

# The association between volition and participation in adults with acquired disabilities: A scoping review

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## Abstract

**Background/objective:** Physical, cognitive and psychological factors such as self-efficacy and motivation affect participation in populations with acquired disabilities. Volition is defined as a person's motivation for participating in occupation. The concept of 'volition' expands similar concepts and theories, which focus mostly on cognitive processes that influence motivation. Although volition seems to affect participation, the association between these two concepts has not been examined in populations with acquired disabilities. This scoping review explored this association.

**Methods:** The literature review used a structured five-stage framework, according to predefined inclusion and exclusion criteria. Seven electronic databases (CINAHL, PsycINFO, PubMed, Web of Science, SCOPUS, The Cochrane Library-Wiley, OTseeker) and Google Scholar were searched for relevant articles, published in English from January 2001 to May 2018.

**Results:** A total of 18 articles, relating to populations with various diagnoses were included. Two directly examined volition and participation and showed a positive association between them. Other articles discussed the effect of participants' chronic condition on their volition and participation, the effect of volition on participation, or the effect on participation of an intervention addressing volition.

**Conclusions:** An acquired disability affects both volition and participation, and volition seems to affect participation among people with acquired disabilities. Few articles showed positive effects of interventions that addressed clients' volition, on participation. Further research should include additional health conditions and types of literature, to better understand the association between these concepts. This understanding will contribute to the development of occupational therapy interventions that emphasise volition, in order to improve participation outcomes.

## Keywords

Volition, participation, acquired disability, scoping review, Model of Human Occupation

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## Introduction

Participation is defined as 'the act of participating' or 'taking part in something' (<https://www.merriam-webster.com>). The concept of participation has developed over time and has expanded to various areas, including healthcare. A similar concept is 'patient participation'. According to Nilsson, From, and Lindwall (2019), patient participation includes a process of learning (the tasks, routines and roles that are relevant and available for the patient) and reciprocity (mutual engagement in activities), that occur in a caring relationship between the patient and the healthcare provider. Kvæl, Debesay, Langaas, Bye, and Bergland (2018) described two important components of patient

participation: 'engagement', which is the process of transitioning from a passive approach to one's medical condition or disability to a more active committed one;

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and ‘activation’, which is similar to the commitment component of patient engagement. They argue that patient participation is an important part of empowerment, which is the process of taking responsibility on one’s own health. According to Kvæl et al. (2018), the process of patient participation needs to be conceptualised as an interaction between health condition, environmental factors and the patient’s personal factors. In 2001, participation was given new meaning, as part of the International Classification of Function, Disability and Health (ICF) (World Health Organization, 2001). This classification is also based on the interaction between personal factors, the health condition and the environment, that together influence an individual’s functioning and disability. According to the ICF, participation is defined as ‘involvement in a life situation’ and includes communication, mobility, and domestic and community functioning. The ICF definition of participation seems to include the components of engagement and learning that were mentioned earlier. In addition, the definition of participation has been expanded more recently to include subjective issues such as choice, importance and enjoyment (Desrosiers et al., 2008; Heinemann et al., 2013; Vargus-Adams, 2012).

Since the publication of the ICF (2001), participation has become a major outcome of rehabilitation (Mallinson & Hammel, 2010; Engel-Yeger, Tse, Josman, Baum, & Carey, 2018), and an important outcome of interventions in occupational therapy (Lewthwaite et al., 2018; Noyes, Sokolow, & Arbesman, 2018; Piškur, 2013). Use of the concept of participation has expanded due to its association with satisfaction, wellbeing and quality of life (Amoah, 2018; Bergström, Guidetti, Tham, & Eriksson, 2016; Wong et al., 2017), and it is becoming a preferred outcome of rehabilitation specialists, especially for patients with acquired disabilities (Engel-Yeger et al., 2018).

The ICF defines disability as an ‘umbrella term for impairments, activity limitations or participation restrictions’ (WHO, 2001) that result from interactions between a person (with a certain health condition) and that person’s contextual (environmental and personal) factors. An acquired disability evolves following an accident, illness, or development of a health condition (Levack et al., 2015). A review of the literature shows that people with acquired disabilities due to diverse health conditions such as stroke, multiple sclerosis (MS), chronic pulmonary and kidney diseases, and mental disorders, usually experience a decrease in participation (Cahill, Connolly, & Stapleton, 2010; Chugg & Craik, 2002; Dumont, Gervais, Fougeyrollas, & Bertrand, 2004; Hoyle, Gustafsson, Meredith, & Ownsworth, 2012; Seidel et al., 2014;

Taylor et al., 2010). Various factors were found to affect participation among these populations, including age, motor and cognitive impairments, psychological factors, environmental accessibility and family support (Cahill et al., 2010; Desrosiers et al., 2008; Gadidi, Katz-Leurer, Carmeli, & Bornstein, 2011; Hammel, Jones, Gossett, & Morgan, 2006; Seidel et al., 2014). Another important factor that affects participation is self-efficacy, which was defined by Bandura (1997) as ‘the person’s belief about his/her ability to organize and execute the actions needed to accomplish a goal’.

Kielhofner’s Model of Human Occupation (MOHO) (Taylor, 2017) is a well-known theoretical and clinical model in occupational therapy. It aims to explain the factors that influence human occupation, a new term for participation. This model includes four major components that influence human occupation: volition, habituation, performance capacity and the environment. Volition, explains how individuals choose and are motivated to perform activities and occupations that fill their lives. It includes a process of anticipation (of fields of interest and activities), choice (of activities and occupations), experience (of actions and enjoyment/satisfaction) and interpretation (of these actions). The process is influenced by three elements: personal causation, values and interests. Personal causation is the awareness of the effects of one’s acting and doing, and includes a sense of personal capacity, which is an individual’s evaluation of his/her physical, intellectual and social abilities, and self-efficacy. Values derive from the surrounding culture, as the described process of anticipation, choice, experience and interpretation takes place within a cultural context. Interests are related to the enjoyment and satisfaction of doing things or participating in activities. Each person creates his/her own unique pattern of interests (Kielhofner, 2008; Taylor, 2017).

The concept of volition in the MOHO expands similar concepts and theories, such as Bandura’s Self-Efficacy theory (1994, 1997), and the Theory of Planned Behavior (Ajzen, 1991), that deal with the factors that motivate people to action. According to the Self-Efficacy theory (1994), human motivation is influenced by perceived self-efficacy, the beliefs that determine people’s goals, the effort they expend in their accomplishments, and their persistence in dealing with difficulties and failures. Ajzen’s Theory of Planned Behavior (1991) focuses on intention and motivation as the main causes for actions and behaviours. According to this theory, a person’s engagement in a behaviour or action is affected by the degree of intention for this action. This intention is influenced by personal attitudes or values, subjective norms, and the ‘perceived behavioural control’, that is congruent with Bandura’s definition of perceived self-efficacy

(Redding, Rossi, Rossi, Velicer, & Prochaska, 2000). These concepts and theories show that human motivation is influenced mostly by cognitive processes, that include thoughts and beliefs regarding capabilities, and the ability to direct and sustain behaviour towards a specific goal. Less attention is given to social and cultural factors, emotions and feelings – all of which could have a strong influence on motivation and participation (Pritchard, Brown, Barker, & Haines, 2014). The concept of volition in the MOHO expands upon these ideas, because it also includes socio-cultural and affective factors, which, according to this model, influence occupational choices and participation (Taylor, 2017).

Since a person's volition is also influenced by factors such as interests and values, which develop throughout one's life, the question raised is whether a person's volition might be associated with participation or improvement in participation after an injury, onset of a disease or chronic disability.

The literature shows evidence of an association between motivation and participation, especially in exercise or sport activities. Broonen, Marty, Legout, Cedraschi, and Henrotin (2011) describe the concept of 'implementation intentions', which is the plan to carry out a physical activity that connects the motivation to exercise with exercise participation. This was found in studies of individuals with acquired disabilities due to low back pain (Broonen et al., 2011), heart disease (Luszczynska, 2006) and spinal cord injury (Latimer, Ginis, & Arbour, 2006).

The 'Self-Determination Theory' (Ryan & Deci, 2007), postulates that intrinsic motivation is essential to exercise adherence. This theory was examined in several studies that showed an association between motivation and exercise participation in individuals with acquired disabilities due to MS (Fasczewski, Gill, & Rothberger, 2018), Parkinson's Disease (Chang, 2012) and other diseases. However, none of these studies related to the broader concept of volition as defined in the MOHO (Taylor, 2017), which includes emotional and cultural factors. Moreover, this body of research focuses on the association between motivation and participation mostly in exercise and sports and does not examine it in relation to participation in daily domestic and community activities. To the best of our knowledge, a review that examines the association between volition as defined by MOHO, and participation has not been conducted.

Examining the association between these two concepts is important, especially for occupational therapists, who focus on improving clients' participation in all facets of life. Increased understanding of this association is required to understand the implications of volition on participation outcomes, and to consider if and how it should be addressed in therapy. As many of

the clients treated by occupational therapists have acquired disabilities, it is important to examine the association between volition and participation in daily activities, particularly among these populations.

Arksey and O'Malley (2005) described four reasons for conducting a scoping review, one of which is 'to identify existing gaps in the literature', which is the main purpose of the current review. This scoping review aimed to summarise the evidence related to the association between volition and participation among adults with acquired disabilities.

## Methods

The methodology used in this study was based on the five-stage framework for scoping reviews proposed by Arksey and O'Malley (2005).

### Identifying the research question

The main question addressed in this review was: 'What is known from the literature about the association between volition and participation among people with acquired disabilities?'

### Identifying and selecting relevant studies

The following databases were searched by the authors for relevant articles published in English from May 2001 to May 2018: CINAHL, PsycINFO, PubMed, Web of Science, SCOPUS, The Cochrane Library-Wiley, and OTseeker. Google Scholar was also searched. The search was limited to journal articles published since May 2001, which is the date the ICF was first published (WHO, 2001), where the new meaning of the concept of participation was first mentioned. The review did not include evidence from published books or manuals. Search terms initially included volition combined with participation, without focusing on a specific population, to identify as many relevant articles as possible. A search in Google Scholar with these terms yielded 29,900 results. To narrow the search and reach more relevant articles, the term 'Kielhofner' was added.

The search included peer-reviewed articles that described exploratory, observational or interventional studies, using quantitative and/or qualitative methods. To reach all relevant literature, the search included grey literature that was found through Google Scholar. Articles and other forms of literature were selected if their content met all of the following criteria:

1. The term *volition*, based on Kielhofner's definition, appeared in the abstract and/or full text.
2. The term *participation*, in the context of the ICF definition or similar models mentioned above appeared in the

abstract and/or full text. 3. Literature related to populations with a disability due to an acquired disease or condition, regardless of age or type of disease. 4. Studies that included: a. an assessment or description of the participants' volition, individually or as part of the four components of the MOHO (Kielhofner, 2008), as well as a description or assessment of the participants' participation; or b. an intervention program that addressed volition and was related to improving aspects of participation. Articles were excluded if their content included studies regarding populations with congenital or developmental diseases; studies related to psychometric properties of assessment tools for measuring volition and/or participation; and studies in which the participants did not have a medical condition that caused a disability.

In the first phase of the search process, all titles and abstracts were reviewed by the first author and any literature that seemed relevant according to the inclusion and exclusion criteria was selected. In the second phase, the full text of all selected literature was reviewed by both authors independently. In case of discrepancies, consensus regarding selection was reached by discussion. The reference lists of all articles selected in the second phase were also searched manually by the first author, to identify additional articles.

### *Charting the data*

Once the articles were chosen, the author(s), year of publication, study location, diagnosis, sample characteristics, study aim, methodology (quantitative/qualitative/mixed), outcome measures and results relevant to the research question were recorded.

### **Collating, summarising and reporting the results**

After reading all included articles, the authors searched for common themes, and eventually defined three main categories into which all articles were organised (Table 1): (1) The influence of a disease or a chronic condition on volition and participation; (2) The influence of volition on participation; and (3) The effect of an intervention that addressed volition on participation outcomes.

Each author categorised the articles independently. This was followed by discussion between them when differences occurred until consensus was reached.

### **Results**

Initially, 1806 articles were found. After excluding duplicates, selecting literature by title and abstract,

and reviewing the full text of relevant literature, 18 articles were selected and included in this scoping review. The search process is represented in Figure 1. The studies were published from 2002 to 2018; eleven were quantitative, six were qualitative, and one used mixed-methods. Six took place in the United States and Canada, while the remainder were conducted in Australia, Europe, Hong Kong and Japan. Seven articles included people with mental disorders. The rest included individuals with traumatic brain injuries or stroke, progressive diseases (MS), injuries, and a variety of chronic conditions. Four studies related only to the aspect of participation in paid employment, while the others reported varied aspects of participation. Most of the articles were classified to category 2: the influence of volition on participation. Table 1 summarises the data from each article, including its category.

Two articles related to the research question specifically: Pritchard et al. (2014) and Carpintero and Santamaría-Vázquez (2017). Pritchard et al. (2014) examined the association between volition and participation among older adults living in the community with a variety of chronic conditions, including heart disease, cancer and stroke. Data regarding the levels of volition and participation were collected from the participants through self-report measures. The results showed a positive association between volition and participation in several daily activities, including light house-work, meal preparation, shopping and gardening, and in walking and strengthening exercises, suggesting that higher levels of participation were associated with higher levels of volition for these specific activities. Carpintero and Santamaría-Vázquez (2017) examined the influence of volition on independent occupational performance (a term similar to participation). In addition, they explored the relationships between the three stages of volition (exploration, competence and achievement), as defined by De Las Heras, Geist, Kielhofner, and Li (2007), and participation in BADL, IADL and social participation in people with mental disorders living in an institutionalised setting. The results found positive association between volition (and each of its stages) and independent participation in self-care, domestic and community skills, as well as social activities and relationships.

Three articles discussed the influence of a disease or chronic condition on volition and participation (category 1) (Cahill et al., 2010; Carpintero & Santamaría-Vázquez, 2017; Taylor et al., 2010). Their results presented a negative effect of a chronic disease on a person's volition and participation among populations with MS, CFS and mental disorders.

Twelve articles discussed the influence of volition (or one of its components) on participation (category 2)

Table 1. Description of included studies (alphabetised according to first author).

Author (year) Country	Diagnosis/age	Sample/ methodology	Objective	Outcome measures	Results related to the research question	Category
Cahill et al. (2010) (Ireland)	Multiple sclerosis (MS) Age=30-42	N = 7 Qualitative	To explore the occupational adaptation of a group of women with relapsing-remitting and progressive MS.	Occupational Performance History Interview, second version (OPHI-II); Occupational Questionnaire	MS affects volition (interests) and participation in roles. Progressive MS has more effect on occupational adaptation, and as a result on participation, than relapsing-remitting MS.	The effects of MS on volition and participation (category 1)
Carpintero and Santamaría-Vázquez (2017) (Spain)	Mental disorders (MD) in institutionalised setting Mean age= 48.5	N = 33 Quantitative	1. To assess the influence of volition on independent occupational performance 2. To analyse the relationship between the three stages of the volition (exploration, competence, achievement) and the areas of occupation that are affected (ADL, IADL, and social participation). To identify the factors that are associated with improvements in community functioning (i.e., self-care, independent living skills, social skills, and work skills) after one year.	The volitional Questionnaire version 4.0; Basic Everyday Living Skills (BELS)	Significant positive relationship between volition and independent occupational performance; nearly statistically significant negative relationship between onset of the MD and volition	The effects of MD on volition and participation (category 1); Influences of volition on participation (category 2)
Chan, Wong, & Chien (2018) (Hong Kong)	Psychiatric outpatients who receive medical and rehabilitation community services Mean age=43	N = 238 Quantitative		Specific Levels of Functioning (SLOF) scale; Chinese Rosenberg Self-Esteem (RSE) scale; Chinese General Self-Efficacy (GSE) scale; Brief Psychiatric Rating Scale (BPRS); Chinese version of Level of Expressed Emotion (LEE) scale; Perceived Devaluation and Discrimination (PDD) scale	1. Patients with higher levels of self-esteem (a variable related to volition) at baseline had a higher likelihood of achieving clinical improvements in social and work skills. 2. Change in work skills seem to associate positively with change in self-efficacy (a component of volition)	Influence of volition on participation (category 2)
Cole (2010) (United Kingdom)	People with mild to moderate depression and anxiety. Age not mentioned.	N = 7 Qualitative	To investigate the barriers and supports experienced by people with depression and/or anxiety when attempting to participate in physical activity (swimming, bicycling, etc.)	Semi-structured interviews	Several factors that related to the person, the activity and the environment were found to influence participation; volition components were found to be the most important.	Influence of volition on participation (category 2)
Dumont et al. (2004) (Canada)	Traumatic Brain Injury (TBI) Mean age=37	N = 53 Mixed	To identify resiliency factors that could improve social participation for adults with TBI	Assessment of Life Habits (LIFE-H); Self-efficacy Scale, PER Test (French); Four open-ended questions (for qualitative analysis)	The most important resiliency factors: dynamism, perceived self-efficacy, and will (components of volition)	influence of volition on social participation (category 2)

(continued)

Table I. Continued

Author (year) Country	Diagnosis/age	Sample/ methodology	Objective	Outcome measures	Results related to the research question	Category
Keilhofer et al. (2004) (USA)	AIDS Mean age=41	N = 129 Quantitative	To develop and evaluate a MOHO-based program of vocational services for persons with AIDS	OPH-II; demographics including history of mental health, substance abuse and imprisonment; follow-up check regarding occupational participation (work, school or volunteering) at 6, 12 and 24 months post-intervention Sign and Symptom Checklist for persons with HIV/AIDS (SSC-HIV); information collected post-intervention by phone or face-to-face regarding productive participation	46.5% overall success rate of the program. 60 out of 90 achieved employment, returned to school or began a volunteer position or internship.	An intervention that addressed volition led to an improvement in participation (category 3)
Keilhofer et al. (2008) (USA)	AIDS Age not mentioned	N = 65 Quantitative	To assess effectiveness of a MOHO-based program designed to increase productive participation, compared to standard care, among people living with AIDS within supportive-living facilities		Participants in the MOHO-based program had significantly higher productive outcomes compared to participants in the standard care group at 3 months, 6 months and 9 months post intervention, and a high intensity of productive participation (i.e. more than one productive role) compared to participants in the standard care program	An intervention that addressed volition led to a greater improvement in participation (category 3)
Lee et al. (2011) (USA)	Mental disorders Mean age=58.8	N = 625 Quantitative	To characterise the occupational profiles of service users classified to 20 clusters, as an evidence basis for the development of care packages	Health of the Nation Outcome Scales (HoNOS); Mental Health Clustering Tool; Model of Human Occupation Screening Tool (MOHOST)	Volition was found as the second factor (out of six) that interferes with occupational participation	Influence of volition on participation (category 2)
Linden et al. (2010) (Germany)	Mental disorders in inpatient rehabilitation Mean age=45	N = 213 Quantitative	To examine the relationship between measures of capacity, motivation and volition and participation in paid work	AVEM – A German questionnaire for assessment of volition and motivational problems; Endicott Work Productivity Scale (EWPS); Mini-ICF-Rating for Mental Disorders (Mini-ICF-APP) Questionnaire developed especially for the study, based on MOHO.	Significant correlations were found between capacities and participation at work, almost no correlation was found between work-attitudes, volition and motivation and work performance.	Influence of volition on participation (volition was less associated with work participation compared to low capacity (category 2)
Nour et al. (2015) (Canada)	Kidney transplant recipients Mean age=50	N = 144 Quantitative	1. To describe the profile of kidney transplant recipients from one major Canadian organ transplant center		The participants described person-related factors, including perceived readiness, external and internal sources of motivation	Volition is one of the factors that influence participation (category 2)

(continued)

Table 1. Continued

Author (year) Country	Diagnosis/age	Sample/ methodology	Objective	Outcome measures	Results related to the research question	Category
Papageorgiou et al. (2016) (Australia)	Older adults with chronic and progressive condi- tions: cancer, Rheumatoid arthritis, cardiac diseases, degenerative changes. Mean age=72	N = 10 Qualitative	2. To identify person- and work-related factors that the participants perceived as enabling or barriers to their participation in paid work.  To identify enablers and bar- riers to participation in community-based activities experienced by active older adults.	Semi-structured interviews	(including volition), and personal skills; and work- related factors, including job availability, job charac- teristics, and employer characteristics as contrib- uting to return to work following transplantation. Four themes of enablers and barriers to community participation: 1. Relationships; 2. Interests; 3. Personal knowledge and awareness towards health and wellbeing; and 4. Resources and the envi- ronment. The first two factors were identified as enabling community participation	Volition components (espe- cially interests) as enablers of community participa- tion. (category 2)
Pritchard et al. (2014) (Australia)	Older adults with one or several of these diag- noses: arthritis, heart disease, cancer, osteo- porosis, stroke, depression, diabetes, lung disease and visual impairment Mean age= 77.5	N = 244 Quantitative	To examine if volition is associated with participa- tion in daily activities, in a sample of older adults living in the community	Phone-FITT interview; Volition Scale (based on the Occupation Questionnaire)	Association between volition and participation was found in several daily activities, and exer- cise activities	Volition influences participa- tion (category 2)
Pritchard et al. (2014) (Australia)	Older adults post-hospi- talisation due to sever- al health conditions: Cardiac, falls, stroke, respiratory, and other. Mean age= 82	N = 16 Qualitative	To explore factors that sup- port or inhibit participa- tion in daily activities amongst older adults who have returned home fol- lowing hospitalisation	Semi-structured interviews	Personal Life Approach as the primary factor that influ- ences participation, and is determined by spirituality, volition, problem solving, optimistic/pessimistic point-of-view, and adapta- tions of expectations	Volition is one of the factors that influence participation (category 2)
Prior et al. (2013) (United Kingdom)	Mental illness Age=23-60	N = 27 Qualitative	To explore factors that influ- ence individuals' percep- tions of their readiness for employment, and actions for returning to/seeking out work	Qualitative methods – induc- tive thematic analysis of information gathered in focus groups and workshops	Volition was found to influ- ence participants' percep- tions regarding return to work, along with habitua- tion and the environment.	Influence of volition on par- ticipation (category 2)

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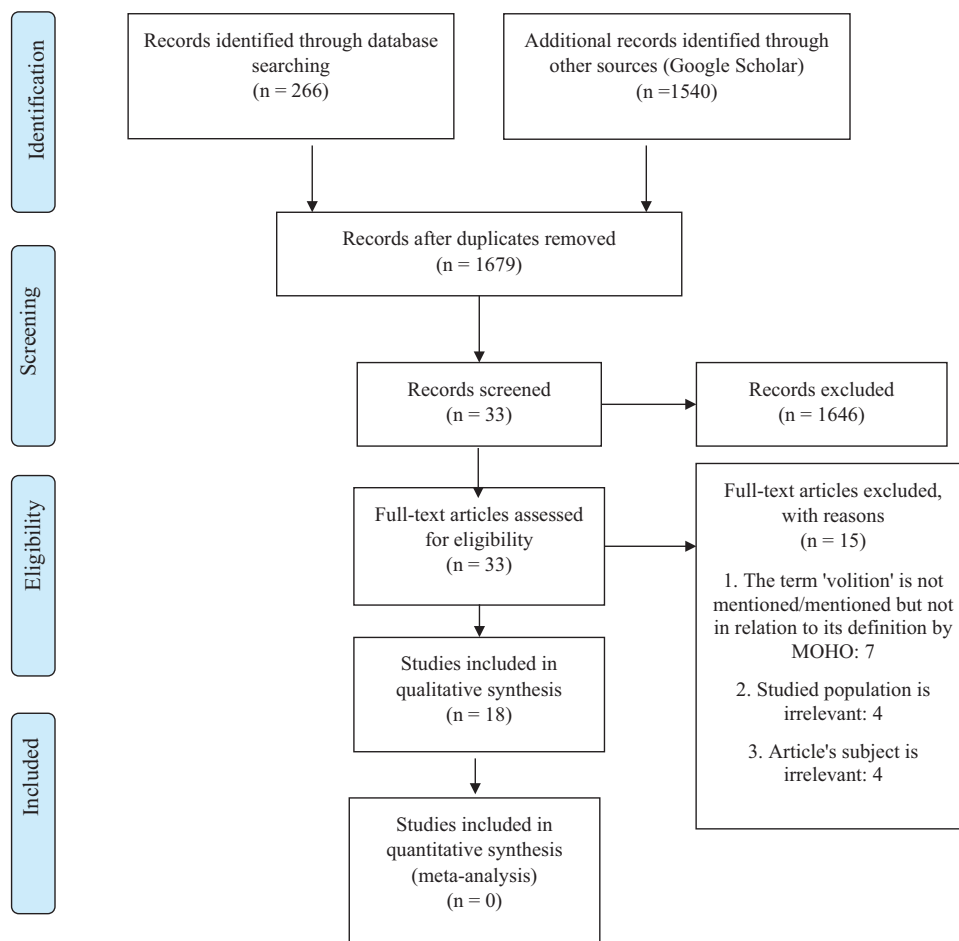
**Table 1.** Continued

Author (year) Country	Diagnosis/age	Sample/ methodology	Objective	Outcome measures	Results related to the research question	Category
Scheelar (2002) (USA)	Physical injuries	N = 2 Qualitative	To explore the reasons for the return of firefighters who are seriously injured on the job, to the same job	In-depth interviews with open-ended questions that were coded and analysed	Four common themes emerged; The volitional subsystem was manifested, especially in two them: interest in different careers, and personal gratification.	Volition influences participation (category 2)
Shinohara et al. (2012) (Japan)	Stroke Mean age: Experimental group=72.4 Control group=75.1	N = 36 (divided into experimental and control groups) Quantitative	To examine the effectiveness of MOHO-based intervention compared to non-MOHO-based intervention in improving ADL and health	Capable-ADL and Performance-ADL scale; QOL-26 (Japanese version); Short-Form Health Survey (SF-36) (Japanese version)	The MOHO-based intervention was more effective in improving ADL and QOL scores than non-MOHO-based intervention	An intervention that addressed volition led to greater improvement in participation (category 3)
Taylor et al. (2010) (USA)	Chronic Fatigue Syndrome (CFS) Mean age: CFS= 16.08 Controls= 16.31	N = 78 (divided into two groups: Chronic Fatigue Syndrome and Healthy controls) Quantitative	To compare young people with CFS and their matching controls in terms of occupational participation, volition and health-related quality of life, 6, 12 and 24 months after initial diagnosis	Chronic Fatigue Syndrome Screening Questionnaire; Observational Self-Assessment (OSA), Child Health questionnaire	Young participants with CFS had lower perceived competency scores compared with matched controls at baseline, 6 and 12-months. No significant differences were found between groups in the values component of volition and in perceived competency at 24 months.	CFS affects elements of volition (not values) and participation (category 1)
Turner and Lydon (2008) (Ireland)	Mental disorders Mean age=2	N = 28 Quantitative	to explore the impact of a MOHO-based program aimed to improve participation in terms of the participants' subjective experience	A lifestyle inventory from the Wellness and Lifestyle Renewal Manual	Improvement in all items of the questionnaire was found from baseline to 32 weeks, and additional improvement at 1 year in most items	An intervention that addressed volition led to improvement in participation (from subjective point of view) (category 3)

Note: Description of categories: Category 1: The influence of a disease or a chronic condition on volition and participation; Category 2: The influence of volition on participation; Category 3: The effect of an intervention that addressed volition on participation outcomes.

AIDS: acquired immune deficiency syndrome; LIFE-H: assessment of life habits; MOHO: Model of Human Occupation; ADL: activities of daily living; QOL: quality of life.





**Figure 1.** Flowchart of search strategy based on PRISMA flow diagram.

(Carpintero & Santamaría-Vázquez, 2017; Chan et al., 2018; Cole, 2010; Dumont et al., 2004; Lee et al., 2011; Linden, Baron, & Muschalla, 2010; Nour, Heck, & Ross, 2015; Papageorgiou, Marquis, & Dare, 2016; Prior et al., 2013; Pritchard et al., 2014; Pritchard, Warren, Barker, Brown, & Haines, 2016; Scheelar, 2002). The results of most of these studies, including Pritchard et al. (2014) and Carpintero and Santamaría-Vázquez (2017), showed that volition (or its components) affects different domains of participation, such as community and social participation, and return to work, among populations with various chronic diseases and conditions. Linden et al. (2010) was the only study that reported less effect of volition on participation. They found that work performance was affected more by the ability to work after the onset of the mental disorder, than it was with volition.

Four articles discussed the effect of an intervention that addressed MOHO components, including volition, on participation outcomes (category 3). The populations in these studies included post-stroke (Shinohara, Yamada, Kobayashi, & Forsyth, 2012), Acquired

Immune Deficiency Syndrome (AIDS) (Kielhofner et al., 2004; Kielhofner, Braveman, Fogg, & Levin, 2008), and people with mental disorders (Turner & Lydon, 2008). All four studies showed effectiveness of the interventions that addressed volition in improving objective or subjective participation outcomes. Moreover, Kielhofner et al. (2008) and Shinohara et al. (2012) also showed they were more effective than regular/standard care interventions were.

## Discussion

This scoping review summarises findings from 18 peer-reviewed articles regarding the association between volition and participation, among adults with acquired disabilities, that related to different elements of volition and participation. Only two studies (Carpintero & Santamaría-Vázquez, 2017; Pritchard et al., 2014) examined the research question specifically, and found a positive association between the two concepts. Their results indicate that volition, which includes the understanding of and confidence in one's self-ability,

the meaning of the activity, and the level of interest one has in the activity, is an important factor that can lead to more participation and engagement in daily domestic, community and social activities, and not only in exercise and sports activities, as was found previously in related literature; and vice versa: increased participation can lead to improvement in volition, all of which can result in improved health and wellbeing.

The remaining studies in the review showed a general influence of volition or its components on participation, and the influence of the disease or the chronic condition on volition and participation. Since the primary purpose of this scoping review was 'to identify existing gaps in the literature', the findings indicate that research in this field is still preliminary, despite its importance for the development of rehabilitation programs for people with acquired disabilities.

It is possible that only two studies that examined the association between volition and participation specifically were found, because the MOHO was used less as a clinical and theoretical model in therapy or rehabilitation settings of the populations mentioned in the review. Most adults with acquired disabilities such as TBI, stroke, MS, arthritis and the majority of chronic diseases, usually receive occupational therapy in medical or rehabilitation facilities. In these settings, the main treatment approaches focus on improving client factors, function and participation, by relating mostly to common basic and instrumental activities of daily living. In addition, limited time is given for therapeutic processes with each client within those settings, and sometimes there is an 'unspoken' expectation to perform a brief assessment and provide quantitative outcomes regarding the client's progress after one or two therapeutic sessions. This might explain the limited use of the MOHO and its specific instruments to assess clients' volition in the described settings, as compared to other settings and populations, such as people with mental disorders, developmental disabilities and dementia. The limited use of MOHO in these settings can also be concluded from other literature that relate to the relationship between volition and participation and were not included in the review, such as Des Las Heras, Lierena, and Kielhofner (2003) and Taylor (2017), which show the influence of focusing on clients' volition in therapy, on gradual improvement in their participation. Both the manual (Des Las Heras et al., 2003) and book (Taylor, 2017) exhibit the relationship between these concepts mostly in clients with mental disorders, dementia and developmental disorders and less in physical and neurological conditions, and/or physical rehabilitation settings. This can also explain the finding that almost half of the articles found in the current review focused on people with mental disorders. Another possible explanation is that the

concept of volition does not need to be assessed and addressed in some therapeutic settings; however, the results of this review seem to refute this explanation. The lack of using MOHO as a clinical and theoretical model with the described populations, along with possible lack of awareness of therapists regarding the importance of addressing volition in these settings, seems to be more reasonable.

The articles included in the review related to one or several aspects of participation (i.e. community/social participation, work etc.), as can be seen from the results. In addition, the concept of volition has appeared in various ways in the included articles: in most studies it was mentioned as one of the four major components of MOHO, in the rest only some components of volition were found to be associated with participation (especially personal causation and interests). These findings indicate the diversity in the relationship between these two concepts.

The results of this review shed more light on the dynamics between the volition and the participation of people with acquired disabilities. They imply that in most cases, their own perception of their abilities to participate in activities, independently or with support, their values – such as the importance of work, the value of being active, etc., and their fields of interest and enjoyment, will have positive (improvement) or negative (no change or deterioration) influences on their participation. In addition, the disease or condition itself can have a negative effect on volition and participation. Nevertheless, a decrease in participation due to the disease or disorder, does not have to be caused by a decrease in volition (Linden et al. 2010).

## Study limitations

This scoping review had several limitations. First, it did not include books or other forms of literature such as manuals. This might have limited the evidence found regarding the research question. In addition, very few of the selected articles specifically examined the association between volition and participation. Second, the populations studied did not include some health conditions that have major implications on functioning and participation, such as Parkinson's disease, spinal cord injury or motor neuron diseases. Furthermore, the interventional studies included in the review examined only people with AIDS and post-stroke. The exclusion of literature that was not published in English, might have omitted additional relevant articles. Moreover, the very specific inclusion criteria, might have omitted related literature that used different wording or terminology. A more general search yielded a few relevant articles that exhibited the relationship between volition and participation but they did not use the concepts of

'participation' (Jones, 2008) and 'volition' (Fan, Morley, Garnham, Heaseman, & Taylor, 2016). The quality of the articles included in the review was not assessed; however, this is usually not part of a scoping review. A further limitation is that the outcome measures used in the included studies were mostly self-report instruments. No observational tools were used to assess volition and participation, but this is probably due to a lack of instruments that were appropriate for the studies' aims and settings. It is recommended future reviews include evidence of the implementation of MOHO and its components including volition, in populations with acquired disabilities, as described in books and other forms of literature regarding MOHO (De Las Heras et al., 2003; Taylor, 2017).

## Conclusions

This review suggests that the volition of a person with an acquired disability is an important factor which affects participation in domestic, social and community activities, as well as employment. Furthermore, a disease or a major change in health status can affect both volition and participation, and an intervention that addresses volitional components can contribute to improving participation. We believe these findings highlight the importance of examining the association between the two concepts, in order to improve rehabilitation outcomes.

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