

# **The Impact of Occupational Therapy Home Modifications on Clients' Perceptions of 'Home'**

**Tran Ngo**

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## **Background**

The home is a deeply personal environment, and physical barriers within it can hinder valued roles and meaningful occupations for older adults and individuals with disabilities (Tamm, 1999). Occupational therapists (OTs) assess home environments, identify barriers, and provide personalised recommendations for modifications to improve accessibility and safety for individuals with disabilities or age-related challenges, enabling them to live independently and comfortably in their homes (De Coninck et al., 2017). Home modifications can include rails, ramps, wider doorways, non-slip flooring, bathroom modifications, bedroom modifications, and home entryway modifications. Home modifications offer a solution, with numerous quantitative studies showcasing their positive impact on participation, functional ability, fall reduction, and caregiver outcomes (Chase et al., 2012). However, qualitative research has illuminated broader, personal outcomes, including increased participation in meaningful activities and impacts on autonomy, control, self-image, and dignity (Petersson, Lilja & Borell, 2012). These studies reveal that home modifications not only affect the physical home environment but also have social and emotional implications (Petersson, Lilja & Borell, 2012). Furthermore, research on home modifications have also underscored the influence of modifications on the experience of home as a place of personal significance and meaning, with reports that the clinical and sterile appearance of modifications affecting individuals' perception of 'home' (Wright, Zeeman & Whitty, 2017). 'Home' can be understood as comprising three key facets: the physical space of a dwelling, the relationships within it, and the personal sense of identity and belonging associated with that place (Tamm, 1999).

Extensive research has examined the favourable and unfavourable effects of occupational therapy (OT) home modifications within the home environment. However, to date there are no systematic reviews highlighting the impact of these modifications on clients' perceptions of 'home.' Therefore, the primary objective of this systematic review is to systematically investigate and analyse the impact of OT home modifications on clients' perceptions of 'home'. Table 1 outlines the PICo components.

**Table 1: PICO**

<b>Population</b>	Clients who have had OT home modifications
<b>Interest</b>	Perceptions of 'home' after receiving OT home modifications
<b>Context</b>	Home environment

**Method**

Four health focused databases were used to obtain relevant studies, these included Medline, Emtree, Embase, and PsycINFO. To identify relevant studies, the following search terms were used with truncation: (Client\* or Patient\*) AND (Occupational therapy or OT or Home modification\*) AND Perception\* AND Home. Grey literature was also used to minimise publication bias. Limits to only qualitative studies were in place as this review explores perceptions. Table 2 identifies the inclusion and exclusion search criteria.

**Table 2: Inclusion and Exclusion criteria**

	<b>Inclusion</b>	<b>Exclusion</b>
<b>P</b>	All ages, all conditions, all types of OT home modifications (minor and major)	Home modifications not from OT input
<b>I</b>	All first-hand descriptions of client's perceptions of 'home' after having OT home modifications. Qualitative studies	Not first-hand experience. Quantitative and mixed methods studies.
<b>Co</b>	Rental or owned home. Living alone or with other people.	Residential aged care facilities.

**Results of Search**

Three studies were identified as appropriate for the review. All databases were searched, along with grey literature, and then transferred into Covidence for screening. Screening was independently completed by the reviewer. There were initially 335 studies for screening, 65 duplicates were identified and removed. The remaining 270 studies were screened for eligibility using the inclusion and exclusion criteria (Appendix B: PRISMA Flowchart). Following this, three studies were identified as suitable for this review (Table 3).

**Table 3: Included Studies**

<b>Author, Date of Publication</b>	<b>Title</b>
Tanner, Tilse & de Jonge (2008)	Restoring and Sustaining Home: The Impact of Home Modifications on the Meaning of Home for Older People
Aplin, de Jonge & Gustafsson (2015)	Understanding home modifications impact on clients and their family's experience of home: A qualitative study
Ainsworth et al. (2022)	Understanding home modifications outcomes from the perspective of older people and people with a disability: informing home modification evaluation

The methodological quality of the included studies was assessed utilising the McMaster Critical Review Form for Qualitative studies (Letts et al. 2007). This critical appraisal tool was chosen as it is specific to qualitative studies, easily accessible and commonly used for OT literature. Studies were independently appraised by the reviewer.

### **Results of Data**

Initially the results for all three selected studies were analysed independently (Table 4) and then all results were synthesised together to provide an overarching view of the research findings. All three studies were conducted in Queensland, Australia. The ages of participants varied between studies, Tanner, Tilse & de Jonge (2008) focused on older adults aged between 60-90. While Aplin, de Jonge & Gustafsson (2015) and Ainsworth et al. (2022) focused on participants of variable ages between 25-80+. Furthermore, all three studies focused on a wide variety of home modifications from minor modifications such as grab rails and handrails, to more major modifications such as bathroom renovations, ramps, and stairs installed (Tanner, Tilse & de Jonge, 2008; Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022).

**Table 4: Description and Results from the Included Studies**

Study & Design	Objective	Sample Size & Location	Age (years)	Method Used	Findings & Key Themes	Conclusion & Clinical Implications
Tanner, Tilse & de Jonge (2008) Study design: phenomenology	“To deepen understandings of the subjective world of older people in relation to their home and the impact home modifications have on this world”	12 participants (4 M, 8 F) who had received home modifications in the previous 3-6 months. Metropolitan Queensland, Australia	60-90	Semi-structured interviews	<p>POSITIVES:</p> <ol style="list-style-type: none"> <li>Home mods restoring home as a place of safety, comfort and independence.</li> <li>Reduced reliance on household members resulting in improved relationships within the home.</li> <li>Home becoming a forever home. Home mods made clients feel well prepared for the future and reduced likelihood of needing to move.</li> <li>When home mods were made with client’s input, they felt a sense of control and personal ownership – therefore resulting in more positive outlooks.</li> </ol> <p>NEGATIVES:</p> <ol style="list-style-type: none"> <li>Builder’s attitudes setting a negative lens on home mods. <i>“When the ramp was finished, the builder with a really loud voice called out “this is now a disability house!” really loudly - the whole street would have heard”</i></li> <li>‘Loss’ of old home and disruption to routine and habits due to modification design.</li> </ol>	Modifications made to the physical living space with the aim of enhancing functionality and accessibility may inadvertently compromise the essence of "home." Concerns expressed by individuals involve their degree of involvement and authority in deciding on alterations to their living environment and the vital aspect of ensuring that any proposed changes cater to their specific requirements.
Aplin, de Jonge & Gustafsson (2015) Study design: phenomenology	“To explore the impact of home modifications on clients and their family’s experience of home”	55 participants (23 M, 30 F) who has received two home modification services within the last 2 years. Metropolitan Queensland, Australia	25-87	Semi-structured interviews	<p>POSITIVES:</p> <ol style="list-style-type: none"> <li>Enhanced safety, reduced anxiety</li> <li>Increased independence; being able to shower when they wanted to, rather than when their family member was present</li> <li>Some clients were not worried about the appearance of their homes, valuing their homes as practical and functional places.</li> <li>Sense of permanency. Home was now a home for life.</li> </ol>	The negative outcomes and poor consultation experiences suggest the importance of OTs gaining insight into their clients' individual home experiences and conducting

					<p>5. Future resale value of house had been improved because of home mods.</p> <p>6. Unexpected value of home mods for visitors. <i>“I have a granddaughter who is in a wheelchair, and she came and stayed with me for a fortnight and she found she coped well. She said “your bathroom is terrific, nana””</i>.</p> <p>NEGATIVES:</p> <ol style="list-style-type: none"> <li>1. Appearance of home mods made their home look ‘disabled’ or ‘like a hospital’</li> <li>2. Negative impact to the general ‘ambience’ of the home</li> </ol>	<p>thorough follow-up assessments and evaluations after home modifications.</p>
<p>Ainsworth et al. (2022)</p> <p>Study design: phenomenology</p>	<p>“To investigate the home modification experience and outcomes most valued by older adults and individuals with disability”</p>	<p>20 participants (7 M, 13 F) who had received major home modifications within the last 2 years.</p> <p>Metropolitan and Rural Queensland, Australia</p>	<p>24-80+</p>	<p>Semi-structured interviews</p>	<p>POSITIVES:</p> <ol style="list-style-type: none"> <li>1. Enabling clients to experience a rich and full life within the home and community – physical and emotional health.</li> <li>2. Reduced carers’ stress due to client having increased independence and safety in the home</li> <li>3. Home mods were valued if they did not look clinical and matched with the current home décor.</li> <li>4. Clients felt reassured that if their needs changed, their house could meet these demands.</li> </ol> <p>NEGATIVES:</p> <ol style="list-style-type: none"> <li>1. <i>“You don’t want your house to be a disabled house – but it is a disabled house”</i></li> <li>2. Clients believed that society thinks home mods represent ageing and disability – thus not wanting home mods done to the front of house, prefer back of house where the public cannot see.</li> </ol>	<p>The findings highlight the need for OTs to gain a profound understanding of their clients' home and life experiences as an initial and vital component of the home modification process.</p>

## Discussion

This systematic review aimed to understand the impact of OT home modifications on clients' perceptions of 'home'. The findings shed light on the multifaceted impact of OT home modifications, presenting both positive and negative dimensions that hold significant implications for the field.

All three studies suggested that there was a combination of positive and negative impacts that home modifications have on clients' perception of 'home' (Tanner, Tilse & de Jonge, 2008; Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022). Regarding positive impacts, clients reported an increased sense of safety, independence (Tanner, Tilse & de Jonge, 2008; Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022), and permanency in their current home (Tanner, Tilse & de Jonge, 2008; Aplin, de Jonge & Gustafsson, 2015). It was also reported that there was a noticeable reduction in carers' stress and reliance on family members to support their daily routines (Tanner, Tilse & de Jonge, 2008; Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022).

*"It's great, just great. They put grab rails all around...it's safer and more convenient too. It's much more comfortable"* (Tanner, Tilse & de Jonge, 2008).

*"...I don't mind going and having a shower if I'm here by myself now, because I feel a lot safer with it"* (Aplin, de Jonge & Gustafsson, 2015).

A commonly identified theme regarding positive outcomes of home modifications was that there was an increased sense of security and independence (Tanner, Tilse & de Jonge, 2008; Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022). For older adults and individuals with disabilities, increasing independence and security within their home is of paramount importance (Pettersson, Lilja & Borell, 2012). Their home represents a sanctuary where they can retain a sense of autonomy and control over their lives. Home modifications that enhance their independence empower them to manage daily activities without relying on external assistance, allowing them to decide when and how they want to perform tasks. This autonomy is vital for maintaining a sense of control over their lives (Stones & Gullifer, 2016).

Additionally, enhanced security and safety within their home mitigate the risk of accidents and falls, reducing anxiety about potential injuries or emergencies (Pettersson, Lilja & Borell, 2012). Feeling secure within their home environment allows them to focus on living independently and enjoying life. Home modifications also play a crucial role in preserving their sense of identity and personal history, as many individuals have lived in their homes for extended periods, filling these spaces with memories and experiences. The fear of losing this connection can be emotionally distressing (Pettersson, Lilja & Borell, 2012). Moreover, emotional well-being is closely tied to the feeling of independence and security at home. It reduces stress, anxiety, and feelings of helplessness, allowing them to maintain a positive outlook and engage in meaningful activities (Toder Alon, Bareket-Bojmel & Shuv-Ami, 2023).

Understanding how home modifications influence these aspects is crucial for OTs to provide effective care and support for older adults in maintaining their independence and quality of life.

On the other hand, negative impacts include disruption to their daily routines and habits, and the appearance of home modifications making their homes look “disabled” and “like a hospital” (Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022). Clients also reported that due to society viewing home modifications as relating to ageing and disability, this often made them feel self-conscious and embarrassed about their home (Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022).

“You don’t want your house to be a disabled house – but it is a disabled house” (Ainsworth et al., 2022).

“When the ramp was finished, the builder with a really loud voice called out “this is now a disability house!” really loudly - the whole street would have heard” (Tanner, Tilse & de Jonge, 2008).

It is essential to acknowledge the negative aspects identified in this review. A commonly identified theme was that the appearance of modifications can at times lead to the stigmatisation of the home as disabled or hospital-like (Tanner, Tilse & de Jonge, 2008; Aplin, de Jonge & Gustafsson, 2015; Ainsworth et al., 2022). While these modifications serve a functional purpose, they can alter the aesthetics and ambiance of the home, causing individuals to perceive it as less homely. This aesthetic impact can affect their sense of identity and well-being, potentially leading to negative emotional outcomes (Hawkins & Stewart, 2002). Additionally, the fear of being labelled as "disabled" may deter some individuals from pursuing necessary home modifications, even if they would greatly benefit from them (Wright, Zeeman & Whitty, 2017). These findings underscore the need for a holistic approach to home modifications that not only address functional needs but also consider the emotional and social well-being of the occupants. Balancing functionality with aesthetics and minimising stigmatisation is a complex challenge that should be a focal point for future research and practice in the field of OT.

### ***Strengths and Limitations***

All three studies in this review employed purposive sampling, which enhanced the relevance of their findings to the phenomenon under investigation. Moreover, they consistently demonstrated procedural rigor in data collection methods, and all studies exhibited all four elements of trustworthiness.

Only a singular method of data collection, semi-structured interviews, was employed across all studies, which may limit the breadth of data collected and the perspectives considered. Additionally, the temporal aspect of data collection varied across studies; only Ainsworth et al. (2022) conducted follow-up interviews after a 6-month interval, while the other two studies relied solely on a single interview. This disparity may introduce potential bias and impact the trustworthiness of findings. Moreover, demographic information was only provided by Aplin, de Jonge & Gustafsson (2015) and Ainsworth

et al. (2022), Tanner, Tilse & de Jonge (2008) provided only basic demographic details such as age and gender. Also, Tanner, Tilse & de Jonge (2008) exclusively focused on clients who had received home modifications within 3-6 months, which elicits concerns about the adequacy of this timeframe for participants to fully experience and assess the impact of such modifications. Lastly, the extent of the home modifications also differed between minor and major modifications further impacting the perceptions of participants.

The review only included English language studies. There was also only a small number of studies appropriate for inclusion and all studies were conducted in Queensland Australia, therefore a true representation of the phenomenon may not have been attained and the findings cannot be generalised. Lastly, only one reviewer undertook this review which may have created bias.

In conclusion, the findings of this systematic review underscore the intricate interplay between the physical changes brought about by home modifications and the emotional and psychological well-being of clients. While there are evident positive impacts, it is imperative to consider and address the negative dimensions to provide comprehensive and client-centred OT services in the realm of home modifications.

### **Clinical Bottom Line**

This review demonstrates the importance for OTs to gain insight into their clients' individual home experiences, and to understand that home modifications can have both positive and negative impacts on clients. Positive impacts include an increased sense of safety, independence, and permanency in their home. Negative impacts include disruption to routines and habits, and changes to the general appearance and ambience of the home. Home modifications should be made alongside the client, based on their unique needs and preferences, with the aim of enhancing functionality and accessibility without taking away the essence of 'home'.

Disclaimer: This report was prepared by a graduate-entry student as part of assignment purposes



## Reference List

- Chase, C. A., Mann, K., Wasek, S., & Arbesman, M. (2012). Systematic review of the effect of home modification and fall prevention programs on falls and the performance of community-dwelling older adults. *The American Journal of Occupational Therapy*, 66(3), 284-291.
- De Coninck, L., Bekkering, G. E., Bouckaert, L., Declercq, A., Graff, M. J. L., & Aertgeerts, B. (2017). Home- and Community-Based Occupational Therapy Improves Functioning in Frail Older People: A Systematic Review. *Journal of the American Geriatrics Society (JAGS)*, 65(8), 1863–1869.
- Hawkins, R., & Stewart, S. (2002). Changing rooms: the impact of adaptations on the meaning of home for a disabled person and the role of occupational therapists in the process. *British Journal of Occupational Therapy*, 65(2), 81-87.
- Letts, L., Wilkins, S., Law, M., Stewart, D., Bosch, J., & Westmorland, M. (2007). 'Critical Review Form - Qualitative Studies (Version 2.0)', McMaster University, viewed 5 October 2022, <[https://www.unisa.edu.au/contentassets/72bf75606a2b4abcaf7f17404af374ad/7b-mcmasters\\_qualreview\\_version2-01.pdf](https://www.unisa.edu.au/contentassets/72bf75606a2b4abcaf7f17404af374ad/7b-mcmasters_qualreview_version2-01.pdf)>.
- Petersson, I., Lilja, M., & Borell, L. (2012). To feel safe in everyday life at home—a study of older adults after home modifications. *Ageing & Society*, 32(5), 791-811.
- Stones, D., & Gullifer, J. (2016). 'At home it's just so much easier to be yourself': older adults' perceptions of ageing in place. *Ageing & Society*, 36(3), 449-481.
- Tamm, M. (1999). What does a home mean and when does it cease to be a home? Home as a setting for rehabilitation and care. *Disability and Rehabilitation*, 21(2), 49-55.
- Toder Alon, A., Bareket-Bojmel, L., & Shuv-Ami, A. (2023). The relationship between perception of care, sense of security, and subjective psychological well-being among older adults living in sheltered housing vs. independent housing in Israel. *Journal of Aging and Environment*, 37(2), 142-161.
- Wright, C. J., Zeeman, H., & Whitty, J. A. (2017). Design principles in housing for people with complex physical and cognitive disability: Towards an integrated framework for practice. *Journal of Housing and the Built Environment*, 32, 339-360.

# Appendix

## Appendix A: Medline Search

Search History (10) ^		View Saved			
<input type="checkbox"/> # ▲ Searches		Results	Type	Actions	Annotations
<input type="checkbox"/> 1	(client* or patient*).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]	8610503	Advanced	Display Results More ▾	
<input type="checkbox"/> 2	(occupational therapy or OT).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]	50549	Advanced	Display Results More ▾	
<input type="checkbox"/> 3	Occupational Therapy/	14962	Advanced	Display Results More ▾	
<input type="checkbox"/> 4	home modification*.mp.	316	Advanced	Display Results More ▾	
<input type="checkbox"/> 5	perception*.mp.	531956	Advanced	Display Results More ▾	
<input type="checkbox"/> 6	perception*.mp. or Perception/	531956	Advanced	Display Results More ▾	
<input type="checkbox"/> 7	home.mp.	309105	Advanced	Display Results More ▾	
<input type="checkbox"/> 8	2 or 3 or 4	50794	Advanced	Display Results More ▾	
<input type="checkbox"/> 9	5 or 6	531956	Advanced	Display Results More ▾	
<input type="checkbox"/> 10	1 and 7 and 8 and 9	60	Advanced	Display Results More ▾	

Combine with:

## Appendix B: PRISMA Flowchart

