

# Insights into Seated Comfort: Unveiling Challenges & Coping Strategies Among Wheelchair Users in the U.S

## Inaugural Seating & Sitting Survey

In January 2024, Kalogon unveiled new insights into the impacts of seating across the spectrum of the U.S population. The Inaugural Seating & Sitting Survey, comprising 36 questions, delves into individuals' feelings about sitting, duration of sitting, comfortable and uncomfortable seating locations, and the prevalence of pressure injuries among respondents. A single survey was fielded to two audiences: the U.S. general population, consisting of 1,045 individuals, and individuals who use wheelchairs, with 272 total respondents. This report analyzes the data collected from the wheelchair user population. The survey was programmed using Centiment online survey tools and was fielded Oct 20 - Nov 29, 2023.

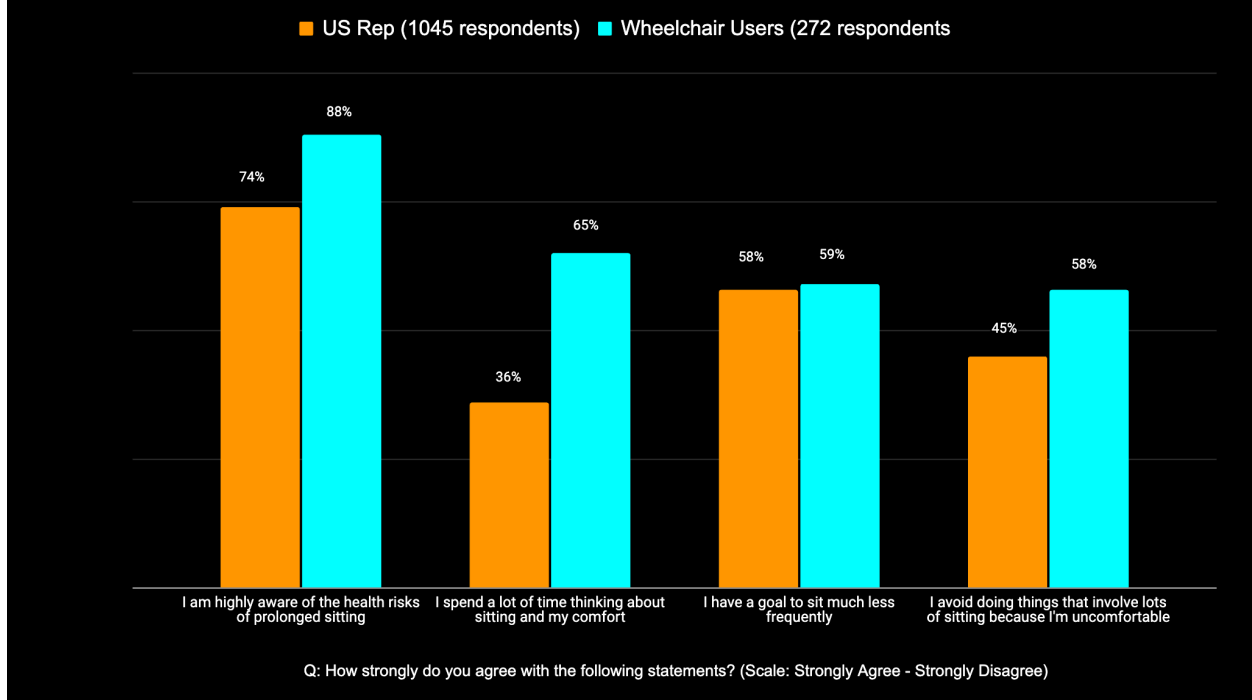
Navigating daily life in a wheelchair presents a unique set of challenges that can often go unnoticed by the general population. Recent data showcases a striking disparity between the experiences of wheelchair users and the rest of the U.S representative population. Comfort is a paramount concern for wheelchair users, as certain behaviors and considerations have to be made such as medication management, changing positions, exercise, and exploring complementary therapies [1]. These findings delve into data from the wheelchair user population to closely examine the lived experience of wheelchair users, shedding light on the complexities that shape their daily lives.

### Seated Comfort

Wheelchair users are the vanguard in their consciousness of health & seated comfort, as they are compelled to prioritize their well-being by spending a significant amount of time thinking about their seated comfort. Compared to the U.S Rep Population, a significantly greater proportion of wheelchair users reported that they spend a lot of time thinking about sitting and comfort, as indicated in Figure 1. The responses from this particular question was gauged on a spectrum ranging from from strongly agreeing to strongly disagreeing when given a series of statements.

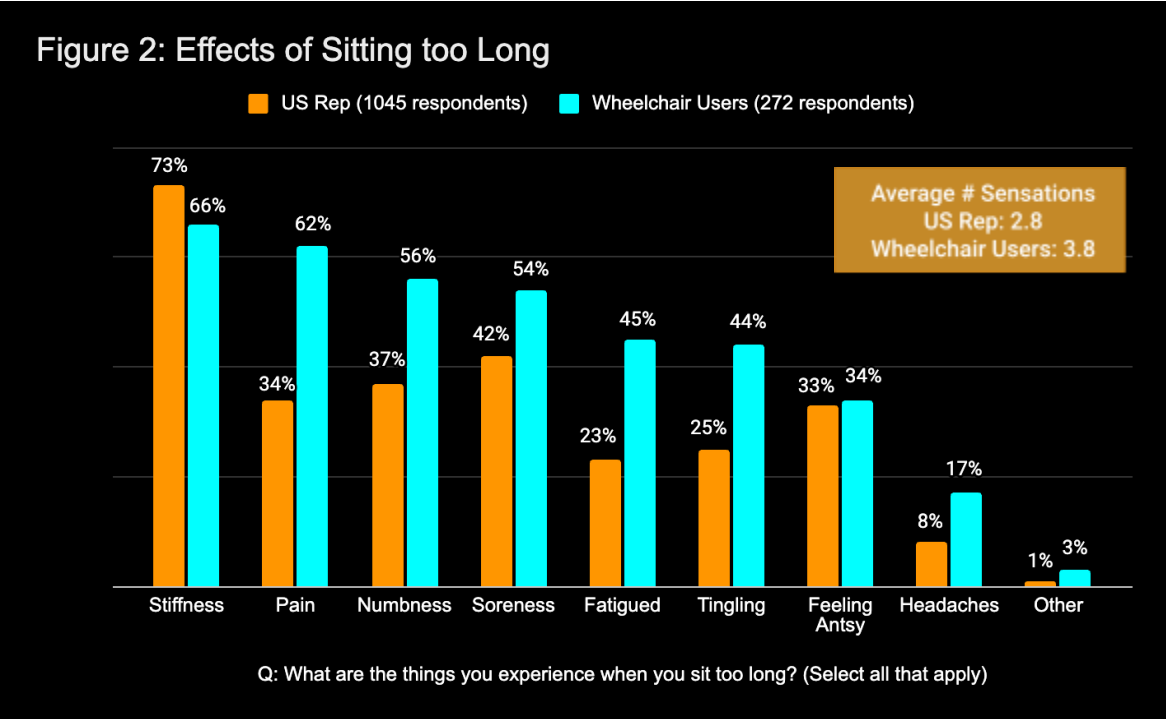
Moreover, a notable majority of respondents also reported that they avoid certain activities that involve sitting due to discomfort. This further proves the heightened awareness among the wheelchair user population regarding health & seating concerns, and how they have to proactively make decisions in order to mitigate these challenges.

Figure 1: Awareness of Health and Seating among Wheelchair Users



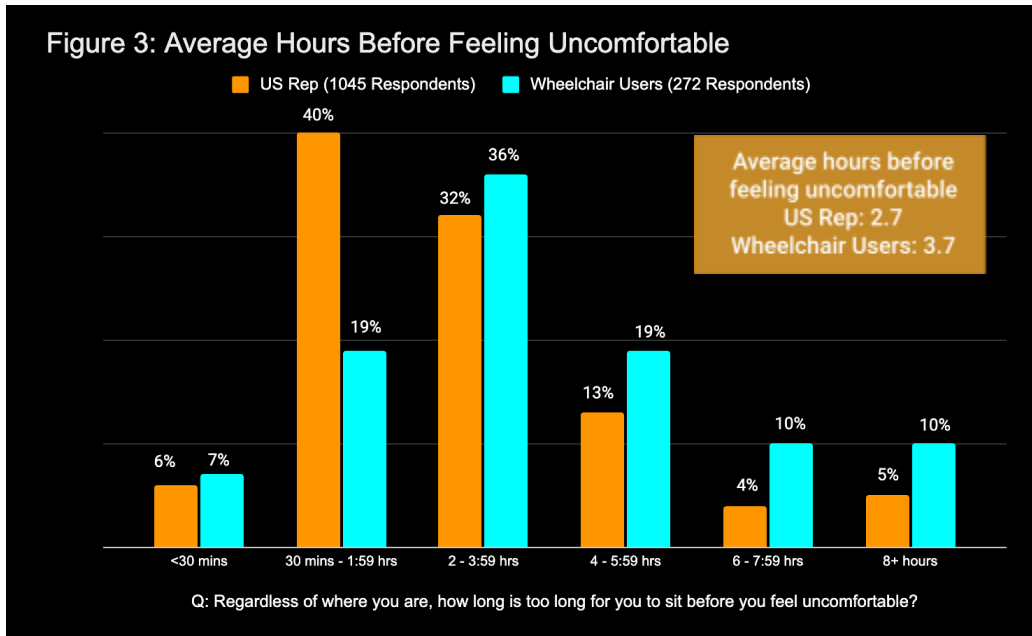
*Note: this question from the survey allowed respondents to select multiple options, leading to a total percentage exceeding 100% within the wheelchair user and U.S Rep populations.*

While able-bodied individuals often unconsciously adjust their posture to alleviate discomfort, wheelchair users face more chronic issues due to challenges in their ability to conveniently adjust their body position whenever necessary. Many of these individuals often endure prolonged periods of intolerable discomfort, ultimately hindering their engagement in basic everyday activities including work, education, and other recreational activities [2]. Figure 2 underscores the significant challenge of discomfort that is faced by wheelchair users during prolonged sitting.



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In addition to discomfort levels experienced by wheelchair users, the average number of hours before wheelchair users begin experiencing discomfort is 3.7 hours. A significant amount (36%) of wheelchair users report feeling uncomfortable between 2 to 4 hours, as indicated in Figure 3. A notable pattern emerges when comparing the uptick in discomfort reported by the U.S representative population after sitting for 30 minutes to 2 hours (40%) with a spike in discomfort reported by wheelchair users from sitting 2 to 4 hours (36%). This may be attributed to delayed recognition of discomfort levels



among wheelchair users, especially among those with advanced stages of conditions such as Multiple Sclerosis (MS), Amyotrophic Lateral Sclerosis (ALS), and Muscular Dystrophy (MD) [2]. This delayed awareness can stem from diminished sensation associated with these conditions. For the U.S Rep population, these sensations are experienced at a quicker rate, within a timeframe of 30 minutes to 2 hours.

## Demographic Insights

Demographic factors encompassing age, gender, and primary residence environments, all play a pivotal role in better understanding our survey audience and the diverse landscape of pressure injuries.

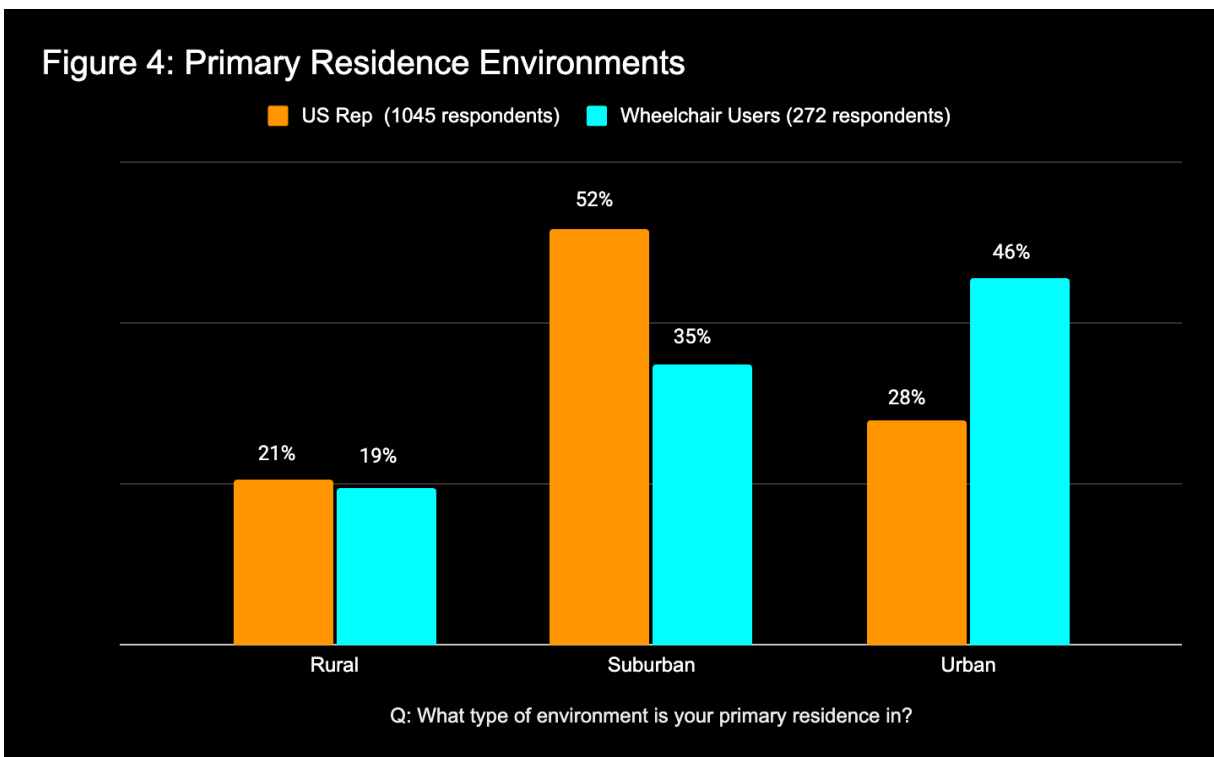
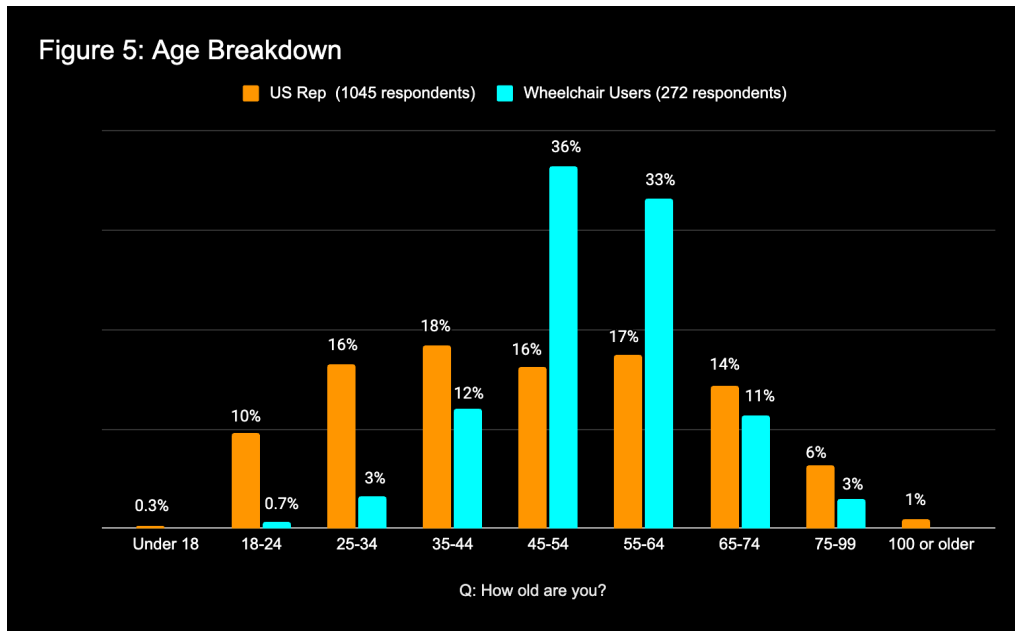
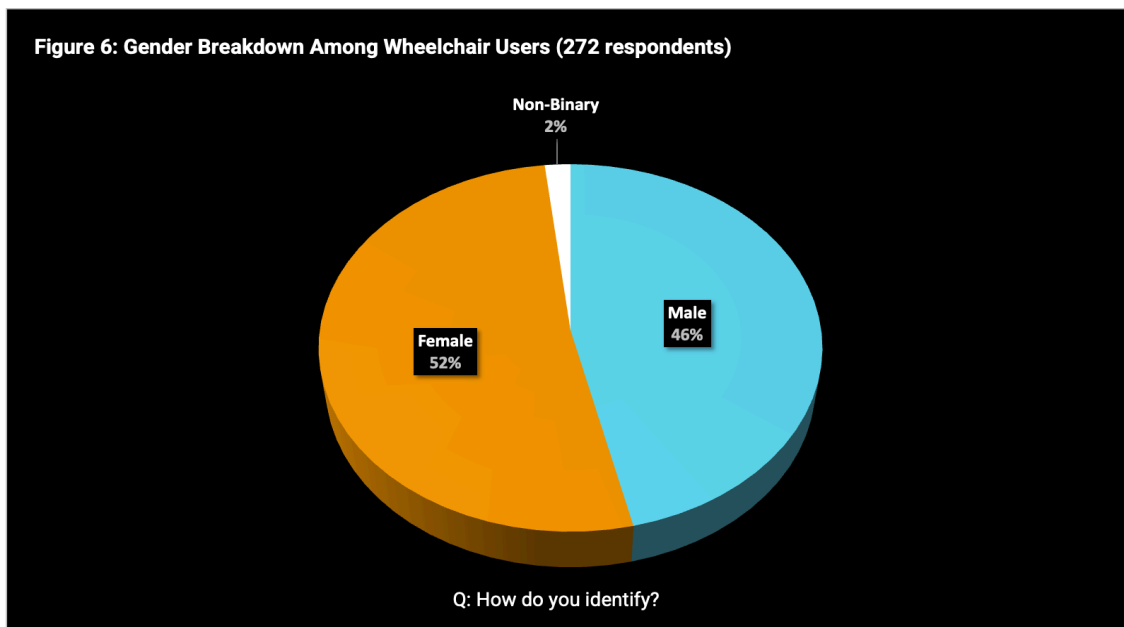


Figure 4 breaks down the primary residence environments for the U.S Representative population compared to the wheelchair user population. Nearly half of the 272 wheelchair user population reside in urban environments, while a lower proportion live in suburban environments when compared to the U.S rep population. **A study conducted by Lezzoni et. Al. (2006) through a series of interviews, revealed a striking disparity in awareness of disability access issues between rural and urban environments.** Those interviewed in rural environments expressed a reliance on recurring visits to major

medical centers for primary care access. Challenges including limited transportation options, along with disabilities affecting driving ability, further exacerbate these health care barriers [3]. The survey findings reveal a similar trend, as a greater proportion of respondents residing in urban areas are wheelchair users compared to those living in rural areas.



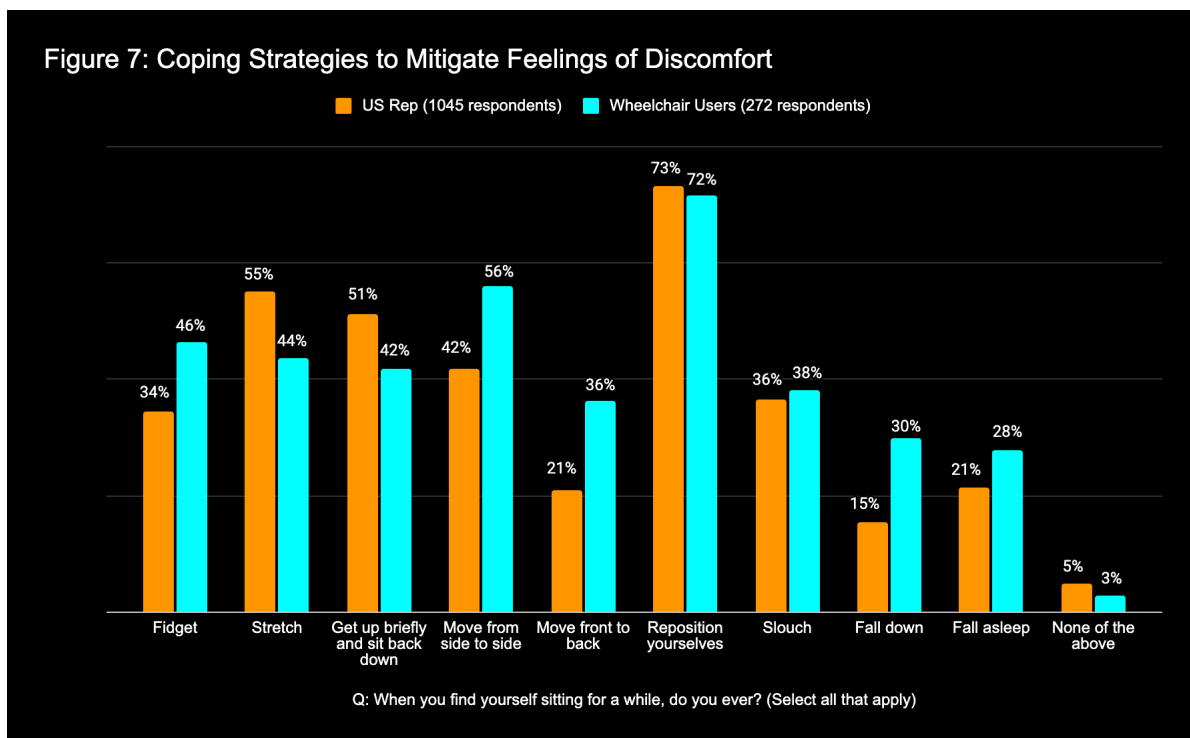
For age distribution, Figure 5 reveals a significant number of respondents who are wheelchair users within the age ranges of 45-54 & 55-64. Through a study conducted in France, data from a series of surveys investigated the prevalence of wheelchair users within two representative samples of the French population: those residing in institutions and those living at home.



These findings revealed that the prevalence of wheelchair users increases almost exponentially with age, both at home and in institutions. Moreover, a noticeable increase in wheelchair users appears after the age of 50, while the prevalence of younger ages stabilizes. [4] . The findings from the survey reveal a similar trend as the number of wheelchair users increase as individuals approach the age bracket of 50 to 64. In terms of gender distribution, a slightly higher proportion of females compared to males were found to be wheelchair users, as revealed in Figure 6.

## Techniques to increase seated comfort

To enhance seated comfort, wheelchair users have adopted a range of coping strategies for handling extended periods of sitting, as seen in Figure 7. The intent of these methods is to disrupt, redistribute, or shift constant pressures away from the ischial tuberosities (ITs) and sacrum.

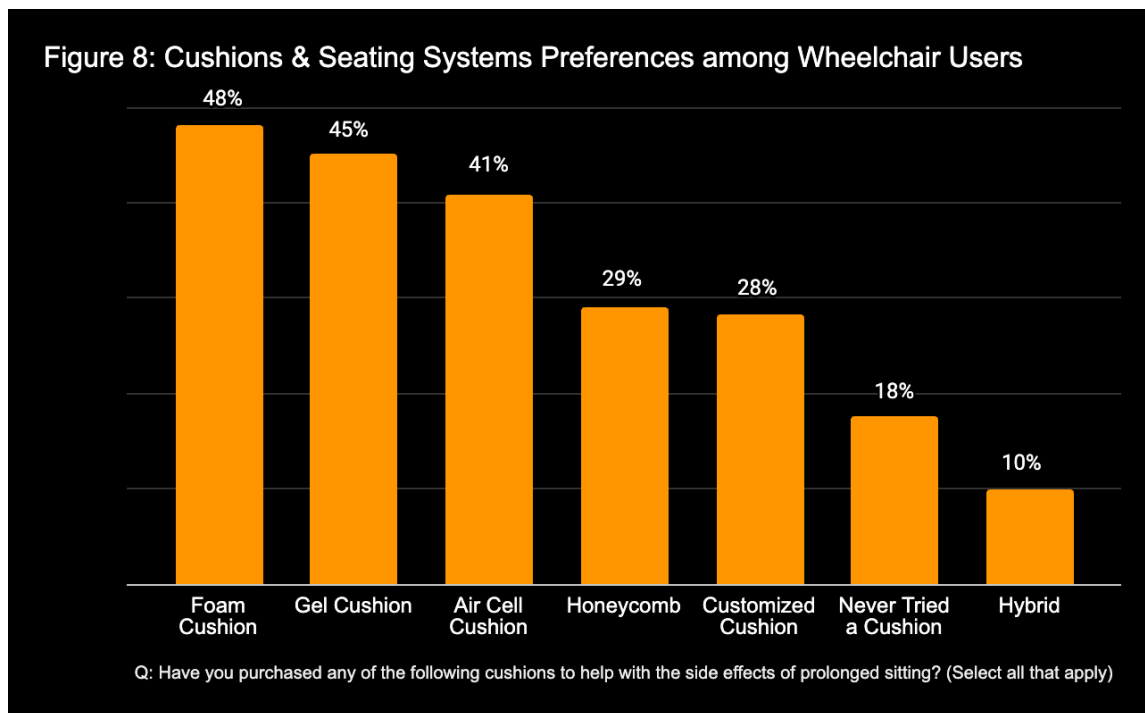


*Note: this question from the survey allowed respondents to select multiple options, leading to a total percentage exceeding 100% within the wheelchair user and U.S Rep populations.*

Among wheelchair users, a notable prevalence of respondents reported moving from side to side (56%) and repositioning themselves (72%) as common coping mechanisms. Coping strategies such as fidgeting, stretching, slouching, and repositioning themselves,

often occur subconsciously as the wheelchair user attempts to alleviate discomfort. Offloading methods are deliberate and aim to intentionally alleviate and redistribute pressure away from sensitive pressure points, particularly around bony prominences. These intentional offloading methods include shifting from side to side, moving front to back, and lifting off the wheelchair.

Wheelchair users employ a diverse range of cushions and seating systems to alleviate the adverse effects of prolonged sitting, as shown in Figure 8. Among these, distributive/immersion style cushions including air, foam, or gel cushions are prevalent among approximately 2 in 5 wheelchair users. These cushions aim to evenly distribute the user's applied pressure across a wide surface area, aiming to reduce pressure points. It's important to note that while these cushions are able to evenly distribute pressure, they do not aid in actively redistributing static pressure. Therefore, wheelchair users need to incorporate regular pressure-relieving offloading methods in order to actively redistribute pressure [5].

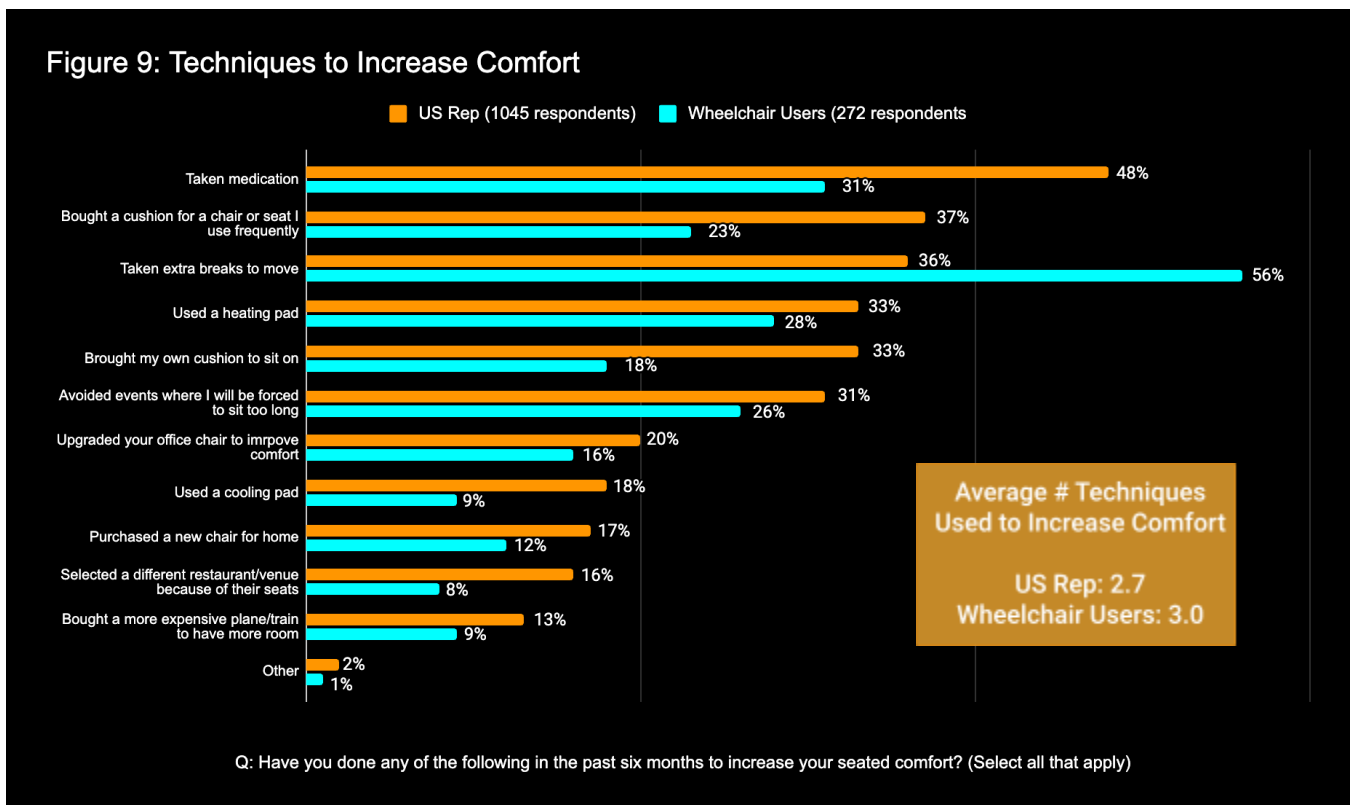


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Wheelchair users deploy various techniques to increase their comfort levels. Among these include taking medication, bringing their own cushion to sit on, incorporating cooling pads, and sometimes opting for an alternative venue or restaurant due to seating accessibility issues. Figure 9 illustrates the diverse techniques employed by wheelchair users in comparison to the U.S Rep population.

In a study conducted by Frank et. Al (2011), participants who used electrical powered indoor/outdoor wheelchairs (EPIOCs) were surveyed to determine the prevalence and severity of pain/discomfort levels, along with common coping strategies. Among the 74 participants, 70% reported employing some sort of strategy for pain relief. The most common coping strategy for pain relief identified was medication use, with 47% of participants reporting using analgesia. Other reported techniques to alleviate pain and increase comfort include adjusting seat positions, engaging in exercise, receiving massages, herbal medicines, and other complementary therapies [1]. The findings from both this study and the survey data underscore how wheelchair users employ a diverse range of techniques that are uniquely tailored to their individual needs.



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## Conclusion

The findings from Kalogon's Inaugural Seating & Sitting Survey provides unique insights into the nuances and challenges faced by wheelchair users as they attempt to navigate their daily routines. The challenges that are faced by wheelchair users are multifaceted that encompasses a variety of factors from demographic insights to their awareness of health and seating. Moreover, challenges pertaining to chronic discomfort hinders their engagement in essential activities, which highlights a striking disparity among wheelchair users and the rest of the U.S representative population.

Despite these barriers, this data reveals the remarkable resilience and resourcefulness of wheelchair users as they employ specific techniques and coping strategies to mitigate discomfort and maintain active lifestyles. Kalogon's commitment to promoting an active, seated life is reinforced by these survey findings as they offer a more comprehensive understanding of the wheelchair user population and the distinctive barriers that they encounter in their daily lives.

## References

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