the release of neurotransmitters between the dendrites (Cohen, 2001). Research has shown that a stimulating environment results in individual neurons developing new dendritic branches, which enhance

neurotransmissions (Cohen). Thus, communications and connections among neurons improve. Environmental stimulation of the brain results in increased production of acetylcholine, the neurotransmitter most involved in influencing memory and intellectual processes (Cohen). Research also suggests that from the early fifth decade of life and into the late seventies, the length of individual dendrites increases in different parts of the brain (Flood & Coleman, 1990). Other findings reveal that from the early fifties to the late seventies there is an increase in dendritic growth at the ends of individual neurons in different areas of the cerebral cortex (Flood et al., 1985). Therefore, despite adverse neurological changes that are part of the aging process, some positive changes still occur into the seventh decade. With adequate stimulation it is possible to promote these positive alterations and compensate for age-related neurological declines.

Outside the central nervous system, other positive neurological events also occur as a consequence of creative activity. When the brain engages in creative work, it alerts the parasympathetic nervous system; heart rate and breathing slow, blood pressure decreases, blood circulation to the intestines increases, and the body shifts into relaxation (Samuels & Lane, 1998). Creative activities also stimulate the hypothalamus to activate the autonomic nervous system, stabilizing and maintaining blood flow, heart rate, and hormone levels (Lane, 2005). Furthermore, engaging in creative activity can stimulate the release of endorphins from specific areas of the brain, affecting brain cells and the immune system and improving their function (Lane).

Research on the clinical effects of creative interventions has shown positive results. For example, placement of art in intensive care units helps to relax patients; they use less pain medication and are discharged earlier than patients who do not have artwork in their rooms (Kreitzer & Snyder, 2002). Therefore, creative modalities could have multiple uses for older adults, such as improvement of neurological and cognitive function, increased (muscular as well as psychological) relaxation, and alleviation of discomfort. A specific example of a creative intervention is incorporating art into therapies; nurses might explore activities such as drawing or writing, that patients have done in the past or have an interest in trying, and encourage participation in these things as a leisure activity or a means of self exploration. Joining a group of some kind might stimulate more innovative and divergent thinking in older adults. Opportunities for group participation are numerous: senior centers, support groups, church groups, and volunteer organizations are just a few examples of groups in which older adults could become involved. Although they may be aware of such opportunities within their community,

older adults probably are not aware of the many therapeutic benefits that come with group involvement. In addition to the psychosocial and physiological benefits, creative interventions, like art and group work, offer other advantages for the older adult. Leaving the home for participation in a creative activity permits some degree of physical exercise, exposure to fresh air, and sunlight. Also, increasing one's mobility can encourage appetite, circulation, and bowel elimination. Furthermore, some older adults may be more receptive to enjoyable activities that provide a social opportunity, than to medications and psychotherapy. Due to social stigma and values of their generation, some older adults still resist psychiatric care, despite the presence of psychiatric symptoms and emotional distress. While this is not a suggestion that creative activity should take the place of psychiatric treatment, it might offer some help to older adults who might otherwise not accept treatment, and could also supplement routine care.

CONCLUSION

This literature review illustrates several important facets of creativity. When asked, older adults emphasize the relevance of mental health characteristics and transcendence when describing creativity (Fisher & Specht, 1999). The definitions of creativity from the works reviewed suggest that we broaden our conceptualization of creativity to include some group work and reminiscence in addition to the more traditional artistic forms of creativity. In addition to older adults' enjoyment, the physiological benefits of creativity, combined with the mental health advantages, are key reasons for the use of creative activities in older adults. Cohen's (2006) findings provide overwhelming support for this notion, linking the engaging nature, physical, and mental health benefits of creativity. Examining the relationships among creativity levels, mental health indicators, and physiological indicators has yet to be done. One recommendation for future creativity research is to investigate the relationship among creativity levels, mental health, and autonomic nervous system functioning (evidenced by blood pressure, heart rate, immunity, etc.). The possibilities for future research are many and it is exciting to think of the many therapeutic effects that creative activities can have for older adults.

Landau and Moaz (1978) relate creativity to self-actualization, stating that through creative decision-making, self-actualization is possible. "The creative personality is emotionally free, responsive, and flexible in its approaches" (Landau & Moaz, 1978, p. 118). So, too, must creativity research be. Creativity research in older adults is still in its early stages;

with a creative mindset, there are a plethora of possibilities for creative activities in older adults.

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