

The child and family experience of power mobility: A qualitative synthesis

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Abstract

Aim: To critically synthesize qualitative evidence regarding the child and family experience of power mobility, and to examine how the evidence fits with current theoretical concepts.

Methods: Electronic database/hand searches were undertaken in September 2012 and updated February 2014. The searches were restricted to qualitative studies published in English to January 2014 including at least one child with a disability below age 19 and describing an outcome related to use of power mobility. Inclusion criteria were set *a priori*. Two reviewers independently screened titles, abstracts, full-text articles and extracted data. McMaster qualitative review forms were used for quality appraisal.

Results: Of 259 titles, 21 met inclusion criteria. From 143 codes, 15 second-order themes were developed using constant comparison and analysis. Three over-arching themes emerged:

- Power mobility experience promotes developmental change and independent mobility,
- Power mobility enhances social relationships and engagement in meaningful life experiences,
- Power mobility access and use is influenced by factors in the physical, social and attitudinal environment.

Interpretation: Qualitative research provides rich and rigorous evidence supporting benefits of power mobility for children and families. Numerous factors, warranting careful consideration, influence power mobility access and use.

What this paper adds:

- First synthesis of qualitative evidence supporting power mobility use with children.
- Demonstrates the reciprocal and spiral interaction between development, independent mobility and participation in meaningful life activities.
- Stresses the interconnectedness of person, technology, occupation and environment.
- Emphasizes the range of environmental factors impacting access to, and use of, power mobility.

Running Foot: Power mobility: child and family experience

Power mobility devices such as powered wheelchairs and ride-on toys provide efficient, autonomous mobility for children with mobility limitations.¹⁻⁵ Power mobility may facilitate independent exploration and participation in everyday life activities from infancy and childhood.⁶ These early exploratory behaviors have a positive impact on overall and psychological development,^{7,8} and recent research suggests that children can begin using power mobility devices in infancy.^{9,10} However, power wheelchairs are not commonly prescribed for children below three years-of-age.¹¹⁻¹³ Assistive devices such as power wheelchairs may be seen as enablers of function or as a stigma.¹⁴ For parents, the psychological and social impact is significant,^{15,16} with positive and negative experiences of power mobility reported.¹⁷⁻²¹ In keeping with family-centered care, it is essential that clinicians and researchers set meaningful goals collaboratively, in line with child and family priorities.²²⁻²⁴

A recent systematic review of power mobility outcomes for children⁵ identified, but did not include, a significant number of qualitative studies relating to the child's and family's perspective, as it was recognized that a separate, more appropriate analysis was warranted. Previously, three systematic reviews on children's use of a variety of assistive technologies²⁵⁻²⁷ included only two qualitative studies on power mobility use.^{18,28}

Within the wheeled mobility literature, several models attempt to interpret the many factors that influence power mobility use, however the validity of these models has yet to be evaluated. The Relational Model of Wheelchair Mobility (RMWM)²⁹ was developed to guide wheelchair assessment and conceptualize wheelchair mobility performance. Hardy³⁰ proposed using the Occupational Performance Model (Australia) (OPM(Au))³¹ to increase understanding of how power mobility use can facilitate performance of occupations and roles. Rousseau-Harrison and Rochette²⁷, suggested that the Disability Creation Process model³² may be useful in explaining the impact of wheeled mobility (i.e. manual and power wheelchairs) using a person-occupation-environment interactional perspective.

The purpose of this research is to critically synthesize the qualitative evidence regarding the child and family experience of power mobility, and to explore relationships between the child, the technology and environmental contexts. A qualitative synthesis aims to understand, interpret, and explain contextual influences relating to successful interventions,³³ develop theory and identify new research topics.³⁴ It goes beyond merely combining findings from individual qualitative studies to identifying over-arching themes and generating new, deeper findings that can cross the boundaries of context.³⁵ A comprehensive synthesis of the qualitative evidence may inform clinical practice by consolidating our understanding of the child and family perspective as well as physical, social and attitudinal environmental barriers and facilitators. This increased understanding may promote more effective introduction and use of power mobility with children. A secondary objective is to evaluate how this evidence validates proposed theoretical models or generates new interpretations.

METHODS

Two qualitative research appraisal methodologies were used in combination to appraise evidence gathered from both qualitative and mixed methods studies. Thematic synthesis,³⁶ employs a systematic and comprehensive literature search to identify primary studies, while qualitative meta-summary, combines descriptive findings from quantitative research with qualitative findings.³⁷

Search strategy

Both authors conducted an electronic database search of articles published from 1980 to February 2014 as research articles on pediatric power mobility were not published prior to 1980. The

following databases were included: EBM Reviews (including Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects (DARE), ACP Journal Club); Physiotherapy Evidence Database (PEDro); OT Seeker; Medline EBSCO; Medline OVID SP; CINAHL; EMBASE; ERIC; and PsycINFO. As noted in Appendix A, search terms included keywords power(ed) mobility or power(ed) wheelchair and were combined with the term child(ren) or limited to 'all childhood' or 'childhood' and 'adolescence', depending on database. Terms were also mapped to database specific subject headings such as mobility aids, wheelchair/utilization or powered/wheelchair. Bibliographies of all included articles from the quantitative systematic review⁵ and the identified qualitative articles were searched to identify additional studies. Inclusion and exclusion criteria were set a priori. The two reviewers independently reviewed all titles and abstracts, and identified all full-text articles. Following independent review, reviewers agreed if articles met inclusion criteria through discussion; consensus was reached without the need for a third reviewer.

Inclusion criteria

- Primary source studies using qualitative or descriptive methods to explore child and family perspectives on outcome(s) resulting from power mobility use.
- Involving at least one child below 19 years of age with a movement disorder or motor impairment related to a musculoskeletal, neuromuscular or neurological condition.

Exclusion criteria

- Non-English language publications.
- Non peer-reviewed sources.
- Quantitative studies with no qualitative data.
- Studies focused on technology or measurement tool development.
- Unable to separate findings for children with disabilities from those of adults, or from children who are typically developing.
- Unable to separate findings for power mobility from those addressing other assistive technologies.

Appraisal and synthesis of evidence

Data were extracted independently by reviewers using the McMaster critical review forms.^{38,39} Both authors independently identified codes emerging from eligible individual studies. Text within primary source studies' 'results' or 'findings' sections were coded line by line using the process outlined by Thomas and Harden³⁶ and included tables and many participant quotes. We coded text that referred to impacts of power mobility use, including positive and negative outcomes. These first-order codes were then jointly developed into second-order, themes. These were further analyzed and combined to develop (third-order) over-arching themes.³⁵ Finally, appropriate models in the literature were sought, in order to reflect on theoretical constructs that emerged from the findings. Frequency and intensity effect sizes were calculated for second-order themes.^{37,40} Themes emerging with higher frequency demonstrate replication and support development of over-arching themes, strengthening validity of findings.³⁷

Frequency effect size indicates the percentage of distinct studies (as opposed to articles) supporting each theme, whereas intensity effect size indicates the relative contribution of each article across themes.³⁷ The intensity effect size percentage (%) total indicates contribution of each publication towards *all* descriptive themes, while intensity effect size above 25% indicates contribution of each publication towards *major* descriptive themes (those themes achieving a frequency effect size above 25%). This allows consideration of whether higher or lower quality

studies are contributing to the themes and results of the synthesis. The ENTREQ statement for synthesis of qualitative research was used to structure this synthesis.⁴¹

RESULTS

There were 454 titles identified in the original electronic database search with another 42 titles identified through bibliography review of retrieved articles. After removal of duplicates, 259 titles remained. Following independent review of title and abstract, the reviewers agreed on 96 articles to be retrieved full-text, with 97% level of agreement (n=90). Figure 1 illustrates a flowchart of the search process, and online appendix B lists excluded studies with reasons.

Insert figure 1 about here

After applying inclusion/exclusion criteria, 21 articles were identified, with^{15,17–21,28,42–55} one study published over three articles.^{43–45} Initial agreement on included articles was 99%.

Study characteristics

Table 1 summarizes eligible studies' characteristics. Studies included children with a variety of diagnoses and although one study included mainly adults, identifiable quotes were provided from the one child participant.⁴⁷ Most involved use of standard power wheelchairs. However, two studies^{47,50} and one study published over three articles^{43–45} investigated user perceptions of a particular type of indoor-outdoor power wheelchair used in the UK known as the electric-powered indoor/outdoor wheelchair (EPIOC). Additionally, one qualitative study⁴⁸ and two case reports^{51,53} used the Smart wheelchair, an augmentative mobility device with collision sensors, line-following capabilities and optional voice feedback.

Insert table 1 about here

Six studies identified phenomenology⁵⁶ as their qualitative methodology, making it the most common approach.^{18,43–45,47,50} Grounded theory⁵⁷ was the approach of two studies^{28,42} whereas another⁴⁹ used a qualitative case-study approach.⁵⁸ The remaining qualitative studies did not identify a particular methodology. Most studies that used interviews or surveys sought the parents' perspective or a combination of parents' and children's perspectives. Two studies used semi-structured interviews to explore children's perceptions,^{28,50} while another study used separate focus groups with clinicians and children.⁴²

Quality analysis

For primary studies that included both qualitative and quantitative data,^{15,17,19,20,51–55} quality appraisal has been reported elsewhere.⁵ These nine will be referred to as descriptive studies for the remainder of this paper. Quality and conduct of all qualitative studies was acceptable, with evidence of rigor including credibility, transferability, dependability & confirmability.³⁸ Five studies demonstrated stronger evidence for overall rigor and trustworthiness.^{18,42,47–49} In others, credibility could have been enhanced with member checking,^{43,46,50} and transferability with more detail about participants,²⁸ context and settings.^{43–45,50} In some, dependability was limited by lack of reporting of the audit trail,^{21,43–45} and transparency lacking in their inductive process.²⁸ Although one study⁵⁰ refers to a topic guide, there was no detail as to the type of questions or topics covered. Studies that used *a priori* frameworks, were less exploratory in their data analysis and conclusions.^{43–45} Although most studies generated second-order themes from their data, only a few^{18,28,42} developed higher-level themes, contributing more to theory development.³⁵ Confirmability was evidenced in most studies, although some described the keeping of journals, the process of peer review and team collaboration in more detail.^{18,42,47–50}

Progression of themes

From 21 articles, reviewers identified 143 first-order codes that were synthesized into 15 second-order themes and then into three over-arching themes (see online Appendix C). Table 2

demonstrates the three over-arching themes generated from a child and family's perspective and their relation to the 15 second-order themes, along with frequency and intensity effect sizes. Intensity effect size above 25% ranged from 11-100%, with nine articles contributing to over 50% of the major second-order themes.^{17-19,21,48,50-53} Intensity effect size percentage total ranged from 13-80%, with two studies^{43,52} contributing to more than 50% of all themes.

[insert table 2 about here]

Power mobility experience promotes developmental change and independent mobility was comprised of five second-order themes. Power mobility can promote psychological, emotional and developmental change had the highest frequency effect size (84%) of all themes, demonstrating the most replication across studies. Power mobility can increase independence and freedom was tied for second most prevalent theme. The three remaining themes, power mobility can promote self-initiated communication and motor development, power mobility skills develop through play and self-directed learning across a continuum from early mobility experience through wheelchair operation to enhancing lifestyle, and power mobility device can be a cause of pain, were represented across fewer studies.

Power mobility enhances social relationships and engagement in meaningful life experiences encompassed three second-order themes. Power mobility can increase participation was the most prevalent of this group, and was tied for second highest frequency effect size over all. Power mobility can enhance ability to play and power mobility can enhance peer relationships were represented in over one third of the studies.

Power mobility access and use is influenced by factors in the physical, social and attitudinal environment emerged from the largest number of second-order themes. Power mobility can increase access to environment although physical environment and transportation difficulties can limit use of power mobility was the highest frequency theme of this group representing just over half the studies. While others attitudes vary and can limit or enhance power mobility access and use was represented in over one third of the studies, the remaining themes were more focused and less prevalent.

DISCUSSION

This qualitative synthesis builds on the findings of previous systematic reviews.^{5,25-27} Nicolson and colleagues²⁶ called for more research describing the impacts on family caregivers of children with physical disabilities. Henderson and colleagues²⁵ alluded to the importance of considering the child and family's perspectives, and environmental factors. Rousseau-Harrison and Rochette²⁷ described the positive impact of wheeled mobility, however their findings encompassed both manual and power mobility and were limited to only one database. Although many findings are congruent with the quantitative literature,⁵ this synthesis accentuates the range of perspectives from children and their families on the impacts of power mobility use. It also describes the multitude of environmental factors that should be considered when dealing with pediatric power mobility interventions. These will be discussed under the three over-arching themes:

PM experience promotes developmental change and independent mobility

Although the positive impact of power mobility on development is reported in quantitative studies,^{2,9,55,59,60} the qualitative literature adds depth to our understanding of the child and family perspective on these changes. Children describe their wheelchairs as an extension of themselves^{28,46,50} a phenomenon to which adult power wheelchair users have also alluded.⁶¹⁻⁶³ The influence that power mobility has on emotional well-being is apparent as parents report that some children exhibit depression when unable to use their wheelchairs,^{17,21} and others suggest that power wheelchairs can be used as a means of emotional expression.⁴² Some children discuss their fears

of not being able to control their power wheelchair adequately and hurting themselves or others,⁵⁰ suggesting insight into the ‘power’ of their wheelchair, and an appreciation of safety issues. Conversely, new drivers or those with complex conditions may require an adult to facilitate and closely supervise, or use additional technologies to keep them safe as they experience independent mobility and learn to operate their wheelchairs.^{64,65} Although change in affect and engagement have been suggested in quantitative studies,^{2,66} qualitative findings contribute rich descriptions of changes observed in children’s initiation, motivation, responsiveness, confidence and self-esteem following power mobility experience.

The findings highlight the cyclic and spiral interaction between developing independent mobility skills and other areas of development such as cognition, perception, language development and learning. While cognitive level has been used to determine whether or not children are ‘ready’ for power mobility^{67,68} quantitative evidence^{9,59} is now emerging to support the positive impact on cognitive development following introduction of a power mobility device. Recent quantitative research with infants suggests that using power mobility devices at very young ages can facilitate learning,^{9,10,64} while independent locomotion appears to have a role in the development and maintenance of psychological function across the lifespan.⁸ As children and families see it, the benefits of power mobility go beyond promoting independent mobility experience to enhancing overall development.

Power mobility enhances social relationships and engagement in meaningful life experiences

In a systematic review of outcomes of power mobility,⁵ limited and low level quantitative evidence was found supporting impact of power mobility on participation. Only two observational studies^{2,60,66} supported change in social interaction and play skills, while other cross-sectional and case study evidence,^{4,17,19,51–53,69,70} supported change in social interaction, play skills, peer participation, social roles, education, and interpersonal relationships. Five of these were included in this synthesis as they included qualitative or descriptive data.^{17,19,51–53}

In contrast, the qualitative literature provides a wealth of evidence on the influence that power mobility has on a child’s and their family’s participation in everyday life. In numerous and eloquent quotes, parents describe the life-changing impact that power mobility has on their children as well as themselves, in providing opportunities to participate in age-appropriate and meaningful activities and increasing peer interaction.^{15,17–19,21,51–53} Children and adolescents also provide first-hand descriptions of how it feels to engage with others, and join in games and activities from which they would otherwise be excluded.^{17,28,43,46,47,50} Children’s use of power mobility impacts the roles they assume independently: family member, student, classmate, friend. Synthesis findings convey the importance of these opportunities for children and their families.

In analyzing the pediatric qualitative literature as a whole, more nuanced findings were identified. For example, several studies reported on the sheer pleasure and enjoyment that power mobility offers.^{19,50,54} The experience of independent movement and speed for its own sake, valued as a desired play activity, should not be underestimated. Another less explored, but extremely important theme was how power mobility not only facilitated social interaction, but also enhanced the quality of peer relationships.^{18,19,43,46} One child reported ‘my relationships become better because I can play with other children with the help of the devices (power wheelchair) if I didn’t have it, I’d probably lose friends’.⁴⁶(p100) One parent reported that ‘a more even relationship results’¹⁹(p242) while another acknowledged ‘it changed his peers’ attitudes toward him’.¹⁸(p15) This suggests that use of power mobility enables children to participate on an equal footing rather than assuming a dependent role. The significance that independent mobility has on participation in everyday life is felt across the lifespan, and has been the topic of several studies in the adult literature.^{61–63,71–73} A noted difference between adult and

child power wheelchair users is that participation is much more intimately connected between children and their families.

Successful participation in everyday life activities, through the use of power mobility appears to depend on a good match between the user, the power mobility device and the environment.⁵⁰ This match involves the individual's abilities and characteristics, the required or desired life activities, the technology features and performance capabilities, and the physical, social and attitudinal environments (e.g. parents' priorities may differ from therapists^{17,21}). Similarly, models put forward for assistive technologies such as the Matching Person Technology (MPT) approach,⁷⁴ the Human Activity Assistive Technology (HAAT) model,⁷⁵ and the Disability Creation Process model³² also emphasize the importance of these inter-relationships. In their systematic review, Rousseau- Harrison and Rochette queried the causal nature of interrelationships found between wheelchair acquisition and social participation, personal factors such as self-esteem, and the social environment.²⁷

Power mobility access and use is influenced by factors in the physical, social and attitudinal environment

It has been suggested that environmental factors influence successful uptake, use and power mobility skill development.^{5,6} This theme provides evidence, from the child's and family's perspectives, for the incredible role that environmental factors play in successful implementation of power mobility. While the physical environment imposes many limitations, (most studies discussed the difficulties encountered using a power wheelchair in confined spaces, inaccessible buildings, difficult terrain or inclement weather conditions), use of power mobility also leads to self-sufficiency^{47,76} and increased opportunities.^{17,18,21} Parents and children describe how the power wheelchair increases access to certain environments such as being able to 'run' around outside, go to the park, or participate on the playing field, which in turn facilitates social interaction and participation in desired activities. While the pediatric quantitative literature⁵ acknowledges the influence of the physical environment, it is the depth of description and impact in this qualitative literature that expands our understanding of its importance. This is mirrored in the adult power mobility literature.^{71,72} Findings also suggest that training and practice may influence how environmental barriers are perceived and managed. Barriers perceived as insignificant for an expert power wheelchair user may be major obstacles for younger or inexperienced drivers (e.g. use of wheelchair lifts or ramps).⁵⁰ Adolescents who would be considered competent power wheelchair users, may still need training for complex terrain or different weather conditions.⁴³

The reciprocal relationship between wheelchair mobility and the physical environment is apparent; wheelchair features (e.g. size, weight, drive type, suspension, electronic programming and wheel diameter) greatly influence environmental access, while feature selection is guided by environments accessed during regular routines.^{77 50,72} The size and weight of power wheelchairs may cause difficulties in learning to maneuver the wheelchair, limit its use to certain environments,^{45,50} or require expensive accommodations.²¹ Additionally, power seating functions (e.g. tilt, recline) and suspension may have a positive impact on comfort and usability of power wheelchairs.^{43,44,78,79} Different wheelchair configurations or components may facilitate learning of power mobility skills.^{42,48,51,53,80-82} For young children or those with cognitive or sensory limitations or alternate access users, simplified or additional electronic features may facilitate independence and function.^{48,51,53} Using different mobility devices for different settings or activities has been acknowledged for environmental considerations and to optimize participation.^{13,76,83}

The importance of social and attitudinal environments is demonstrated by almost every study commenting on this topic. There is a reciprocal, and reinforcing interaction: as children experience success with power mobility, parental attitudes often change from initial reluctance²⁰ to acceptance as they realize the freedom and independence their child experiences.^{18,48} Although parents and young people describe the negative impact of societal attitudes, parents also describe how others' perception of their child's helplessness decreased once they began using power mobility while attitudes changed from pity and embarrassment to acceptance. One mother described how this change in others' attitude impacted her child's confidence and self-esteem.¹⁹ Findings of a quantitative study also support the parental perception that the general public accepts their child more following power mobility use.⁶⁰ Attitude and lifestyle choices also influence the process of assessment and training as well as wheelchair features selected. The benefits of power mobility extend beyond the child to caregivers, reducing caregiver burden,^{15,21} and enhancing parents' quality of life.⁶⁰ The benefit of decreasing caregiver burden has also been reported in the pediatric assistive technology literature.^{25,26,84}

Clinicians' attitudes also have a major influence.^{17,42} Promoting change in clinicians' attitudes towards power mobility has been the focus of several articles advocating it as one of many mobility options to facilitate participation in everyday life.^{13,83,85} Funding policies, administrative procedures and political priorities also impact power mobility practices. In many cases, the social systems and service delivery policies form barriers rather than create opportunities. Certain populations, such as younger children or those with cognitive or sensory limitations may be considered less likely candidates for power mobility^{13,17,18,42,51} and, as a result, lack opportunity for appropriate assessment, training and follow-up.^{11,86} Lack of training is reported as a contributing factor to non-successful use of power mobility.²¹ In certain countries, outdoor power wheelchairs are rarely funded through public healthcare systems for children under eight years-of-age.^{13,87} This is concerning as children are described as having the most success and opportunity to explore and participate with peers when using power mobility outdoors,^{17,18,21,28} and they may miss out on the benefits that independent mobility has on overall development.

Theoretical relationships

When considering the International Classification of Functioning, Disability and Health (ICF)^{88,89} and its relationship to the over-arching themes, it can be seen that the first theme - *Power mobility experience promotes developmental change and independent mobility* - highlights the combination of impacts on Body Structure and Function (BSF) and Activity components.^{88,89} The second theme - *Power mobility enhances social relationships and engagement in meaningful life experiences* - emphasizes the impact on Participation.^{88,89} The third theme - *Power mobility access and use is influenced by factors in the physical, social and attitudinal environment* - reflects the importance of Environmental Factors^{88,89} in children's use of power mobility. While the ICF provides a foundation, other models may explain the interaction of barriers and facilitators.

Within the wheeled mobility literature, three models have been proposed to help understand the many factors that influence power mobility use. The Relational Model of Wheelchair Mobility (RMWM) views occupation and social participation as the outcome of successful wheelchair mobility with five influencing factors: user profile; environment; daily activities and social roles; assessment and training; and wheelchair characteristics.²⁹ The model hypothesizes bi-directional relationships between wheeled mobility and each of the five factors (e.g. daily activities influence wheeled mobility and wheeled mobility also influences daily activities), as well as bi-directional relationships between each factor individually.

In applying the OPM(Au),³¹ Hardy discusses unidirectional associations between power wheelchair features, assessment and training considerations, the (physical, sensory, social and cultural) environment and each performance component (i.e. biomechanical, sensory-motor, cognitive, intrapersonal and inter personal).³⁰ Hardy also elaborates on the importance of time in relation to efficiency of mobility, access method and fit between personal characteristics and wheelchair features.³⁰ Finally, the Disability Creation Process model,³² suggests ‘two-way causal links’ between social participation (i.e. life habits), personal factors and the child’s immediate social environments,²⁷ and has been used to explore differences between children without mobility limitations and those using walking aids, manual or power wheelchairs.⁶⁹

These three models share a number of similar constructs, despite each having slightly different terminology. This synthesis validates the multi-factorial nature of these models and the interconnectedness of influencing factors, but suggests more complex interactions between growth and development, independent mobility, participation, and other influencing factors. In order to advance theoretical understanding of pediatric power mobility, a more dynamic model is needed to explain the interaction of barriers and facilitators for power mobility use, highlight the importance of the body/mind/spirit connection, and describe the relationships between the person, their surrounding environments, the equipment features and desired activities and occupations.

Recommendations for research

This qualitative synthesis highlights a number of areas that merit further exploration. These include the influence of power mobility on children’s participation, self-identity and subjective well-being, impact on affect, confidence, engagement and development as well as the impact of personal factors such as motivation. Empirical investigations, using standardized measures, to quantify these outcomes are indicated.. Environmental, and technological factors, along with training strategies are also worthy of further experimental research.

Study limitations:

Other methodologies employ search and analyses methods that are arguably more ‘qualitative’ in philosophy, for example adding studies until saturation of a theme has been reached. This synthesis employed a methodology that incorporated a comprehensive search strategy including all studies that met *a priori* criteria. Restricting inclusion criteria to research studies published in English, and in peer-reviewed journals only, are limitations. Although studies published in other languages or grey literature may have been missed, the search process was comprehensive including 12 electronic databases as well as hand-searching. In the quest to be comprehensive and include both descriptive and qualitative evidence, the combination of two methodologies might create some debate. However, it is anticipated that the inclusion of frequency and intensity effect sizes adds strength to findings and informs the interpretation of the literature.

CONCLUSION

The qualitative pediatric literature provides rich and rigorous evidence supporting the benefits of power mobility use for children and their families. Although there is some evidence in quantitative research supporting the benefit of power mobility on BSF, Activity and Participation the richness of the qualitative literature provides a greater depth of understanding of the child’s and family’s perspectives and highlights the importance of Environmental Factors. These are demonstrated by the three over-arching themes:

- Power mobility experience promotes developmental change and independent mobility,

- Power mobility enhances social relationships and engagement in meaningful life experiences,
- Power mobility access and use is influenced by factors in the physical, social and attitudinal environment.

These themes generate a deeper understanding of the topic, and bridge the contextual boundaries of individual studies.³⁵ Gaining insight into the numerous factors that influence power mobility access and use is essential as each and every child and family's situation is unique. These findings 'enhance the picture of how assistive technologies [such as power mobility] can benefit a child, their family, and their social environments' ²⁵(p 96); provide 'a deeper understanding...lead[ing] to better support for children and their families' ²⁷(p 9); and promote 'evidence-based practice...and better outcomes for clients' ²⁶(p 349).

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CONTRIBUTIONS

RL initiated the idea but both authors (RL and DF), designed the study, undertook the search, evaluated the evidence and wrote the manuscript. RL is the guarantor.

DECLARATION OF INTERESTS

The authors have stated that they had no interests which might be perceived as posing a conflict or bias.

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