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Altruism and Performance of Elderly Women  
Living in Long Term Care and Assisted Living Facilities

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Abstract

The purpose of this study was to investigate the performance of female long-term care and assisted living residents who participated in an altruistic occupation. Residents from four long-term care and assisted living facilities were randomly assigned into either an altruistic or non-altruistic group. Residents in the altruistic group colored and filled therapy pillows for donation to a local domestic violence shelter. Residents in the non-altruistic group colored and filled therapy pillows to keep for their own use. Time spent making the pillows (seconds), the number of pillows made, rating the meaning of making the pillows, and rating the meaning of learning to make pillows were all measured after completion of the occupation. Residents who participated in the altruistic group spent more seconds making therapy pillows ( $p = .01$ ), made more pillows ( $p = .03$ ), and rated the occupation as more meaningful ( $p = .02$ ) than did residents in the non-altruistic group. Findings provide support for engaging long-term care and assisted living residents in altruistic occupations to improve performance. Further research is necessary to confirm the beneficial effect of altruism on performance.

## Introduction

### *Overview*

In this introduction, a brief history of relevant principles of occupational therapy will be reviewed (Hall, 1910; Dunton, 1931; Levine, 1987), the definition of the words meaning and purpose will be explored (Nelson & Thomas, 2003), and then a literature review will be presented regarding variables pertinent to meaningful and purposeful performance. Examples of such variables include contextual relevance (Ferguson and Rice, 2001) and choice (Oxer and Kopp Miller, 2001; Rice and Nelson, 1988). The possibility of a relationship between these variables and altruism in occupational therapy (Kanny, 1993) will then be introduced. Finally, studies of the effect of social contribution, role acquisition, and altruism (Brown, Consedine, & Magai, 2005; Duellman, Barris, & Kielhofner, 1986; Getz, 1987; Hatter & Nelson, 1987; Hughes, 2002; Mattox, 1995; Schwartz, Meisenhelder, Ma, & Reed, 2003; Yuen, 2002), on the performance of elders will be reviewed.

### *History*

According to Dr. William Rush Dunton (1931) there is therapeutic value in eliciting a patient's interest when engaging in occupations. The patient must understand the value of the occupation for it to be a benefit to his or her well-being. The foundation for this statement comes from the principles formulated by the National Society for the Promotion of Occupational Therapy (1917), which include: facilitation of courage and confidence, arousal of interest, and establishment of industrial and social usefulness. Another early occupational therapy theorist, Herbert J. Hall (1910), validated the success of a work cure to take the place of commonly prescribed bed rest for patients with

symptoms such as anxiety, fatigue, irrational fears and compulsive behavior. Physicians like Hall (1910) and Dunton (1931) combined ideas from the medical model and the arts-and-crafts movement and helped to create a new profession called occupational therapy (Levine, 1987). Occupational therapy utilizes the curative effects of meaningful doing to benefit patients, including the redirection of wandering minds in elders (Levine, 1987).

#### *Meaning, Purpose, and Performance Definition*

According to Nelson and Thomas (2003), an individual encountering a set of physical and socio-cultural circumstances interfaces with an occupational form. Meaning involves interpretation of, and affect towards, the occupational form. Once a person interprets a situation, he or she often wants to do something about it, resulting in purpose. The amount of purpose possessed by an individual provides the desire and the motivation necessary for performance (Nelson & Thomas, 2003). It is thought that by increasing the meaning, and subsequently the purpose of an occupation, the individual will increase his or her performance. Thus, the patient's valuation of the product and valuation of the process in creating it is an important concept to consider in providing health enhancing occupations. Motivation is facilitated by a positive interpretation of the occupation being performed and positive affect about that occupation.

#### *Meaning, Purpose, and Performance Literature*

There have been several lines of research that have investigated the relationship between meaning, purpose, and performance. For instance, the research of Ferguson and Rice (2001) investigated whether practice of a self-care occupation in a contextually relevant environment improved learning and skill transfer. Fifty-six college-aged women were randomly assigned to one of three learning phase groups: tying a necktie onto a

mannequin, a wooden pole, or a no practice group. All three groups were measured on movement time, movement units, and knot quality while they tied neckties onto themselves (transfer phase). Those 21 participants learning the occupation in a contextually relevant environment performed the task with significantly lower rates of performance change during the transfer phase than the 18 participants who learned the task in a non-contextually relevant environment. This result is indicative of a learning plateau that occurred faster within the group that learned within a relevant occupational form as opposed to those who learned the occupation without associated contextual cues as well as those who did not learn the occupation prior to testing. Contextual relevance is thought to have enhanced the meaning and purpose experienced by the group learning to tie the neckties onto the mannequins, and therefore benefited that group's performance, as evidenced by a faster approach towards the learning plateau compared to the group tying neckties onto the wooden poles. The effect of contextual relevance on performance is similar to the effect of choice on performance.

In a study of the effect of choice on performance, Rice and Nelson (1988) investigated the performance of 24 adolescent males with developmental delays engaging in a t-shirt ironing task. In one condition they were given a choice of which shirt to iron and in another condition they were not given a choice. Performance was assessed by the amount of water evaporated from the finished shirt. More water evaporated when the participant was given a choice of which shirt to iron and keep compared to when no choice was given. The authors concluded that increased participation can be observed when participants are given a choice. The variable of choice is thought to increase the amount of meaning and purpose experienced by the participants, with the end result being

an improved performance by those participants who were given a choice compared to those participants who were not given a choice

Oxer and Kopp Miller (2001) investigated the effects of choice on 32 adolescents who lived in residential treatment facilities. The task involved painting ceramic figurines. The amount of paint applied to figurines was significantly greater when the adolescents were given a choice of which figurine they wanted to paint than when no choice was provided. The implication of this study is that participants may be expected to perform better when given a choice within the occupation, as opposed to random assignment of an occupation not chosen by the participant. The variable of choice is thought to have enhanced the amount of meaning and purpose experienced by those participants who identified a figurine they would like to paint, resulting in significantly greater performance, as evidenced by significantly more paint applied by those participants who were given a choice, as compared to participants who were not given a choice.

#### *Altruism Definition*

Beyond contextual relevancy and choice, an emerging area for enhancing performance involves the concept of altruism. Encyclopedia Britannica defines altruism as a construct in ethics that regards the good of others as the end of moral action (2006). In a paper published by the American Occupational Therapy Association, Kanny (1993) lists altruism as the first of seven basic concepts organizing the core values and attitudes that comprise the base of professional occupational therapy. Kanny defines the value of altruism as the unselfish caring for the welfare of others, and its reflection in attitudes of commitment, caring, dedication, responsiveness and understanding. Altruism's stated central role in occupational therapy is underrepresented in the evidence-based literature,

however, the concept of altruism, as it is hypothesized to affect occupational therapy, has been discussed. Fidler (1996) asserts that achieving social efficacy and feeling personal satisfaction require the ability to contribute to the welfare of others, adding that occupations that are most valued in society have greater meaning in defining social efficacy than less socially significant occupations, and that the end-product or outcome of an occupation verifies competence. A caveat of such statements made by Fidler is that their formal investigation has been lacking in the literature. Although altruism, as an independent variable, has limited exposure in research, the following paragraphs will describe the studies available that either used altruism as an independent variable or as an integral part of the study.

#### *Altruism Literature*

Brown, Consedine, and Magai (2005) investigated the relationship between social contribution and health in the elderly. Measurements of social support (given and received) were conducted in four ethnic groups living in the Northeastern United States. Data were collected during face-to-face interviews using the Network Analysis Profile (NAP; Cohen & Sokolovsky, 1979; Sokolovsky & Cohen, 1981) to assess social network variables. The NAP is a measurement of the participants' social networks (parents, children, siblings, aunts, uncles, cousins, friends, acquaintances, and neighbors), and has been shown to be valid with elderly and multicultural populations. Participants named each member of their networks with whom they had engaged in material (tangible) or emotional (intangible) support exchanges within the previous three months. Participants then rated each member as either giving support to the participant, receiving support from the participant, or equally exchanging support with the participant. Physical health and

functional mobility were measured by using the Comprehensive Assessment and Referral Evaluation (CARE) instrument (Teresi, Golden, Gurland, Wilder, & Bennett, 1984), an assessment that has been shown to possess good construct, concurrent, and predictive validity which has shown that conditions such as sleeping disorders, ambulation impairment, somatic conditions, and heart disease are predictive of mortality 1 year later. As expected, Brown et al. found that greater giving was negatively associated with conditions previously found by the CARE to be predictive of imminent mortality, but levels of receiving were not associated with those conditions. Any effects of social support given were interpreted as perceived levels of giving rather than actual altruism, as the social network members were not interviewed. The implication of these results is that the perception of giving support to others, an essential part of altruism, may have a beneficial effect on health.

Schwartz, Meisenhelder, Ma, and Reed (2003) investigated whether altruistic social interest behaviors, such as engaging in helping others, were associated with better physical and mental health in a stratified random sample of 2016 members of the Presbyterian Church throughout the United States. Mailed questionnaires evaluated giving and receiving help and self-reported physical and mental health. Both helping others and receiving help were significant predictors of mental health after adjusting for age, gender, stressful life events, income, general health, positive and negative religious coping, and asking God for healing. Psychospiritual, stress, and demographic factors were controlled. Giving help was a stronger predictor of high mental health scores compared to receiving help, implying that altruism may be a factor in improved mental health performance.

In a pilot study with 20 residents of four long term care facilities, Yuen, Huang, Burik, and Smith (2008) found that the Life Satisfaction Index-A (LSI-A; Neugarten, Havighurst, & Tobin, 1961) scores of elderly residents of long-term care facilities improved significantly after participation in a mentoring program for improving language skills of international students. College students whose second language was English met with mentors for conversation once a week for three weeks. The LSI-A served as a measure of subjective well-being and was administered before and after the intervention. Results of an analysis of covariance revealed a higher adjusted mean score in the mentoring group than the non-mentoring group. The participants who were in the mentoring group reported a significantly higher level of “well-being” than those who were not in the mentoring group. Mentoring is giving of the self for others’ growth. These results suggest that giving, a factor in altruism, may positively affect an individual’s life satisfaction.

In another study, Hughes (2002) investigated the relationship between altruism and the performance of 172 elderly individuals living in a retirement community. These participants were randomly assigned to a group engaging in a can crushing occupation to earn money for donation to homeless children in an impoverished foreign country (altruistic condition) or a group crushing cans for money that would be given to the participants (non-altruistic condition). The participants’ perception of the level of purpose and meaning in the occupation was not assessed. The results, determined by counting the number of crushed cans in each condition, showed no significant differences between the number of cans crushed in the altruistic condition and the number of cans crushed in the non-altruistic condition. The meaning of the crushed cans, and their implied monetary

value in to children in Guatemala, may not have been perceived as being substantially significant to these community-dwelling elders. Investigation of whether participants understand the meaning of their efforts is indicated.

Hatter and Nelson (1987) investigated altruism and performance. Persons living in a home for the aged were invited to participate in a cookie-decorating activity. The invitations for two of the groups (one group from each of two of the wings of the home) stated that the cookies would be a gift for a local preschool. The invitations for the other two groups (one group from each of the other two wings of the home) did not mention giving away the cookies. The results showed greater attendance ( $n = 25$ ) of those invited to engage in occupationally embedded tasks that involved giving (altruism) compared to attendance ( $n = 14$ ) of those who were invited to perform rote exercise (non-altruistic). These results suggest that elders in long term care facilities might be more likely to participate when an occupation benefits others.

Mattox (1995) investigated the relationship between altruism and performance in retired community dwellers ( $n = 172$ ). As in the previously described study, participants were randomly assigned to a group (altruistic or non-altruistic), and then were measured on attendance. The task involved either making Halloween decorations for children at a community agency or making Halloween decorations for participants to keep for themselves, depending on group assignment. Emphasis was placed on the children at a community agency's valuation of the Halloween decorations. The difference between altruistic and non-altruistic groups making Halloween decorations was not significant. The insignificance of these results suggests that the task of making Halloween decorations for children may not have been more meaningful to the participants than

making Halloween decorations for themselves, as evidenced by homogenous attendance levels of both groups. Based on these results, further investigation of the meaning of a given occupation to the participants is warranted.

Getz (1987) examined altruism in a population of elderly women in skilled nursing facilities ( $n = 33$ ). Participants were referred to the study after achieving a score of 25 or more on the Paracheck Geriatric Rating Scale (Paracheck & King, 1976), which allowed only those individuals above a particular cognitive level to be included. The participants were randomly assigned to eight groups, four of which made stationery for children who had been abused, stenciling the children's initials on the top of the paper. The other four groups made stationery personalized with their own initials. Participants were given as many breaks as they desired. There was a strong emphasis placed on the children who received the stationery. For instance, pictures of the children were provided and children's initials were stenciled onto the paper. Reminders of the meaning of the occupation were given frequently according to the script provided by researchers, including comments about how much the children needed the gift to write to friends and family. Analyses of both the quantity of stationery pieces and duration of stationery creation revealed that participants engaged for a significantly longer time period and made more pieces of stationery when the product was given to abused children than when the product was kept by the participant. This study supported the use of altruism as a motivating factor for participation in a craft-type occupation.

### *Purpose*

The research is inconclusive regarding the efficacy of using altruism as a motivating factor for participation in occupations. A central tenet of occupational therapy

is that the amount of meaning (personal relevancy) a performer attributes to an occupation affects the amount of purpose (motivation) that performer has for the occupation, and consequently the amount of effort exerted for performance is increased when an occupation is experienced as meaningful when compare to when the occupation is experienced as meaningless (Nelson, 2003). Many of the prior studies of altruism use occupational forms that are assumed to have greater meaning, but the impact of altruism on performance is inconclusive. Some of the studies described above support the positive effect of giving or altruism on performance (Brown, Consedine, and Magai, 2005; Getz, 1987; Hatter & Nelson 1987; Schwartz, Meisenhelder, Ma, and Reed, 2003; Yuen, 2002), while some of the studies did not support the effect of giving or altruism on performance (Mattox, 1995; Hughes, 2002). In other words, despite our current state of knowledge, we still do not have a firm understanding of how altruism can affect performance.

Additionally, this study incorporates the level of meaning associated with the occupation expressed by the participants, which has yet to be investigated. The purpose of the current study is to investigate the effect of meaning on performance as a function of both the meaning attributed to an occupation and whether the occupation is considered by the participants to be altruistic. This study is different from other altruism studies, because it includes a measurement of meaning to the participants which may show an effect beyond a significant difference in the number of and time spent on resulting products.

The study at hand sought to investigate the effect of the knowledge of an altruistic contribution upon the performance of elderly women who live in long-term care and assisted living facilities. This study used a handmade craft-making occupation and

informed half of the participants that the craft would be given to victims of domestic violence after its creation. The other half of participants were allowed to keep the craft for themselves. It was expected by the investigator that observance of the number of therapy pillows made by each participant and the amount of time spent making therapy pillows would reveal a significant difference between those who donated their therapy pillows compared to those who kept them. In this study, the altruistic occupation involved making therapy pillows for victims of domestic violence and the non-altruistic occupation involved making therapy pillows for oneself. The victims of domestic violence were chosen as recipients of the altruistic occupation because it was thought that they would be viewed as legitimately needful of help.

Elderly women living in a long term care or assisted living facility were recruited to participate in a task to help or benefit others (altruistic) or in a task to benefit oneself (non-altruistic). The number of pillows produced, the amount of time engaged in the occupation (total time and time per pillow), and the participants' meanings attributed to the occupation were measured. It was hypothesized that:

1. Participants in the altruistic group would perform longer, measured using a computerized stopwatch, and make a greater number of products;
2. Participants in the altruistic group would associate a higher level of meaning, defined using a three point Likert scale, to the product than participants in the non-altruistic group; and
3. Participants in the altruistic group would associate a higher level of meaning, defined using a three point Likert scale, to the occupation than participants in the non-altruistic group.

## Method

### *Participants*

The sample consisted of thirty female senior citizens (65 years old or older) who lived in a long-term care or assisted living facilities. Studies that had similar sample sizes found statistical significance. Therefore, it was believed that this  $n$  provided enough statistical power to avoid risking a Type II error. Exclusion criteria via self report included any type of physical or neurological conditions that would adversely affect the ability to participate in a coloring and pillow stuffing task. Participants were recruited from long-term care and assisted living facilities. Once permission was granted to conduct the study in the facility, a staff person from the facility asked residents (whom the staff person had perceived as appropriate for the study) if they would like to learn more about participating in the study. If the participant agreed to learn more about the study, then the staff person gave the name of the interested persons to the investigator who then met with the interested residents to explain the study and provide materials for completion of the therapy pillows. Competence and cognitive abilities were assessed via verbal self-report by the participant that she had no physical or neurological impairments that might interfere with the study.

### *Apparatus*

The following materials were used: (a) fabric pens, (b) white fabric sown into 4X5 inch pockets, (c) templates, (d) rice, (e) a funnel, (f) a bucket, (g) a sewing machine, (h) a stopwatch, and (i) a questionnaire. The questionnaire, administered as a measurement of the participants' meaning attributed to the occupation, included questions about how much the therapy pillow meant to the participant and how much

learning to make the therapy pillow meant to the participant (See Appendix A). The rationale for this measurement was to identify the level of meaning participants attributed to the occupation and product, and to investigate differences between levels of meaning reported by participants in the altruistic condition and levels of meaning reported by participants in the non-altruistic condition. A custom software program kept track of the time spent on the task and was used to record the number of pillows completed.

This occupation was age-appropriate regardless of whether the creator was the recipient of the product or not. Therapy pillows were products that were potentially useful for younger women, children, and elderly women. The product, a decorated pillow filled with rice, was approximately one pound and four by five inches in size. Drawing on the fabric and stuffing the pillows with rice were chosen as the performances examined in this study. The use of fabric pens allowed for easy application to the fabric, facilitating the occupation for persons living in long-term care facilities. It is a brief occupation that is practical in terms of time and expense. The pillow is small enough that, conceivably, a person would want to have more than one for effective use.

### *Procedure*

This study was approved by the Biomedical Institutional Review Board of The University of Toledo. Before any data were collected, informed consent was obtained. Participants were randomly assigned to the altruistic or non-altruistic group. Randomization occurred using a custom software program that randomly assigned group assignment in a permuted blocked fashion using two blocks of four sessions and four blocks of three sessions. Specifically, the group section (altruistic or non-altruistic) was

randomly assigned. It was anticipated that up to four participants would participate in each session. Therefore, to accommodate an  $n$  of 30, ten sessions were included in the randomization process. The investigator entered the number of the session in a computer program (e.g. 1, 2, etc) and the computer program assigned the session to one of the two group conditions. Both groups received an explanation of how the therapy pillows would be used, including heat therapy, positioning, or as a game. In the non-altruistic group, the completed pillow was given to the participant to keep for herself. In the altruistic group, the participant was told that the investigator would give the completed pillow to domestic violence victims living in a local shelter, specifically women and children.

The altruistic group was instructed to decorate and fill therapy pillows for victims of domestic violence. A description of the mission of the shelter where the victims of domestic violence lived was given or read to the participants. The completed products were given to the victims of domestic violence by the investigator. The non-altruistic group was instructed to decorate and fill therapy pillows to keep for themselves.

All of the participants were seated at tables in groups of up to four people per table, according to the order in which they arrived. Group size was limited to four in order to optimize instruction. Each group was given the same set of instructions. The occupation consisted of two steps: (1) the decoration of the empty pocket using fabric pens, and (2) the filling of the pocket with rice. Once the pocket was filled, it was sewn shut by the investigator, and an additional pocket was offered to the participant.

If participants asked how long they should continue making the pillows, they were told to continue as long as they would like. When participants stopped performing the occupation, each was given the verbal (closure) prompt: "Would you like to continue

making pillows for yourself/child/woman?” If the subject answered “No,” a second and final verbal (closure) prompt was given: “Are you sure that you do not want to make another pillow for yourself/child/woman?” If the participant answered “Yes” the duration was recorded. If the participant answered “No” to the verbal (closure) prompt, the pillow-making activity was resumed.

Rests were allowed. Time was recorded at the beginning and the end of a rest. A rest was suggested if the participant appeared fatigued: “Are you tired? You may take a rest if you would like one. Go ahead and rest for a moment.” After one minute, the participant was asked “Are you ready to work again?” in order to reengage the participant in the activity. If the participant did not want to reengage in the activity, the previously mentioned verbal (closure) prompts were used.

The occupation took place at the place of residence of the participants, at approximately the same time of day for each group. Non-participating residents were not present in the room. For a complete description of the questionnaire and protocols used, see Appendices A, B, and C.

### *Statistical Analysis*

A simple experimental design was used. The dependent variables included: time spent working on the pillows (finished time was measured using a digital stopwatch with split timing), number of pillows made (recorded on the same form as the time record), and questionnaire scores. Questionnaire scores were assessed using a three point Likert scale of the meaning of the occupation and the meaning of learning to make the product (See Appendix A). Cohen’s effect size  $d$  was calculated for each of the comparisons (1988). Non-parametric measures (Mann Whitney  $U$ ) were used for the ordinal data

(number of pillows made and meaning measures), while parametric measures (*t*-test) were used for the continuous data (time).

### Results

The variable distributions of time, number of pillows made, participant's level of meaning assigned to the therapy pillow, and participant's level of meaning assigned to learning to make the therapy pillow were analyzed. In general, all of the hypotheses were supported by the results, with the exception of one dependent variable: the meaning level of learning to make the pillow.

Hypothesis 1, "Participants in the altruistic group will perform longer, as measured by a computerized stopwatch, and make a larger number of products," was supported by the results. See Table 1 for a summary of the following data. Performance time compared between the two groups showed a significant difference ( $p = .01$ ), with the altruistic group spending more time making pillows ( $M = 2343.02$  seconds) than the non-altruistic group ( $M = 1403.46$  seconds). The number of pillows made also showed a significant difference ( $p = 0.03$ ) between the two groups, with the altruistic group making a larger number of pillows ( $M = 2.64$ ) than the non-altruistic group ( $M = 1.75$ ).

Hypothesis 2, "Participants in the altruistic group will associate a higher level of meaning, defined using a three point Likert scale, to the product than participants in the non-altruistic group" was supported. A summary of the following information may be found in Table 1. A significant difference ( $p = .02$ ) was found between the altruistic and non-altruistic groups, with the altruistic group indicating higher levels of meaning ( $M = 1.07$ ) in relation to the pillow than the non-altruistic group ( $M = 1.5$ ). The effect size for this dependent variable was large ( $d = 1.04$ ).

Hypothesis 3, “Participants in the altruistic group will associate a higher level of meaning, defined using a three point Likert scale, to the occupation than participants in the non-altruistic group” was not supported, as shown in Table 1. The difference between the two groups was not significant ( $p = .08$ ). The altruistic group indicated a trend towards meaningful ( $M = 1.21$ ), and the non-altruistic group indicated a trend towards somewhat meaningful ( $M = 1.56$ ). However, the effect size for the meaning levels indicated for pillow-making was medium ( $d = 0.65$ ).

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Insert Table 1 about here  
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The means and standard deviations of the dependent variables for the altruistic and non-altruistic groups can be found in Table 2. Likewise, descriptive results on the number of pillows made, the meaningfulness of the pillows and the meaningfulness of learning to make the pillows can be found in Table 3.

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Insert Tables 2 and 3 about here  
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## Discussion

This study investigated the effects of altruism on the performance of elderly women living in long-term care or assisted living facilities. The findings that elderly female participants performed better when they were told that the products they made would go towards an altruistic cause replicate the findings of earlier related research (Hatter & Nelson, 1987; Getz, 1987). In addition to the time spent on the occupation, and number of products produced, this study sought to investigate the amount of meaning the participants attributed to both the product itself and also learning to perform the occupation of making the product. These results support the experimental hypotheses that participants would spend more time in the occupation, create more products, and attribute more meaning to the product when they were part of an altruistic group as opposed to a non-altruistic group. The hypothesis that participants would attribute more meaning to the occupation when they were in the altruistic group as opposed to the non-altruistic group was not supported.

The satisfaction derived from social contribution may enhance the occupation (Fidler, 1996). According to Nelson (2003), performance is enhanced when the meaning of an occupation is greater to the person performing the occupation. Nelson also described the perception of success within society as part of the meaning people attribute to certain performances more than others. The ideas of Nelson and Fidler relate to world standards of health, as defined by universally respected organizations.

The World Health Organization (WHO) defined health as a state of physical, mental, and social well-being (1946). This is not only the absence of disease, but the presence of social wellness, a condition that was sought after with this study of altruism

and its meaning to the participants. The development of the International Classification of Functioning, Disability, and Health (WHO, 2001) was influenced by this definition of health, including the factor of participation amongst other factors determining health and function. One idea behind this study is to enhance the participation of elders living in long term care or assisted living facilities through involvement in the local community. Healthy People 2010 echoed this focus on involvement with one's surroundings, listing productive citizenry and contributing to communities as a determinant of a healthy life (USDHHS, 2000). Part of the effectiveness of this study may be due to the proximity of the recipients of the product, a shelter located within 50 miles of the participants. It is likely that the variable of altruism contributed to the participants' sense of personal social well-being, participation, and productive citizenry as reflected in the enhanced performance and ratings of meaningfulness found in residents participating in an altruistic occupation compared to a non-altruistic occupation in this study.

The American Occupational Therapy Association (AOTA) recognizes spirituality as a context; "the fundamental orientation of a person's life, that which inspires and motivates the individual" (AOTA, 2004). This definition of spirituality bears some similarities to the aforementioned definitions of meaning and purpose (Nelson & Thomas, 2003). The spiritual state of the individual is not often addressed in the occupational therapy literature, but it is acknowledged by AOTA as motivation of the individual (2004), an important part of purposeful performance of occupations. Occupational therapy is more beneficial when there is meaning found in the product of the occupation, as demonstrated in this study, and spiritual wellness may be as much a part of meaningful engagement as are mental and physical ability. Clearly, the

participants in the altruistic group were more motivated to perform the occupation, as evidenced by increases in time spent and pillows produced as compared to their counterparts in the non-altruistic group. The corresponding increases in therapy pillow meaningfulness ratings by the altruistic group also speaks to the potential power of altruism to enhance the purpose with which an individual performs an occupation, as evident here by significantly greater time spent engaged in pillow making and number of pillows made. The added benefit of learning to make the pillow did not significantly differ in terms of meaningfulness ratings from the altruistic and non-altruistic groups. This finding suggests that both the altruistic and the non-altruistic groups found learning to make the pillow equally meaningful, but that the pillow itself became more meaningful when donated, adding to the performance of those women in the altruistic group.

The products in this study were given to individuals who were thought to be likely to elicit altruism in this study's participants. These women and children had been victims of a domestic violence, and it was thought that elderly women who were living in long-term care and assisted living facilities may have had a desire to help these victims, especially because they were all part of the same community, unlike Hughes' (2002) investigation into the performance of elders to benefit children in Guatemala. The recipients in the current investigation were part of the local community of the participants, and likely elicited better performances from the participants who made pillows for donation to a local shelter than if they had been making pillows for another country. In the present study, the elderly women could provide support to the victims who were their nearby neighbors, and the concept of the homeless domestic violence victims may have facilitated increased meaning in a therapeutic occupation as opposed to

the condition of poverty alone that Hughes presented. Results of this study implied that the proximity and the severity of the condition of the recipients of the donations may enhance performance. Additionally, the product in this study was tangible, and the participants were able to see the finished product before being told that it would be taken to the shelter. In comparison, Hughes took crushed cans and exchanged them for money after the occupation was complete, potentially distancing participants from the actual product that was to be donated. Hughes also completed the altruistic occupation with elders living in the community, who potentially had more interaction with others in the community, and who may have had less purpose in engaging in an occupation to benefit the community. These community dwellers may have had more opportunities to independently donate time or money to others, as opposed to those in the present study, who probably rarely left the long-term care or assisted living facility to spend time with those individuals in the surrounding area. Additionally, participants were of both genders, as compared to the current study's female participants. Females may experience greater amounts of meaningfulness in an altruistic occupation compared to their male counterparts, but further investigation is indicated into these variables.

Mattox (1995) found that the altruistic creation of Halloween decorations for a children's agency did not significantly differ from community dwellers' performances in decorating their own homes for Halloween. Here again, community dwellers may have had more opportunities to interact with the community as opposed to the current study's long-term care and assisted living facilities residents, and participants were of both genders compared to the current study's female participants. Additionally, the elders may not have found the Halloween holiday and its corresponding symbols to be

meaningful, and were not asked regarding the value of the occupation to them. In contrast, the current study encouraged long-term care and assisted living facility residents to decorate pillows with symbols of their own choosing, and asked participants to rate what their products meant to them, finding that they were indeed meaningful.

It is likely that those in the altruistic group perceived their social contribution, in the form of donating pillows to a shelter, as greater than the perception of social contribution by the non-altruistic group, who kept the pillows for themselves. Nelson postulated that the perception of potential social success by an individual has a beneficial effect on meaning, purpose, and subsequently on performance (2003), and the findings of Hatter and Nelson (1987) that more residents of a long-term care facility attended an altruistic occupation compared to a non-altruistic occupation supported Nelson's later theories. Brown et al. (2005), Schwartz et al. (2003), and Yuen et al. (2002) also supported the benefit of altruism with ratings of better health in elders who perceived their social contribution as greater than the support they received as compared to those who received more support than they contributed. Nelson's ideas about social success are supported by the current study's participants' improved performances when they were part of a group that gave the product of their efforts to others in the community. In the current study, making the pillows may have meant successful contribution to society for those in the altruistic group; therefore they may have performed the altruistic occupation with a higher degree of purpose, as evidenced by more time spent, more pillows produced, and higher ratings of meaning regarding the pillows by the altruistic group compared to the non-altruistic group. Also implied here by the increased meaningfulness of the pillows indicated by the participants in the altruistic group, is that they felt better

about their productivity than those who simply produced pillows for themselves.

Learning to make the pillows, a benefit probably equally experienced by both groups, was not significantly more meaningful with altruism. The reason may be that female participants living in long-term care and assisted living facilities found the creation of a handmade object to give to others to be more meaningful than the acquisition of a new function. Increased function may be the end of occupational therapy endeavors, but the amount of performance, and probably consequent functional gains, were affected in the present study by the donation of the object produced to others versus occupation for personal benefit.

The clinical implications of the results of the present experiment is that those who desire to increase the performance of elderly women living in long-term care and assisted living facilities may consider including an altruistic component in occupational therapy interventions; because the current study supports the idea that female elders experience enhanced meaning and perform better when altruism is added to an occupation. Those who are more engaged in occupational therapy because their meaning and performance has increased with altruism, may experience greater therapeutic benefits themselves, as compared to those who engage to a lesser degree because the occupation is viewed as meaningless, and subsequent performance decreases resulting in fewer functional gains. An altruistic occupation might be ideal for the elderly female resident of a long-term care or assisted living facility who declines participation or half-heartedly participates in occupational therapy. Some of the residents living in long-term care or assisted living facilities may be feeling disconnected from society, and altruism is an effective way to engage these individuals in therapy by adding meaning in the form of social success to

the benefits gained from performing occupations. The added benefit of occupational therapy for these individuals might be a sense of competence from the knowledge that their contributions are useful and valued by others in the community. For female residents who may not have an opportunity to see loved ones and neighbors as often as they did before living in long-term care and assisted living facilities, geriatric occupational therapy would do well by helping them to find meaning in occupations showing underprivileged members of the local community that someone cares for them. The ability to engage in altruism is a skill retained by elders who may experience other impairments, and a valuable tool for the occupational therapist to elicit participation from female residents of long-term care and assisted living facilities. The occupational therapist may also find increased meaning in work that benefits an individual patient as well as the community.

#### Limitations

Although efforts have been made to isolate the variable of altruism, effects may be contributed to other causes, such as peer pressure from other participants or researcher bias. Results may not be generalized beyond elderly women living in long-term care and assisted living facilities of northwestern Ohio. Further investigation into the effects of altruism on occupational performance is warranted. Since data collection occurred only with participants in groups, future research should assess the performance of single participants to control for group effects. Future investigations may also include data collection in other geographic locations.

The effect altruism had on the performance of elderly women living in long-term care facilities performing this occupation for domestic violence victims in the same

community may not generalize to other types of products, participants, and recipients. Community dwelling elders may not have the same amount of community participation, since they are interacting with the community more than elders who live in long-term care facilities. Certain occupations, such as the production of therapy pillows, may be viewed as more beneficial to others and so might be more meaningful to elders, as opposed to products that are purely decorative or have a symbolic theme not chosen by the person making the product. Variations in performance may be observed when the recipients of altruistic occupations are part of the immediate community of the elders as opposed to recipients who are geographically farther away. Money sent altruistically may differ in meaningfulness to elders compared to handmade products. Ensuring meaning of an occupation and its product to the participant is an issue that is inadequately addressed in the current literature, and some of the concerns listed here might be addressed by asking participants how meaningful the occupation is. Future research should investigate these variables with the goal of increasing mental and physical performance with altruism. Future research might also investigate the meaning and performance experienced by occupational therapists that choose to work with altruism as opposed to work with no altruism.

### Conclusion

In this study, the altruistic giving of community support was shown to increase the performances of and ratings of product meaning to the individuals who gave of themselves. The participants in the altruistic group reported enhanced meaningfulness of their products, which may have enabled greater engagement in the performance of the altruistic occupation. This is potentially useful for a therapist interested in engaging the

interest of a patient or client in a task. Although occupational therapy may be for the direct health benefit of the individual, the elderly female living in a long-term care facility may be more motivated by helping others. Increasing performance is always a priority to the occupational therapist, whether the source of the individual's purpose in performing is from a desire to regain health and wellness, help others in the community, or a combination of both. Addressing the need to contribute to the community is shown here to be one way an occupational therapist can increase the performances of elderly females living in a long-term care and assisted living facilities.

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Appendix A

QUESTIONNAIRE

Rate the meaningfulness of  
the therapy pillow  
on a scale of one to three.

1	2	3
meaningful	somewhat meaningful	not meaningful

---

Rate the meaningfulness of  
learning to make a therapy pillow  
on a scale of one to three.

1	2	3
meaningful	somewhat meaningful	not meaningful

## Appendix B

## NON-ALTRUISTIC PROTOCOL

I. The Activities Director obtains two subjects at 10 minute intervals until four subjects are present.

II. Two subjects/ one assistant.

III. Introduction: Self and Occupation

Hi, we are students from the University of Toledo. Today, we'll be making therapy pillows. You can heat them up in the microwave to make a heating pad, use it for positioning, or play games with it. This is a pillow. We'll teach you how to make a pillow.

First, I need you to read and sign this form. (Read consent form out loud while subjects read to themselves.) Do you want to be in the study and make some pillows? (Have them sign, but you date the form. You write the participant's name on the Questionnaire).

IV. Teach/Demo

Which of these colors would you like? (Show fabric pens.)

**First**, we need to secure the pocket so it won't slide or move. (Put the fabric into the template so that fabric edges are half an inch from the opening in the template on each side.

**Second**, we uncap the marker.

**Third**, we color a design or picture onto the fabric.

**Fourth**, we cap the marker.

**Fifth**, put the pocket into the bucket, and the funnel inside the pocket.

**Sixth**, fill halfway it with rice and an assistant will take it to be sewn.

## V. Practice

Now, let's practice on this pillow.

**1st** Color with the fabric marker on the fabric (Point). More? Enough? Too much?

Good, that is the perfect amount of ink.

**2nd** If you think you need more color, go ahead and add some onto the fabric (Point).

**3rd** Make sure to get the corners (Point).

**4th** Do you like it? I think it is good/ needs color here/ is too light (Adjust accordingly).

**5th** Lets fill it and have it sewn.

**6th** You did a very good job and this was just practicing!

## VI. Data Collection

Now you can make a pillow by yourself.

**1** Here's another pocket of fabric.

**2** Let's anchor it. Remember to use the edges of the template as a guide. That's correct (Once the pocket is secured, **TIME BEGINS** in seconds).

**3** How about choosing a color for the fabric?

**4** Now uncap your marker.

**5** You're ready to color the fabric.

**6** Good. Use dots or small strokes.

**7** Add some more color if you'd like.

**8** Do you like it? I think it is good/needs more color.

9 You have made   #   pillows. You are working very hard/well.

10 Would you like to make another therapy pillow for yourself?

Y - Here's another fabric pocket. (secure it.)

N - Are you sure that you do not want to make another pillow?

N - (Repeat steps 1-10.)

Y - Okay, you may stop. (Record **TIME END** in seconds). Let's see how many pillows you have made.   #  . Good. Thanks for participating in the study. (Monitor escorts subject out. Assistant records **QUANTITY** and **TOTAL TIME** in seconds.)

#### Monitor

Escorts subjects out of the room. Ensures proper placement of pillows on participant's bedroom table. Watch subjects re: placement of ink. Instruct a subject if the assistant is busy. Make sure the assistants properly record the **TIME**. Obtain any materials that the assistant may need.

#### Problems

##### I. Fatigue

Are you tired? You may take a rest if you would like one. Go ahead and rest for a moment. (Record **TIME** [in seconds] and wait.) Are you ready to work again?

Y - (Record **TIME** [in seconds] and repeat steps 1-11.)

N - Would you like to make another pillow for yourself?

Yes - (repeat steps 1-11 and record **TIME END** [in seconds].)

**No** - Okay, you may stop (Record **TIME END** in seconds). Let's see how many pillows you have made.   #  . Very good. Thanks for participating in the study. (Monitor escorts subject out. Assistant records **QUANTITY** and **TOTAL TIME**.)

II. Off Task

It looks like you need more color/some rice.

III. Remember

**Lock** wheelchair upon arrival.

**Unlock** wheelchair upon departure.

**Speak** LOUDLY and SLOWLY

**Choose** = 1. sex, child/adult

**Teach** one pillow and **Practice** one pillow

**Guide**...do not take over.

**TIME** in **seconds**.

**Stand** when both subjects are present.

\*\*to talk and monitor both subjects simultaneously.

**Record Begin & End TIMES.**

**Comment re:** Why stop.

**Follow** protocol.

## Appendix C

### ALTRUISTIC PROTOCOL

Once informed consent has been obtained, the following protocol will be followed.

I. The Activities Director obtains two subjects at 10 minute intervals until four subjects are present.

II. Two subjects/ one assistant.

III. Introduction: Self and Occupation

Hi, we are students from the University of Toledo. Today, we'll be making therapy pillows for abused women and children. The families are from Toledo. Here is the poster from the shelter where they live. They need these pillows because they are therapeutic. They can heat them up in the microwave to make a heating pad, use it for positioning, or play games with it. This is a pillow. We'll teach you how to make a pillow.

First, I need you to read and sign this form. (Read consent form out loud while subjects read to themselves.) Do you want to be in the study and make some pillows for an abused woman or child? (Have them sign, but you date the form.

You write the participant's name on the Questionnaire).

IV. Teach/Demo

Would you like to make a pillow for a woman, female child, or male child? Which of these colors would you like? (Show fabric markers.)

**First**, we need to secure the fabric so it won't slide or move. (Secure the fabric in the template so that fabric edges are half an inch from the opening in the template on each side.

**Second**, we uncap our markers.

**Third**, we color a design or picture onto the fabric. I bet the woman/child will really like this pillow!

**Fourth**, we cap the marker.

**Fifth**, we place it in the bucket and put the funnel in the pocket.

**Sixth**, we fill it with rice and an assistant will have it sewn.

#### V. Practice

Now, let's practice on this pillow.

**1st** Color with the fabric pen on the fabric (Point). More? Enough? Too much?

Good, that is the perfect amount of ink.

**2nd** If you think you need more color, go ahead and add some onto the fabric (Point).

**3rd** Make sure to get the corners (Point).

**4th** Do you like it? I think it is good/ needs color here/ is too light (Adjust accordingly).

**5th** Lets fill it and have it sewn.

**6th** You did a very good job and this was just practicing! I bet the woman/child will really love this pillow!

#### VI. Data Collection

Now you can make a pillow by yourself.

- 1 Here's another piece of fabric.
- 2 Let's secure it. Remember to use the edges of the template as a guide. That's correct (Once paper is secured, **TIME BEGINS** in seconds).
- 3 How about adding some color to the fabric?
- 4 Now uncap the marker.
- 5 You're ready to color the fabric.
- 6 Good. Use dots or small strokes.
- 7 Add some more color if you'd like.
- 8 Do you like it? I think it is good/needs more color.
- 9 You have made   #   pillows. The woman/child will really be thankful for this pillow that you have made for her. She can use it as a heating pad for pain, for positioning, or to play games.
- 10 Would you like to make another therapy pillow for your woman/child?
  - Y - Here's another fabric pocket (insert and secure it).
  - N - Are you sure that you do not want to make another pillow for her?
    - No - (Repeat steps 1-11.)
    - Yes - Okay, you may stop. (Record **TIME END** in seconds). Let's see how many pillows you have made.   #  . Good. Thanks for participating in the study. (Monitor escorts subject out. Assistant records **QUANTITY** and **TOTAL TIME** in seconds.)

Monitor

Escorts subjects out of the room. Ensures proper placement of pillows on table in the room. Watch subjects re: placement of ink. Instruct a subject if the assistant is busy. Make sure the assistants properly record the **TIME**. Obtain any materials that the assistant may need.

## Problems

### I. Fatigue

Are you tired? You may take a rest if you would like one. Go ahead and rest for a moment. (Record **TIME** [in seconds] and wait.) Are you ready to work again?

**Y** - (Record **TIME** [in seconds] and repeat steps 1-11.)

**N** - Would you like to make another pillow for a woman/child?

**Yes** - (repeat steps 1-11 and record **TIME END** [in seconds].)

**No** - Okay, you may stop (Record **TIME END** in seconds). Let's see how many pillows you have made.   #  . Very good. This woman/child will be very pleased with her pillow. Thanks for participating in the study. (Monitor escorts subject out. Assistant records **QUANTITY** and **TOTAL TIME**.)

### II. Off Task

Let's color some more. It looks like you need more color.

### III. Remember

**Lock** wheelchair upon arrival.

**Unlock** wheelchair upon departure.

**Speak** LOUDLY and SLOWLY

**Choose** = 1 child/adult

**Teach** one pillow and **Practice** one pillow

**Guide**...do not take over.

**TIME** in **seconds**.

**Stand** when both subjects are present.

**\*\*Talk to and Monitor both** subjects simultaneously.

**Record Begin & End TIMES.**

**Comment re:** Why stop.

**Follow** protocol.

Table 1.

*Dependent variables of time, number of pillows made, meaningfulness of pillows and meaningfulness of making the pillows analyzed using an unpaired t-test, Mann-Whitney U, and Cohen's effect size d.*

<u>Dependent Variable</u>	<u>df</u>	<u>statistic</u>	<u>sum of ranks</u>	<u>p</u>	<u>d</u>
Performance Time (s)	28	$t = 2.46$		0.01	0.89
Number of Pillows constructed		$U = 67.50$	261.5, 203.5	0.03	0.66
Pillow Meaning		$U = 64$	169, 296	0.02	1.04
<u>Pillow-making Meaning</u>		$U = 78.5$	183.5, 281.5	0.08	0.65

*(Note: n=30)*

Table 2.

*Mean and standard deviation of time, number of pillows made, meaningfulness of pillows and meaningfulness of making the pillows.*

<u>Dependent Variable</u>	<u>Altruistic</u>		<u>Non-Altruistic</u>	
	<u>m</u>	<u>sd</u>	<u>m</u>	<u>sd</u>
Performance time (s)	2343.02	1217.04	1403.46	869.5
Number of pillows	2.64	1.39	1.75	1.29
Pillow meaning	1.07	0.27	1.5	0.52
<u>Pillow-making meaning</u>	<u>1.21</u>	<u>0.43</u>	<u>1.56</u>	<u>0.63</u>

*(Note: n=30)*

Table 3.

*Maximum, median, and minimum of time, number of pillows made, meaningfulness of pillows and meaningfulness of making the pillows*

<u>Dependent Variable</u>	<u>Altruistic</u>			<u>Non-Altruistic</u>		
	<u>max</u>	<u>med</u>	<u>min</u>	<u>max</u>	<u>med</u>	<u>min</u>
Performance Time (s)	4564.81	2336.73	432.17	3715.35	888.47	611.207
Number Pillows	5	2.5	1	6	1	1
Product Meaning	2	1	1	2	1.5	1
<u>Occupation Meaning</u>	<u>2</u>	<u>1</u>		<u>2</u>	<u>1</u>	

*(Note: n=30)*