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Effect of Choice Making on a Self-Care Activity in Mentally Retarded Adults and Adolescents

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EFFECT OF CHOICE MAKING ON A SELF-CARE ACTIVITY IN MENTALLY RETARDED ADULTS AND ADOLESCENTS

by

Martin S. Rice

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EFFECT OF CHOICE MAKING ON A SELF-CARE ACTIVITY
IN MENTALLY RETARDED ADULTS AND ADOLESCENTS

Martin S. Rice, M.S.
Western Michigan University, 1987

Of central importance to occupational therapy is the issue of motivation in activity. The purpose of this study was to look at the effects of choice on motivation during an activity undertaken by mentally retarded adults and adolescents. Each subject was given a choice of five wrinkled T-shirts that had sports logos on them. The subject chose one but was then asked to iron the T-shirt before he took it to keep. With counterbalancing for order of presentation, each subject also experienced not having a choice between five T-shirts and then ironing the one given to him. The amount of ironing was measured by calculating the amount of water evaporation. A one-tailed $t$-test indicated that with this population, choice in an activity was a significant motivator for increased participation in a subsequent activity. Results are discussed in terms of the need for research and practice oriented to developing a sense of efficacy in mentally retarded and other populations.
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Martin S. Rice
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INTRODUCTION

Bühler & Massarik (1968) stated that freedom of choice is an important component of human development. Newborns are controlled largely by biological processes and begin life without a developed ability to make choices. However, the infant learns that certain processes can be controlled and soon learns to cause some change in the environment at will (DeCharms, 1968). As the child causes these changes in his or her surroundings, the locus of control becomes internalized, thereby shaping a foundation from which future behaviors will emerge (DeCharms, 1968). Eventually behaviors that control the rewards and/or the misfortunes from the environment will be developed. White (1959) labeled this control over the environment "efficacy" and suggested that an individual experiences a sense of satisfaction when a sense of efficacy is obtained. Because there is satisfaction in controlling the environment's rewards, continued motivation and interest to choose and participate in particular activities occur.

Actively choosing activities to promote change in the environment involves a proactive interaction where there is a personal giving of time and energy to affect one's surroundings (DeCharms, 1968). Internal motives or "drives" move individuals to choose activities that they believe will cause change. DeCharms (1968) defined internally motivated individuals as "origins." In contrast to internal motives are externally oriented motives caused by constraining influences (DeCharms, 1968). These external influences cause reactive, or pawn-like behaviors by the individual. If actions are taken only in response to external stimuli and if those actions are not intended to effect change in the environment, then the individual fulfills the "pawn" role.
Within the profession of occupational therapy, certain authors have recently related DeCharms' ideas about origins and pawns to a theory of clinical practice. Kielhofner and Burke (1985) defined personal causation as the belief in one's own ability to have an effect on the environment. Kielhofner and Burke suggested that personal causation is self-perpetuating and that it influences how choices are made. If an individual believes he or she is controlling the environment, then that individual will continue to engage in origin-type interactions by choosing activities that cause desirable changes on the environment. However, if the individual has no faith in his or her ability to change the environment, then that person will not take the initiative to choose appropriate activities, and will only accept feedback from the constraining environment.

Burke (1977) listed four components or "perspectives" that are necessary for the attainment of personal causation. Specifically, she stated that, in order for an individual to actively choose and participate in activities, he or she must: expect success at the completion of the activity, have an internal orientation (origin-type), believe one's ability and skill are adequate, and experience a sense of efficacy. Burke (1977) suggested that occupational therapists should use these four perspectives to evaluate their clients and their clients' surroundings to determine where they are on the origin/pawn continuum. Ideally, the therapist will offer options to the client which will facilitate the client to be more active and independent in producing change, for example, to bring about one's own rehabilitation. As Yerxa (1967) stated, involving clients as active participants by giving them a choice in treatment has been of central importance to the profession since its inception. Involving clients as active participants is especially therapeutic to populations that historically have not been involved in their own treatment, specifically the institutionalized mentally retarded (Devellis, 1977). Including such persons in the choice making process will increase the chances of
developing a sense of personal causation within these people.

One way that the profession of occupational therapy can establish its knowledge base is to look to other fields for relevant research. A number of studies have been conducted regarding choice and motivation. One such study by Mendonca and Brehm (1983) looked at the effects choice had on the behavior of overweight children. They found that when these children were given a choice in activity, they often approached that activity with increased motivation and personal investment. Another study by Amabile and Gitomer (1984) considered the effects of choice on normal children's art activity and found that a condition allowing choice enhances creativity in comparison to a condition without choice.

Within occupational therapy, there were two early studies that assessed the effects of choice in activity. Taber, Baron, and Blackwell (1953) studied choice with 50 psychiatric patients and found that, given free choice condition in choosing a craft activity, patients exhibited behaviors relatively close to the norm. Behaviors evaluated included work tolerance and various aspects of social attitudes. Niswander and Hyde (1954) examined the effects of choice in craft activities in 60 female psychiatric patients and found that those who had freedom of choice exhibited a relatively high quality of craftsmanship in performing their chosen activities. Although the results from these two studies are generally congruent with the findings of subsequent research, both studies had research design problems. Specifically, both studies relied solely upon subjective means to collect their data, lacked appropriate control conditions, and did not employ conventional statistical procedures to support their conclusions.

Henry, Nelson, and Duncombe (1984) looked at self-perceptions of having freedom of choice in performing an origami activity with 40 graduate and undergraduate college students in both group and individual settings. The findings
indicated that, especially in group settings, having a choice enhances an individual's perception of the self as having power.

A recent study by LaMore and Nelson (in press) looked at how choice affects motivation in a figurine-painting activity in 13 male and 9 female mentally retarded adults. This study involved the subjects on an individual basis and dealt with their persistence in performing the figurine-painting activity. The findings supported the hypothesis that choice at the beginning of an art activity acts as a significant motivator.

Unlike the previous studies which related to leisure activities, the present study examined the effects of choice on motivation in an activity of daily living. The population was mentally retarded males. The subjects were offered choices between five types of T-shirts similar to each other except that each had a different sports logo silk-screened on it. With order controlled for by counterbalancing, each subject at a different time was also given a T-shirt with a different sports logo, with no choice allowed. The experiment tested whether the subsequent caring for the wrinkled T-shirts through ironing was superior in the choice condition.

One of the determining factors in the LaMore and Nelson (in press) research was that the subjects could keep the craft product if they so desired. The attitudes of a person performing an activity may be significantly more negative if the activity product is not theirs to keep (Rocker & Nelson, 1987). The present study also provided subjects with objects thought to be of value to the subjects. When there is little or no value in the objects to choose from, the meaningfulness in making choices diminishes (Schwarz, Schrager, & Lyons, 1983). The assumption was made that the subjects in the present study had an interest in sports and that objects that have sports teams' logos on them were of particular value to the subjects.

Ironing is an activity of daily living that is appropriate for this client population, and is therefore presently incorporated into the curriculum of their school. Though
ironing a T-shirt may not be common practice to many, it is appropriate when the T-shirt is wrinkled and when it is to be worn as an outer garment. Furthermore, the ironing of a T-shirt is a skill generalizable to the ironing of other garments.

In a sample of adolescent and young adult mentally retarded males, does the opportunity of having a choice between garments affect subsequent care for the garment chosen? The directional hypothesis was made that subjects would iron more when given a choice than when not given a choice.
METHOD

Subjects

The subjects (n = 24) were trainable mentally impaired males with ages ranging from 15 to 26 years. All subjects were students at the Blossomland Learning Center, a non-residential school located in Berrien Springs, Michigan. The principal and social worker from Blossomland Learning Center referred the subjects to the study. Developmental readiness to engage in ironing was the main criterion for subject selection. The mean age was 20 years, 5 months, with a standard deviation of 3 years, 5 months. Eighteen subjects had no additional diagnosis secondary to being trainable mentally impaired; four had Down's syndrome, one had Von Recklinghausen's Disease, and one was considered autistic. The educational level ranges from kindergarten to fourth grade and the social maturity was at the junior-high level.

Procedure

Subjects were randomly yoked into dyads and were seen individually. The first member of the dyad was given a choice of five wrinkled T-shirts, each with a different sports team logo. The subject chose one to keep, and was asked to iron the T-shirt before he took it. The second member of the dyad was given a T-shirt of the same style that the first dyad member chose, also to iron and keep. Using a counterbalanced design, the roles of the dyad members were reversed at a subsequent time. The second dyad member chose from the same types of T-shirts except there was a substitute T-shirt in place of the T-shirt that was already in the subject's possession, i.e., no subject was presented two of the same-styled T-shirts.

After the subject chose a T-shirt, the researcher dampened the wrinkled T-shirt on both the front and back with 45 cubic centimeters of water from a spray bottle and explained to the subject...
how this aids ironing. The amount of water was controlled by the number of squirts. Forty-four squirts (23 on the front and 21 on the back) equals approximately 45.16 cubic centimeters of water. (Under the temperature conditions of the study, one cubic centimeter of water equals one gram of water within ± 43 thousandths of a gram) (Nebergall, Holtzclaw, & Robinson, 1980). Immediately before offering the T-shirt to the subject for ironing, the researcher weighed it on an OHAUS dial-o-gram balance, model number 2610. As soon as the subject finished ironing, the researcher again weighed the T-shirt and recorded the weight differences. The more the T-shirt was ironed, the more water evaporation occurred due to the heat of the iron. The assumption was that relatively complete ironing indicates relatively high motivation in the activity.

The quality of the T-shirts was the same for each subject, but the size of the T-shirts presented differed depending on the size of the particular subject. The same equipment was used throughout the study including a non-steam iron that was locked on the same temperature for each subject.

Each T-shirt was silk-screened with one of six sports logos. The sports logos were designed by the researcher and modeled after the logos used by the Michigan State Spartans, the Detroit Wings, the Detroit Pistons, the Miami Dolphins, the Indiana State Sycamores, and the Fighting Irish of Notre Dame. By designing the logos and printing the T-shirts, the researcher was able to control for size and complexity of the sports logos. After the T-shirts were silk-screened, they were wrinkled in a systematic way to ensure that all the T-shirts had approximately the same amount of wrinkling. This involved washing and drying in the same washer and dryer, after which the T-shirts were balled-up and placed inside a cylindrical steel can. A lid small enough to slide down the inside of the can was placed on top of the T-shirts in the can. Twenty-five pounds of weight was placed on top of the lid and
was left there for a 24 hour period.

The dependent variable was the amount of water evaporation due to the ironing process. In an informal pilot study, a medium-size dry T-shirt weighed 54 grams. After dampening the T-shirt, it weighed 92 grams. As soon as ironing was complete (in seven minutes) the T-shirt again was placed on the scale and measured 74 grams. Water loss due to evaporation without ironing was rated at five grams per 30 minutes by placing a dampened T-shirt on the scale and noting its weight at thirty minute intervals. This pilot study demonstrated that there is a considerable amount of water evaporation that is directly related to the ironing process.
RESULTS

A one-tailed t-test for related measures was used. Analysis of the data revealed a significant difference between the choice and no choice conditions, $t(23) = 2.06, p < .05$. The mean amount of water evaporated in the choice condition was 19.8 grams (SD = 11.9) and 16.5 grams (SD = 10.5) in the no-choice condition. The mean difference of water evaporation was 3.25 with a standard deviation of 7.73.

Order effects were tested by comparing the two order groups in terms of the dependent variable at each condition (ironing and no ironing). The t-tests indicated no significant order effects under either condition.
DISCUSSION

The results indicate that, in trainable mentally impaired subjects, having a choice in an activity can be a significant motivator for increased participation in a subsequent activity. When subjects were given the opportunity to choose the T-shirts they wanted, the care they gave those T-shirts was significantly greater than when they were not given a choice. Although the chance existed that during the no-choice condition a subject might receive the T-shirt he would have chosen anyway, the results demonstrate that this inherent problem was overcome. Choice did make a difference. In more than one instance the subject in the no-choice condition indicated a preference for a different shirt. The mentally retarded people in this study demonstrated the ability to make choices and to respond differently when given the dignity of choosing.

Because of repeated failures, people with chronic disabilities cease the initiation of actions that should elicit a sense of mastery in their environment (Burke, 1977). Because this study has shown that the subjects involved were capable of making decisions on their own, it is reasonable to predict that they could do so again at a subsequent time in the course of a normal school day. Furthermore, no matter what the disability, involving the client in the choice making process may have direct implications for clinical practice. When attempting to use a particular activity in the clinic, presenting the client with a choice within that activity may increase that client's motivation to participate in therapy. This may be especially helpful for the client who is less than enthused to be involved with occupational therapy.

More important, however, involving the client with various decisions which yield meaningful changes in his or her environment will provide initiative to that
person to act on his or her own volition, thereby facilitating the development of
dependence on others and at the same time will inspire some well deserved pride and self-confidence. The
development of a client's personal causation can sometimes be the most important goal
of occupational therapy treatment.

No subjects in the study dropped out after the first session. Several factors may
explain this level of involvement. First, the sports related T-shirts were of presumed
value to the subjects, and each subject was able to keep the T-shirt ironed. Second,
when a few T-shirts were distributed, other boys may have seen and wanted them for
themselves. This peer modeling may have accounted for the popularity of some
T-shirts over others. The most popular T-shirt was chosen eight times, and the least
popular was chosen two times (out of 24 total choices).

There were two limitations that may have influenced the scores of certain
individuals; however, neither had any effect on the main results because of the
controls of the research design. The first was that during one of the four days of data
collection, a different room was utilized for the collection of data. Although efforts
were employed to recreate the same "room" conditions, the inherent differences in the
two rooms were unavoidable. The second was that the temperature of the iron could
not be monitored. Although the temperature setting on the iron was locked into place
and efforts were initiated to let the iron warm up adequately, the length of time the
iron remained on may have had some influence. No significant order effects were
detected by the t-tests, and there is no reason to think that either limitation affected one
group more than the other.

This study as well as the LaMore and Nelson (in press) study has shown that
choice in activity does make a significant difference with the mentally retarded clients
involved. Replication of either of these studies would further establish the importance of choice in occupational therapy, especially with this population. Other future research should include various different subject populations. There is a great need for occupational therapy research with subjects having psychiatric disorders, for instance, schizophrenia, mood disorders, or any type of personality disorders. This line of study should also be extended to individuals with physical disabilities as well. Do certain populations benefit more from having a choice in treatment than other populations? Does this phenomenon change with changes in age? Do different types of activities influence the effects of choice? Can the positive effects of choice on other types of activities of daily living be documented or is choice of primary importance in leisure and/or work activities? These questions need attention and examination in order to develop a better picture of this fundamental concept of occupational therapy.
Conclusion

Unfortunately, many institutionalized mentally retarded individuals behave as "pawns" in their interactions with the environment, and quite often this is due to the environment in which the mentally retarded person is located. If these individuals are never allowed the opportunity to make their own choices, then how will they ever experience efficacy or develop a sense of personal causation? This study found that choice in activity is a significant motivator for increased participation by trainable mentally impaired adults in a subsequent activity. This study was the first of its kind to investigate this hypothesis within the context of an activity of daily living with a trainable mentally impaired population. Further research is needed to support the building of a theoretical base upon which occupational therapy practice may be based.
BIBLIOGRAPHY


