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AS WE AGE:

Maintaining Independence IN THE KITCHEN

RESEARCH REPORT

A Human-Centred Investigation into the Challenges and Design Opportunities for Adaptive Products for Older Adults

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Executive Summary

Kitchen tasks are central to daily independence in life, yet they become increasingly more difficult as we grow older. Changes in strength, dexterity, coordination and confidence do not just simply make cooking harder, but can compromise safety, autonomy, and emotional well-being; leading individuals to avoid tasks they once performed with ease. Those with reduced hand mobility, grip strength, or fine motor control are particularly vulnerable to losing this independence in the kitchen. As even simple actions such as lifting cookware, opening containers, and preparing food can become physically demanding or unsafe.

Current assistive kitchen tools fall short, not adequately addressing these challenges and needs of the user. Many of them can be uncomfortable and difficult to use, clinical in appearance, or designed for a single task rather than a broader system of difficulties that older adults may face. As a result, these products fail to support any long-term independence and fully integrate into the domestic kitchen environment in a way that preserves dignity and confidence.

Through surveys, interviews and in-home observations consistent patterns of challenges emerge. These patterns include tasks requiring substantial force, unstable movements, compensatory workarounds, and emotional responses such as frustration, embarrassment and fear of injury. By analysing these themes, this research report seeks to investigate if a more adaptive, modular and most importantly human centred product/system can be developed to better support the independence of older adults in their kitchens as their physical capabilities change.

AI Use Statement:

I have utilised Generative AI tools, including ChatGPT and Gemini, to assist in various ways throughout this project. These include:

- Assisting in sourcing relevant research materials within the background and benchmarking research.
- Analysing large bodies of text to assist with the interpretation of key findings and data, including locating relevant information within texts.
- Information identified through AI was regularly cross-referenced against the original sources to verify its accuracy, truthfulness and authenticity.
- Assisting with editing, grammar and structure to improve the clarity, conciseness and cohesion of written content.

Design decisions, research findings, analysis, interpretations and final outcomes were independently developed and remain the responsibility of the author. AI was not used as a substitute for primary research or participant responses.

Authenticity Statement:

This is to certify that to the best of my knowledge, the content of this report is my own work. This report has not been submitted for any subject or for other purposes.

I certify that the intellectual content of this report is the product of my own work and that all the assistance received in preparing this report and sources have been acknowledged.

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Introduction

The ability to navigate the kitchen and manipulate tools to prepare food is critical to the independence and identity of a person. However, as people grow older, natural changes in physical ability begin to reshape how these everyday routines and tasks are experienced. Declining strength, reduced dexterity, diminishing grip force and slower motor reactions lead to the transformation of formerly simple tasks into physically difficult and challenging experiences. These changes in physical capabilities do not occur suddenly, often developing slowly and unnoticed, until certain tasks become too difficult for an individual to perform without requiring assistance. This shift for many represents more than just a physical challenge, it also signals a loss in confidence, dignity, and control within a space which is central to life at home.



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The importance of the projects' focus of kitchen independence is because it directly relates to health, well-being, and quality of life. Cooking is an integral part of our lives, and the ability to safely and comfortably perform kitchen tasks supports nutrition, social participation, and emotional resilience. In cases of physical limitations, older adults may avoid certain tasks, need to rely on others, or develop workarounds which can be unsafe. Existing kitchen tools and assistive products often fail to address these needs, either requiring high force, precise coordination or presenting clinical aesthetics that discourage use.

This research aims to understand how age related changes in strength, dexterity and motor control affect kitchen practices, identify the challenges faced by older adults, and explore opportunities for adaptive, human centred product design. By examining existing tools, observing real behaviours and analysing lived experiences, the project seeks to highlight the intersection of ageing, accessibility and design, and propose areas of focus for meaningful innovation.

Background

Ageing brings gradual but meaningful changes to the physical capabilities that support everyday independence. Declines in strength, dexterity, sensation and coordination accumulate over time, reshaping how routine domestic tasks are experienced. Sarcopenia, the age related loss of muscle mass and strength, reduces grip force and makes sustained or forceful hand use more difficult (Papadopoulou, 2020). As grip and forearm strength decline, tasks such as opening jars, lifting pans or stabilising food while cutting begin to require more effort, concentration and caution. Reduced grip strength is strongly associated with greater dependence in daily activities among older adults (Wearing et al., 2018). Hand osteoarthritis further compounds these difficulties, limiting functional ability and affecting a large proportion of older adults (Zhang et al., 2002).

Ageing also affects the precision and confidence with which the hands interact with objects. Proprioception declines, reducing the ability to judge position and pressure accurately, while fine motor movements become slower and less controlled (Van de Winckel et al., 2017; Frolov et al., 2020). As a result, kitchen interactions that were once effortless can become uncertain or risky, prompting older adults to slow down, concentrate more intensely or develop improvised workarounds. These changes do not occur in isolation; they collectively transform how everyday products are perceived and used.

Research consistently shows that kitchens amplify these challenges. High force tasks such as opening jars, lifting cookware and cutting firm foods are frequently reported as difficult (Maguire et al., 2014). Poorly considered furniture, work surfaces and lighting can further hinder safe and comfortable use (Hrovatin et al., 2012). These findings point to a broader issue: most kitchens and kitchen tools are designed around younger, stronger bodies and do not reflect the changing needs of their ageing occupants.

The consequences extend beyond physical inconvenience. The kitchen is closely tied to routine, identity and self sufficiency, meaning that difficulty performing familiar tasks can feel like a loss of autonomy rather than a minor frustration. Autonomy and choice are central to dignity in later life (Black & Dobbs, 2014), and independence is shaped by the interaction between physical ability, environment and perceived control (Wang et al., 2026). Fear of injury is a well established predictor of activity avoidance among older adults (Bertera & Bertera, 2008), suggesting that even mild difficulty can lead to reduced engagement.
Design therefore must support capability without signalling frailty. Assistive products that appear “medical” or disability specific are often rejected due to stigma, even when functionally effective (Parette & Scherer, 2004). The opportunity is not simply to accommodate weaker hands, but to create kitchen interactions that remain natural, confident and dignified as abilities change. This project addresses the gap between physiological ergonomics and the lived emotional experience of managing decline at home, aiming to preserve independence rather than remind users of its loss.

Benchmarking

Existing assistive kitchen products

A wide range of assistive and ergonomic products already exists to address specific kitchen-related difficulties experienced by older adults. As indicated by a recently completed scoping review synthesising 78 studies in health, human factors and design fields, the vast majority of work in the field of kitchen ergonomics has been task-oriented rather than around the kitchen as an integrated system of use (Chen et al., 2024). This approach has led to very efficient problem solving, but at the same time it has made it difficult to develop a unified and consistent system in response to age-related changes. Figure 2 shows six types of products mapped against the core kitchen problems discussed in the Background: force and grip, stability, reach, precision cutting, two-handed pouring, and fine manipulation.

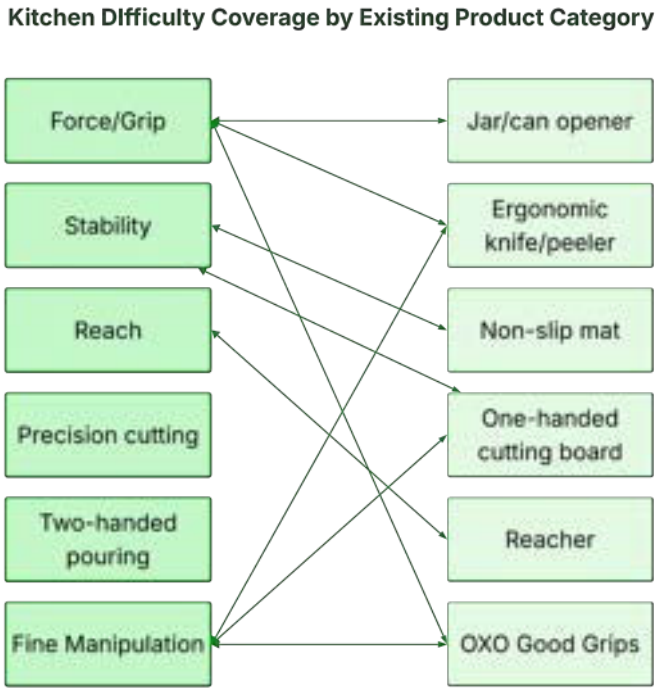


FIgure 1: Coverage of core kitchen difficulties by existing product category

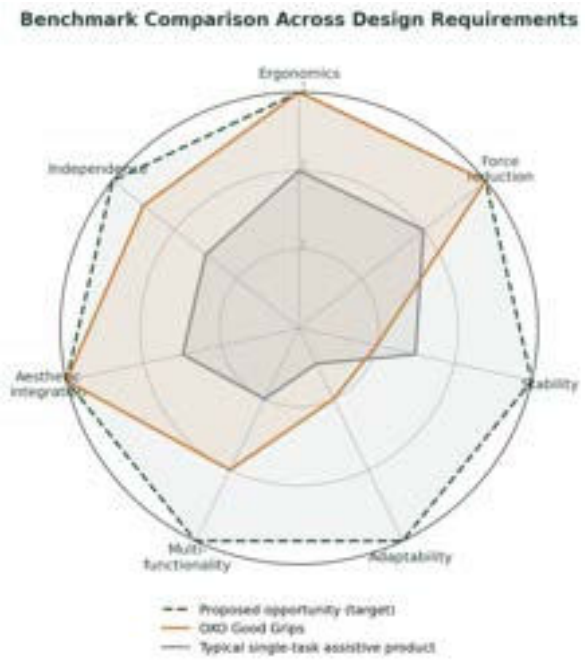


FIgure 2: Benchmark comparison of a typical single-task assistive product, OXO Good Grips, and the proposed design

Product Benchmark

To compare these types of products accurately, six representative products were evaluated on six criteria: reduction of force, adaptability to dexterity, stability, multi-functionality, adaptability, and domestic aesthetics. The last row of Table 1 is the level that the proposed design opportunity aims to achieve and is included for comparison only.

The Benchmarking matrix confirms the fragmentation already visible in Figure 2: jar openers and ergonomic peelers reduce force but offer no stabilisation; non-slip mats and one-handed boards stabilise but do little for force or dexterity; and the reacher, while extending reach, remains visually coded as a disability aid, a presentation the literature links to stigma and reduced uptake regardless of function (Parette & Scherer, 2004).

Product	Force reduction	Dexterity accommodation	Stability	Multi-functionality	Adaptability	Domestic aesthetic
	•••	•	–	•	–	••
	•••	••	–	•	–	•••
	–	–	•••	••	•	•
	•	••	•••	••	•	••
	••	•	–	•	•	•
	•••	•••	•	••	•	•••
Proposed opportunity (target)	•••	•••	•••	•••	•••	•••

Table 1: Benchmarking matrix of kitchen assistive products (• low, •• moderate, ••• strong, – not addressed).

Successful Mainstream Ergonomic Design

OXO's Good Grips range is the clearest case of ergonomic design succeeding commercially. Developed after its founder saw his wife struggle with a standard peeler because of arthritis, its larger, softer handle distributes grip force more evenly and was analysed by McAdams and Kostovich (2011) as a benchmark of universal design: engineered for reduced strength or dexterity, yet ultimately preferred by the general market too. But Good Grips remains a range of individual hand tools; strong on force reduction, dexterity accommodation, and aesthetic, it does not extend to stability, coordination, or system-level adaptability.

The Market Gap and Opportunity Analysis

Across the benchmarking process, there is a definite and consistent market gap that is found. Current assistive devices focus on specific challenges, such as reduced force, better grip, stabilization of surface, or increasing reach range, but there is no device which incorporates all of these features within one unit, considering multidimensionality of aging related issues. This lack of product type is not just a matter of non-existing device, but of non-existing combination of capabilities: an integrated system that would provide physical adaptation as well as flexibility, multifunctionality and dignified design.

Research

This research investigates how older adults experience physical, behavioural and emotional difficulty in the kitchen, and how these experiences shape their independence, confidence and daily routines. Because kitchen tasks often involve subtle compensatory movements, habitual workarounds and emotionally sensitive decision making, the study uses qualitative methods capable of capturing both what older adults do and how they feel about those actions. The goal is to build grounded evidence that reflects the lived experience and directly informs the design opportunities and implications identified in Section 3.

Ethical considerations follow QUT Ethics Approval 11424. All survey respondents provided tick-box consent after reading the participant information sheet and consent form, both linked within the survey. Interview participants were recruited only from those who had already consented and opted in to further contact, with verbal consent to record reconfirmed at the start of each interview. Participants are referred to by first name, consistent with the low-sensitivity and non-clinical nature of the study.

Methodology Overview

The main component of this research process is the collection of primary quantitative and qualitive data through a combination of semi-structured interviews and online surveys. Participants were recruited through local outreach to retirement villages in the local Brisbane area, personal networks, and snowball referrals using emails and flyers (see image right). An online survey provided structured, comparable data on demographics, task-specific difficulty and self-developed coping strategies across a wider group of participants. Semi-structured interviews then explored these experiences in detail, allowing participants to describe specific moments of difficulty, the strategies they use to manage them and the emotional impact of declining capability. In-person observations were originally planned to complement these methods by capturing physical behaviours participants may not consciously report, but scheduling constraints and location issues prevented observations from being conducted. The findings presented in this report therefore draw on survey and interview data only.

Planned Observations (Not Conducted)

Observation was included in the original research design to capture physical behaviours participants may not consciously report, such as compensatory movements, stabilisation strategies or improvised tool use. Only two survey respondents indicated they would be comfortable with an in home session, and both lived outside the Brisbane metropolitan area. The one Brisbane based participant approached for observation was unable to schedule a session within the available timeframe. Observation was therefore removed from this phase.

SURVEYS

Structured data was collected using an online survey via Google Forms, from a total of 19 respondents. The 15-question survey covered age, living situation, frequency of kitchen use, difficulty with specific kitchen tasks, perceived causes of difficulty, and strategies or tools used to manage these challenges. Participants were also asked whether they were interested in taking part in a follow-up interview or observation session.

The survey provided an initial overview of the kitchen-related challenges experienced by older adults and identified common difficulties faced such as opening jars, handling cookware, cutting food, and accessing high or low storage. This information was helpful in establishing which areas needed more examination through interviews.

Accessibility and the privacy of the participants were also kept in mind during the survey construction process. The use of multiple-choice questions, check box, Likert scale, and short answer questions provided options for the participants to respond in various ways while keeping completion relatively straightforward. Written responses were made optional where questions could involve personal or sensitive information, and no invasive or directly identifiable information was collected. As participation was restricted to people aged 65 years and over, age ranges also allowed eligibility to be confirmed without requiring participants to provide their exact age.



Figure 3: Recruitment Flyer

INTERVIEWS

Semi-structured phone interviews were conducted with three survey respondents who volunteered for further participation in the study. The interviews followed a similar structure to the survey but allowed responses to be expanded upon by open-ended questioning. This allowed the participants (aged 82, 86 and 87) to describe specific instances of difficulties faced in the kitchen with detail, explaining how they have adapted techniques over time. It also allowed for the reflection of the emotional dimensions of these challenges, such as frustration, caution, embarrassment or loss in confidence.

Each interview began by revisiting the participants survey responses, using them as prompts for deeper discussion. For example, if a participant had rated 'opening jars' as difficult, the interview could further explore how they approached the task, if they used any tools or workarounds, or whether they avoided the task entirely, and how they felt attempting it. This approach allowed for immediate probing of relevant issues, ensuring continuity between the two methods.

Phone interviews were chosen by participants for accessibility and comfort. Several participants lived outside the greater Brisbane region while others preferred not to host an in-home interview session. Despite the absence of observational data, the interviews provided rich insight into the physical and emotional strategies older adults use to maintain independence in the kitchen.

Analysis & Findings

A combination of qualitative and quantitative analysis methods was used to triangulate and interpret the key themes emerging from the survey and interview data described in the previous section.

Analysis Method

Data was analysed using reflexive thematic analysis (Braun & Clarke, 2006): familiarisation, coding, theme generation, review, and naming. Six categories were used, five specified in advance from the research map in Section 2 and one, Desired Features / Design Preferences, added inductively once a recurring pattern of concrete feature requests emerged. Each category was broken down into codes and sub-codes rather than a single flat label, so that every open-text response and interview extract was tagged to a specific, tallied pattern; the full coding table is in Appendix 1, and Figures 4 visualises the resulting structure.

Survey Analysis

Kitchen & Independent Living Research ····· Community-Dwelling Perspective

19 Responses — Older Adults Living Independently or with Family

Data was collected from 19 respondents to the Kitchen & Independent Living Research survey, a Google Forms instrument distributed to community-dwelling older adults. The survey combined closed demographic and task-difficulty questions with an 18-item Likert-scale kitchen experience assessment and an open-ended reflection question, intended to capture both the frequency and the lived texture of kitchen-related difficulty.

Limitations

Recruitment combined outreach to local Brisbane-area retirement villages with personal networks and snowball referral from completed interviews, rather than a single random or stratified sample. The resulting sample may skew toward more socially engaged older adults rather than the full diversity of the target population, and all responses are self-reported and were not independently verified.



Figure 4: Sunburst Graph - Coded Mentions by Category and Code

Task-Specific Difficulty

Survey data from the question "Which kitchen activities do you find most difficult?" identified opening jars, containers, and packaging as the most frequently selected activity, named by 68.4% of respondents, followed by reaching or retrieving items (57.9%) and carrying food, dishes, or cookware (42.1%). Other activities, including cutting, peeling, and using appliances, were each named by fewer than a third of respondents (see Figure 5).

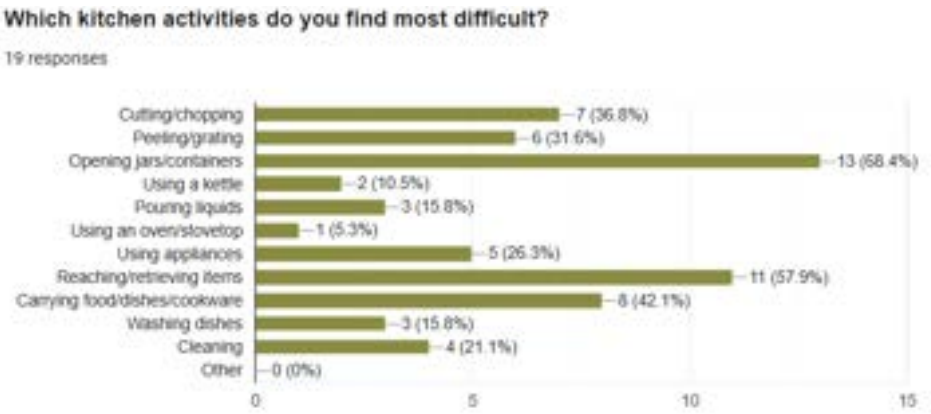


Figure 5: Excerpt from google forms survey

Kitchen Experience Ratings

The 18-item Kitchen Experience Assessment reinforced this pattern at a finer grain. The single highest-agreement statement was "I find it difficult to open some jars, containers, or packaging" (84.2% strongly or somewhat agree), followed closely by "the way items are stored affects how easily I can complete kitchen tasks" (89.5%) and "I have developed my own ways of doing certain kitchen tasks to make them easier" (84.2%) (see Figure 6).

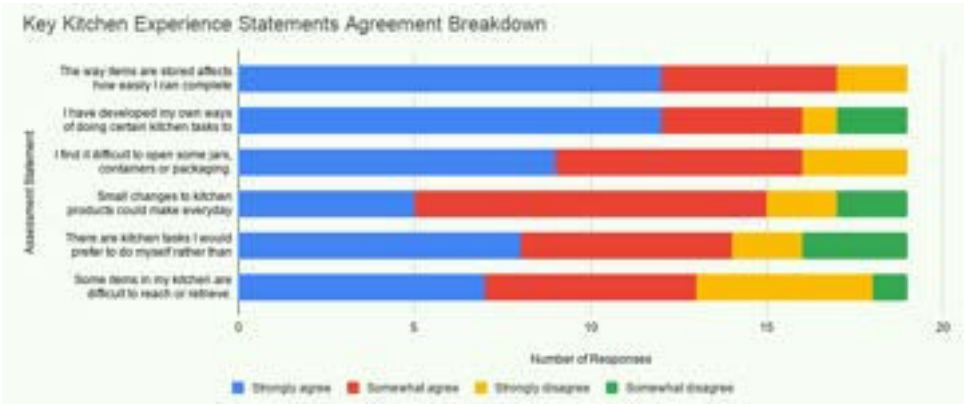


Figure 6: Excerpt from google forms survey

Factors Affecting Kitchen Use

When asked which factors, if any, affect their ability to use their kitchen, respondents most often selected grip or hand strength (63.2%) and reaching or bending (52.6%), with vision (26.3%) and fine motor control (21.1%) also frequently cited (see Figure 7). Only 21.1% selected "none of these," indicating that some form of physical limitation is the norm rather than the exception in this sample.

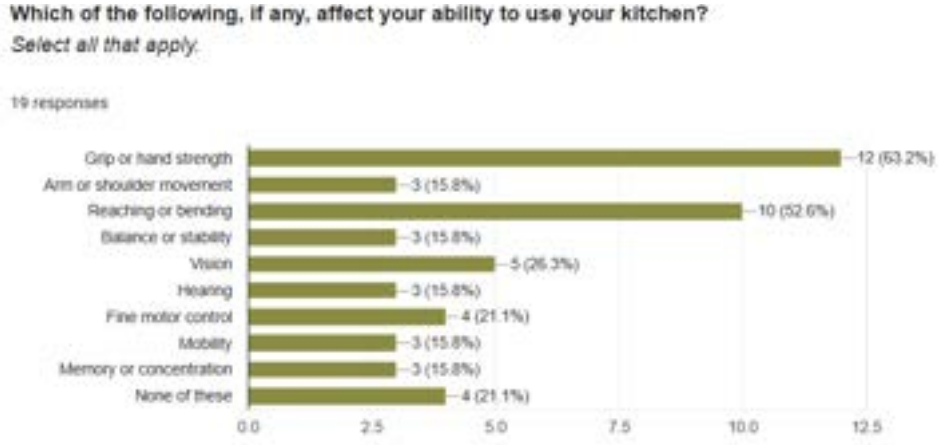


Figure 7: Excerpt from google forms survey

Interviews

Interview Analysis

Following each interview, phone recordings were transcribed and reviewed alongside written notes, then coded manually against a Category > Code > Sub-code framework (see Appendix). Figures 4 and 8 visualise the resulting structure: the flow of coded mentions from category to code, and their relative weight across the three interviews.

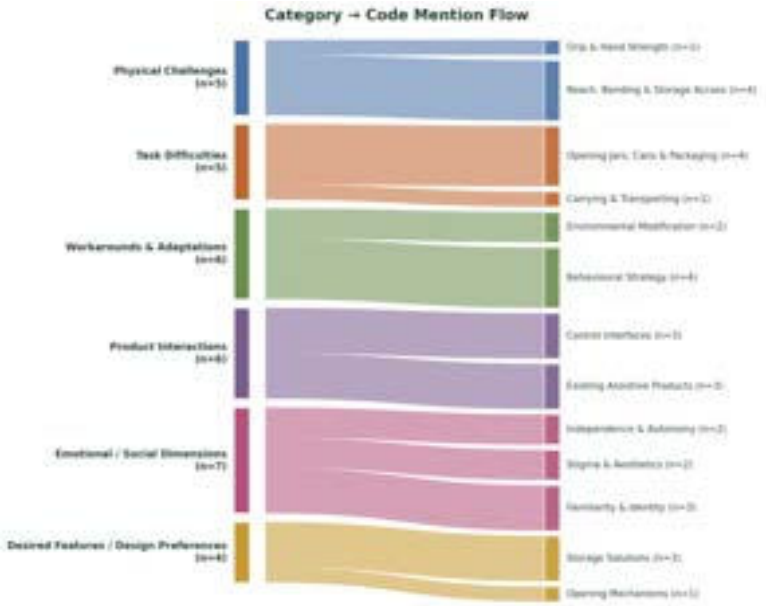


Figure 8: Sankey Diagram - Coded Mentions by Category and Code

Limitations

Only three interviews were conducted, and recruitment relied heavily on the researcher's personal and family network; one participant (Participant 1) is a close family contact, which may introduce rapport or social-desirability effects not present in a fully independent sample. The small number of completed interviews means the sub-themes below should be treated as indicative rather than saturated, and as previously mentioned no in-person observation could be secured for this research phase.

INTERVIEW 1

Safety & Storage in the Kitchen ····· Physical Challenges Perspective
Participant 1, 82 · Phone Interview · Lives Alone

This interview explored the perspective of a participant living alone with a progressive grip condition and direct first-hand experience of a kitchen safety incident. Thematic analysis of the transcript (see Appendix) surfaced two particularly compelling sub-themes: Control Interface Safety and Storage Accessibility.

Control Interface Safety

Participant 1 had accidentally activated her touch-sensitive stove when brushed by and a tea towel left on the stove ignited while she was fortunately still in the kitchen. The incident directly shaped her stated design preference for tactile controls over touch interfaces.

> *"I accidentally touched one of the buttons and it lit… I think knobs are the safest."*
> *15:24–15:46*

Storage Accessibility

Participant 1 also proposed design concepts unprompted, describing a pull-down shelving mechanism she had seen in another kitchen and expressing a strong preference for drawers over corner cupboards, which she described as functionally unreachable

> *"Those corner cupboards are out, you know, right out. You can't get into them unless you're a lizard."*
> *0:07–0:39*

Opening jars and containers is the single most consistently reported difficulty across every stage of primary research — the survey, and all three interviews completed

INTERVIEW 2

Independence & Product Trust ····· Household Perspective
Participant 2, 86 · Phone Interview · Lives with Husband (Mac)

Interview 2 explored the perspective of a participant living with her husband who retains high physical capability overall but reports a specific severe, and unresolved difficulty with jar opening. Two sub-themes emerged: Existing Product Failure and Stigma & Familiarity.

Existing Product Failure

Despite owning dedicated jar-opening aids, Participant 2 reported that they do not resolve her difficulty; she relies on her husband, and sometimes on running hot water over the lid, as the only methods that reliably work.

> *"I can grip them but I can't budge them, if you get what I mean."*
> *16:32–16:56*

Stigma and Familiarity

Participant 2 independently confirmed that a bulky or clinical-looking assistive product would deter her own use, and separately described unfamiliar products as feeling foreign after decades of using the same tools.

> *"You don't want anything really big and chunky… it probably would [deter me]."*
> *22:39–23:05*

INTERVIEW 3

Task Burden & Adaptation ····· Multigenerational Household Perspective
Participant 3, 87 · Phone Interview · Lives with Extended Family

Interview 3 explored the perspective of a participant cooking for a large, multigenerational household. Two sub-themes emerged: Storage & Bending and Desired Mechanical Solutions.

Storage and Bending

Participant 3 described both overhead and low storage as physically demanding, and has adopted a personal workaround of a small footstool and deliberate placement of frequently used items within reach.

> *"The drawers are either very high and otherwise down the bottom….. at my age, bending is a problem."*
> *7:25–7:39*

Desired Solutions

Participant 3's own jar-opening gadget still requires her to hold the jar with one hand while twisting with the other, and she responded positively when a bench-mounted alternative, removing the need to hold the jar at all, was proposed to her.

> *"That would probably help."*
> *11:50–11:51*

Design Implications

The findings identify an opportunity for domestic kitchen products to move beyond task-specific assistance towards physical solutions that adapt to changing ability while preserving independence and familiarity. Rather than designing around an assumed level of impairment, the research suggests that products should accommodate variation in strength, dexterity, reach, and confidence.

The most immediate opportunity is jar and container opening. Existing products identified in the research often make opening easier without removing the grip and twisting action that creates the difficulty in the first place. This suggests a need for a mechanism that stabilises the container and performs the opening action with minimal user input. A bench- or table-mounted system could provide this stability while allowing the user to maintain control of the process. This directly responds to the strongest task difficulty identified in the research and provides a clear opportunity to improve on existing assistive products.

Storage accessibility represents a second significant opportunity. High and corner cupboards were repeatedly described as difficult to access, while lowerable shelving was independently suggested by two participants. This indicates potential for products or mechanisms that bring stored items towards the user rather than requiring reaching, bending, or the use of a stool. The concept should remain simple enough to operate without introducing another physically demanding interaction.

Across both opportunities, stability and force reduction should be treated as connected requirements. The research showed that participants often modify their environment to create more stable working conditions, such as using a kitchen island when experiencing shaky hands. This suggests that future products should provide a secure point of interaction rather than relying on the user's hands to stabilise both the product and the task

The findings also establish a clear direction for interaction design. Physical, tactile controls should be prioritised over touch-sensitive interfaces where possible. The reported near-miss involving a touch-control stove, combined with frustration around changing appliance interfaces, indicates that familiar controls such as pressing, pulling, and turning can provide greater predictability. Importantly, reducing physical effort should not result in additional technological or cognitive complexity. The preferred solution is not necessarily greater automation, but a simpler physical interaction that achieves the same task with less effort.

Aesthetics are equally important to function. Participants described bulky or clinical-looking products as potential barriers to use, supporting the literature's discussion of stigma surrounding assistive technology. Products should therefore look appropriate within a contemporary domestic kitchen rather than communicating medical or disability-specific use. Material, proportion, finish, and mechanism should contribute to a product that users can feel comfortable owning and leaving visible in their home.

Finally, modularity and progressive adaptability provide a broader design direction. The variation between participants demonstrates that there is no single level of ability that can represent older adults as a group. A modular product system could therefore allow support to increase or change as an individual's capabilities change, without requiring the user to immediately adopt a visibly assistive product. The strongest design opportunity is consequently a product that combines force reduction, stability, accessibility, familiar interaction, and domestic aesthetics in one adaptable system, addressing the fragmentation identified through benchmarking.

Discussion

The research supports the literature's understanding that ageing affects the physical capabilities required for independent kitchen use, but the findings show that these changes are experienced less as isolated physical limitations and more as a combination of task-specific difficulties, adaptations, and changing confidence. Grip and hand strength were the most commonly reported physical limitation, while reaching and bending were also prominent. However, the variation between participants demonstrates that age alone is not a reliable indicator of capability. Participant 1 described significant and worsening grip difficulties, while Participant 2, despite being older, reported comparatively few physical limitations. This reinforces the literature's position that age-related physical decline is highly individual and supports the need for adaptable rather than fixed design solutions.

The strongest finding was the difficulty of opening jars and containers. This directly reflects the literature's identification of high-force kitchen tasks as a significant problem, but the interviews exposed a limitation in how existing assistive products address it. Both participants who owned jar-opening aids reported that they still required gripping and twisting. This suggests that reducing the required force is not always enough; for users with substantially reduced grip strength, the more effective design response may be to remove the twisting action altogether. The independently suggested bench-mounted opening mechanism therefore represents a progression from existing solutions rather than simply another variation of them.

Storage access revealed a similar relationship between physical decline and the domestic environment. High shelves, corner cupboards, and low storage were repeatedly identified as difficult to access, supporting previous research into reaching and bending within conventional kitchens. The independent suggestion of lowerable shelving demonstrates how an environmental problem can become a product opportunity when the design changes the user's interaction with the space rather than requiring them to compensate physically.

The research also strengthens the psychosocial argument established in the literature. Independence was strongly valued, with participants preferring tools over relying on another person. At the same time, two participants independently indicated that bulky or clinical-looking products would discourage their use. This directly connects the literature on assistive-technology stigma with the specific context of domestic kitchen products, addressing part of the research gap identified in Section 2.

Finally, the research suggests that successful adaptation does not necessarily mean adding more technology. Participants preferred familiar, physical interactions and expressed frustration with changing digital interfaces, while manual tools were valued for their simplicity. Together, the findings identify an opportunity for products that reduce physical demand while preserving familiar interaction, autonomy, and a sense of normality within the home. This moves the design opportunity beyond simply making kitchen tasks easier towards designing products that allow older adults to continue doing them independently.

Conclusion



Photo from Adobe Stock

This research investigated how product design can support independence in the domestic kitchen as older adults experience changes in strength, dexterity, reach, and motor control. Through a mixed-method approach combining a survey of 19 respondents with three semi-structured interviews, the research examined not only physical difficulties but also the workarounds, preferences, and emotional factors that influence continued kitchen use.

The findings reinforce the literature's understanding of age-related physical decline while demonstrating that its impact is highly individual and task-specific. Jar and container opening emerged as the most significant difficulty, while storage accessibility was also consistently identified as a problem. Participants commonly developed their own strategies to compensate for these difficulties, demonstrating a strong desire to remain independent rather than rely on others.

The research also identified an important relationship between function and perception. Existing assistive products were not always effective in removing the physical action causing difficulty, while clinical or bulky aesthetics could discourage use altogether. Participants also showed a preference for simple, familiar physical interactions over increasingly complex digital interfaces.

These findings identify a design opportunity for adaptive domestic products that reduce physical demand without compromising autonomy, familiarity, or dignity. Two concepts, a stabilised jar-opening mechanism and lowerable storage, emerged independently from participants and provide strong starting points for concept development. More broadly, future concepts should prioritise stability, force elimination, accessibility, tactile interaction, modularity, and domestic aesthetics.

While the findings remain provisional due to the small sample and absence of observational research, they provide a clear evidence-based direction for the next stage of design development. The identified requirements will guide concept generation and evaluation against the benchmarking framework established earlier in the research.

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Appendicies



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RESEARCH REPORT

A Human-Centred Investigation into the Challenges and Design Opportunities for Adaptive Products for Older Adults

Prepared by:
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