

HMOTA Meeting  
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Research Supporting Benefits of Home Modification

Fänge and Iwarsson (2005a) used a longitudinal design to investigate changes in ADL dependence and aspects of home usability among individuals receiving housing modification grants in Sweden. Data were collected on home visits on three occasions, including (a) baseline (no more than 1 month prior to modification), (b) first follow-up (2–3 months after modification completion), and (c) second follow-up (8–9 months later). A total of 131 participants with a mean age of 71 years participated at baseline, 104 participants at first follow-up, and 98 participants at second follow-up. The housing modifications targeted bathrooms, entrances, stairways, and doors (Fänge & Iwarsson, 2005b).

Instruments used included the ADL Staircase, Revised Version (Iwarsson & Isacson, 1997) to measure ADLs and IADLs and the Usability in My Home instrument (Fänge & Iwarsson, 2003) to capture various aspects of usability. Findings revealed no significant changes in overall ADL dependence, but fewer clients were dependent in bathing from first follow-up to second follow-up. Participants also reported that their housing environment supported their daily activities to a greater extent at second follow-up than at first follow-up.

The authors asserted several conclusions about the study results. They attributed the lack of significant change in overall ADL dependence to a lack of statistical power in the study, noting that small changes in ADL performance may not have been detected. Most adaptations targeted the bathtub or shower; this explains the finding that fewer clients were dependent in bathing from first to second follow-up. In addition, Fänge and Iwarsson (2005b) asserted that many participants faced rapid declines in function, and therefore a particular housing adaptation may have been effective only for a short time. Overall, the researchers could have improved the study methodology by using measures that were more sensitive to detecting change in ADL dependence.

Using the same sample and measurement, Fänge and Iwarsson (2005a) investigated longitudinal changes in housing accessibility and usability. Instruments included the Usability in My Home instrument (Fänge & Iwarsson, 2003) and the Housing Enabler (S. Iwarsson, 1999) to examine accessibility problems. They found a significant improvement in housing accessibility, a highly significant decrease in environmental barriers, and an improvement in the physical environmental aspects of usability (Fänge & Iwarsson, 2005a). These studies are relevant to the current study, as they indicate that home modifications can improve independence in ADLs, prevent a decline in occupational performance, and provide a supportive environment for engagement in daily activities.

Niva and Skar (2006) conducted a pilot study to describe the activity patterns of 5 elderly individuals and their views about the accessibility and usability of their homes before and after receiving home modifications. The authors used a single case study design and collected data immediately after assessment for home modification, 5 days after modification, and 10 weeks after modification. Participants were ages 70 to 83 years, with neurological and pain disabilities who lived in their own homes and who had previously been determined to be in need of housing modification. Participants were recruited from a primary health care center in northern Sweden. Instruments used included the Accessibility in My Home questionnaire

(Fänge & Iwarsson, 1999) and the Occupational Questionnaire (Kielhofner, 2002). Results indicated that accessibility improved inside the homes, with scores on the accessibility questionnaire averaging 4.4 on the first rating and 6.7 on the second rating on a scale of 1 to 7, where 1 indicates the *lowest accessibility* and 7 the *highest accessibility* (Niva & Skar, 2006). Accessibility also improved in outside areas, which was rated 3.9 prior to modification and 5.8 after modification. Perceived performance of daily activities also improved. Four participants rated their performance as well and 1 as very well prior to modification; 4 participants rated their performance as very well and 1 as well after modification. Participants also reported a change in activity patterns to include new activities. Although the sample size of this study was small, the results indicate that the ability to carry out daily activities can improve if the home environment is modified to fit the person's needs (Niva & Skar, 2006).

Petersson et al. (2009) used a longitudinal, quasi-experimental, pretest/posttest design to investigate the effects of home modifications on difficulty in daily life for people aging with disabilities. Participants were recruited from a local Agency for Home Modification in Sweden. The sample consisted of 74 participants in the intervention group and 29 in the comparison group. The difference in numbers between the groups is a result of some individuals initially assigned to the comparison group receiving their home modification prior to the end of data collection and therefore were unable to be used as a comparison. Participants were community-dwelling, in need of home modification, and had a mean age of 75 years. The Client–Clinician Assessment Protocol (C–CAP) (Petersson et al., 2009) was the main outcome measure of the study.

The study resulted in two major findings: (a) home modifications can reduce a person's perceived level of difficulty in daily life, and (b) difficulty performing daily tasks increases each month while waiting for implementation of a home modification. A limitation noted in the study is the newness of the C–CAP, although it was considered the best available instrument at the time of the study (Petersson et al., 2009). Even with this limitation, the study provided another piece of evidence highlighting the importance of home modifications for improving occupational performance in daily tasks.

Stark et al. (2009) undertook a study to describe a client-centered occupational therapy intervention program and to examine the impact of that program on daily activity performance over time. The authors used a quasi-experimental design to conduct a single-group pretest/posttest/post-prospective study over a period of 2 years. Lawton's Ecological Model of Aging (Lawton & Brody, 1969) was used as a foundation for the program.

The study was conducted in a naturally occurring retirement community in the St. Louis area. Eighty participants were enrolled in the study using a convenience sample. Due to attrition at each point of data collection, 77 completed the pretest at baseline, 67 participated in the 3-month post-intervention follow-up, and 37 participated in the 2-year follow-up. The mean age of the sample was 81.7 years, with a range of 61 to 95 years. Participants were excluded if they had cognitive deficits. Seventy-five percent of participants lived in a condominium, and 90% reported using an assistive device for mobility.

Outcome measures included (what is now) the In-Home Occupational Performance Evaluation (Stark, Somerville, and Morris, 2010), which includes measures of performance and satisfaction with performance, and the FIM<sup>TM</sup> (UDSMR, 1993). The program used client-centered treatment principles and was designed to improve the fit between the environment and

functional limitations of the individual by reducing environmental barriers. The intervention consisted of assessment by an occupational therapist followed by provision of home modifications, including adaptive equipment, architectural changes, major home renovations, and training in using “compensatory supports and strategies during daily activities” (Stark et al, 2009, p. 239).

The participants identified 719 activities they had difficulty completing and 100 activities they had given up. Through the intervention, the authors were able to address an average of 3.9 problems per participant. Satisfaction improved significantly from baseline to the first follow-up and decreased slightly from the first follow-up to the 2-year follow-up. Performance also significantly increased from baseline to the time of first follow-up, with no change noted from first follow-up to the 2-year follow-up. Functional independence, as determined through the FIM (UDSMR, 1993) score, increased significantly from baseline to the first follow-up. These results indicated that older adults who are aging-in-place could improve their functional independence and satisfaction with their occupational performance through the implementation of home modifications.

As illustrated in the previous studies, the implementation of home modifications can result in changes to the lives of older adults. These changes include improvements in perceived abilities, functional independence, increased participation in daily activities, and an increase in patterns of occupational performance. The researchers also highlighted the importance of a good fit between the environment and the older adult to facilitate successful aging-in-place. Relevant to the current study, these findings indicate that through proper pre-planning and attention to person–environment–occupation fit, well older adults can prevent home accidents and improve their chances for successfully aging-in-place.

Previous information from:

Kathleen Subasic. (2014). Planning for the future : A grounded theory study of well older adults' decision-making regarding home modifications. Doctoral dissertation. Nova Southeastern University. Retrieved from NSUWorks, College of Health Care Sciences – Occupational Therapy Department. (32)  
[http://nsuworks.nova.edu/hpd\\_ot\\_student\\_dissertations/32](http://nsuworks.nova.edu/hpd_ot_student_dissertations/32).

## **Understanding home modifications impact on clients and their family's experience of home: A qualitative study**

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## **Abstract**

### **Background/aim**

Home modifications aim to enhance safety and occupational performance in the home. However, given the complexity and unique meaning of the home, they can impact aspects other than function. This qualitative descriptive study aimed to explore the impact of home modifications on clients and their family's experience of home.

### **Methods**

Home modification clients and their family and carers participated in 42 in-depth interviews which were analysed using a template analysis.

### **Findings**

Home modifications impacted positively and negatively on five dimensions of the home environment, the personal, occupational, physical, temporal and social dimension. The outcomes of the modifications and the home modification process were influenced by three themes, workmanship, consultation or involvement in decision-making, and the societal dimension of the home environment.

### **Conclusions**

The negative outcomes and poor consultation experiences suggest the need for occupational therapists to understand their client's personal experience of home and to comprehensively follow-up and evaluate these following home modifications.