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Detecting changes in perceived human agency of older adults in group-based rehabilitation

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Detecting changes in perceived human agency of older adults in group-based rehabilitation

Tools assessing person-centered rehabilitation should promote client self-awareness as well as measure the target outcomes. The aim of this study was to evaluate the ability of the Assessment of Perceived Agency (ATPA19) to track changes in rehabilitation for older adults. Older adults (mean age 79) participated in a ten-month intervention (baseline n=97, and follow-up n=63). The ATPA19 and WHOQOL-BREF physical domain showed the strongest correlation and were the only tools that detected significant changes in older adults. The ATPA-19 is an agency-based tool that can reveal new effects complementing those of the assessment tools commonly used in rehabilitation in older adults.

Keywords: human agency; occupational balance; occupational competence, resilience; responsiveness

Introduction

The main aim of this study was to evaluate the responsiveness of the Assessment of Perceived Agency (ATPA19) by studying its ability to track changes in the perceived agency of older adults in rehabilitation compared to that of the assessment tools commonly used in the Finnish rehabilitation context. The reason for undertaking this task is the ongoing change in favour of a life course-focused approach in group rehabilitation for older adults and the consequent need for an agency-based assessment tool.

In clinical practice, three main criteria govern rehabilitation professionals' choice of assessment tools. The first, and most important criterion is that the tools used assess the target phenomena. The second is that the assessment should generally promote awareness in both the client and the professionals of the overall aim of the rehabilitation and the outcomes that should be prioritised. The third is that the assessment tool used is able to detect the changes brought about by the intervention. Therefore, since human agency is the starting point and a target outcome of rehabilitation, the assessment tools should also focus on the underlying domains of human agency, including participation.

Person-centred rehabilitation amongst older adults

Person-centered and participation-focused approaches have also been introduced in gerontological rehabilitation (Agronin, 2010), in which the multiprofessional rehabilitation of older adults is described as a client-centred and goal-directed process aimed at assisting rehabilitees to achieving an independent and autonomous life. The discourses of aging emphasise the importance of being active, remaining socially engaged, and living independently (Bontje, Alsaker, Asaba, Kottorp, & Josephsson, 2019). Current gerontological rehabilitation can also be labelled as activity- or

participation-focused services that enable older adults to continue their individual lives in their homes for as long as possible

Health professionals have an important role to play in promoting the active and healthy lifestyle of older adults in the services provided to them (Larsson & Österholm, 2022). The process of rehabilitation can be successful in increasing older adult's participation in meaningful activities, but their sense of well-being may still reduce (Provencher et al., 2018). The insights older people gained about themselves and their health during rehabilitation can motivate them to continue meaningful activities but can also raise concerns about the future (Sondell et al., 2021). However, while person-centered approaches have emphasised the individual needs of older adults, the implementation of rehabilitation has failed to fully recognise older adults as active subjects with unique life courses (Pikkarainen, 2020). Further, in current rehabilitation practice, the concepts of activity and participation have also been slightly conceptualised and narrowly implemented (Pikkarainen, Vähäsantanen, Paloniemi, & Eteläpelto, 2015). Older adults should, especially during gerontological rehabilitation, also be given an opportunity to formulate their future life course perspective with positive, meaningful elements (Pikkarainen, 2020). This was found to be achievable in a group-based rehabilitation intervention where the rehabilitees were encouraged to examine their previous life course and current life situation by sharing their individual and cohort experiences with the other participants (Pikkarainen, Vähäsantanen, Paloniemi, & Eteläpelto, 2019).

The human agency approach in rehabilitation context

Human agency, the core phenomenon in different theoretical approaches, has generally been seen as a multidimensional and reciprocal relationship between individuals and

their contextual structures (Eteläpelto, Vähäsantanen, Hökkä, & Paloniemi, 2013). In line with this principle, human agency in older adults can be described as based on their individual experiences in the sociocultural contexts in which they have lived their lives. Their unique life course also affects their interpretation of themselves as agents in their present life situation and in different contexts, including rehabilitation. The perceived rehabilitation of older rehabilitees has usually been studied as (1) a body functions-based process, (2) an internal transitional life course process or (3) an interactive process between these two modes. However, older rehabilitees often need to adapt to the rehabilitation context and intervention offered to them (Pikkarainen & Koivula, 2019). Therefore, it is important in rehabilitation not only to focus on body functions and structure but also to choose also assessment tools that focus on the common goals of the agency-based and life course-focused types of intervention.

The practical agentic projects of older adults' everyday life can be described by reference not only to the concepts of occupational balance or occupational competence but also the general theoretical concept of resilience (Fig. 1). First, we define occupational balance as the subjective perspective of a phenomenon in which harmonic mix, meaning the satisfied variation of different occupations, abilities and resources in relation to one's occupational requirements and congruence with one's values and personal meanings (Eklund et al., 2017). Second, we define occupational competence as the combination of a person's knowledge, skills, experience, and traits that enable performance of the activities that are required or desired to be performed (De las Heras de Pablo, Fan, & Kielhofner, 2017). Christiansen (1999) pointed out that the normal age-related decline in the abilities of an older adult does not categorically mean a decline in competence. Thus, while the mobility and physical strength of an older adults may decrease, they may continue to maintain a flourishing garden or a rich social life.

Third, we refer to resilience as an adaptive process which empowers a person to recover from an adverse event or significant source of stress (Tomás, Sancho, Melendez, & Mayordomo, 2012). Nevertheless, decreased functional ability may cause stress in relation to perform daily life tasks, as also may major life events such as a serious illness or the loss of a loved one. In such cases, resilience may be an important component of older adults' recovery from daily stress or hardship (Ong, Bergeman, & Boker 2009).

Figure 1 about here

Although theoretical knowledge offers a basis for reinforcing human agency via participation and an emphasis on person-centred practice, this may not always be achieved in interventions (Pikkarainen, 2020), including occupational therapy (Karstensen & Kristensen, 2020). Moreover, rehabilitation services for older adults remain largely based on the assessment of physical and cognitive capacities or health-related quality of life. This might be because little evidence has been gathered so far on the validity and reliability of measures assessing participation among older adults (e.g. Mangiaracina et al., 2019). Nevertheless, the concept of human agency has rarely been operationalised using an explicit definition, core meanings or individual or contextual dimensions. In this study, human agency was operationalised using the three concepts described in the preceding section, i.e. balance, competence, and resilience, and studied in the context of a group-based rehabilitation intervention implemented in Finland. In this intervention, the individual dimensions of agency were defined by the ATPA-19 (Lautamo, Paltamaa, Moilanen, & Malinen, 2020). The focus of this study was to evaluate a

group-based rehabilitation older adults' in Finland using a new assessment tool, the Assessment of Perceived Agency (ATPA-19).

Study aims

The aim of this study was to evaluate whether the ATPA-19 can detect changes in perceived agency in a practical rehabilitation follow-up trial. The aim was not to assess the effectiveness of the intervention or study the test-retest reliability of the ATPA-19 in the traditional manner. Instead, the focus was on the utility of the ATPA-19 as a measure of change, and to compare it in this respect with the assessment tools (WHOQOL-BREF, BDI-21 and FSQ) commonly used in the rehabilitation of older adults in Finland. To attain these goals, we set the following research questions:

- (1) Does the level of perceived human agency of older adults, measured with the ATPA-19, correlate with the different WHOQOL-BREF quality of life domains, the FSQ functional status domains or BDI-21 depression scale ratings?
- (2) Is the ATPA-19 able to track changes in the perceived human agency of older adults in a ten-month group-based rehabilitation intervention?
- (3) Do the changes detected by the ATPA-19 measures occur concurrently with the different of WHOQOL-BREF quality of life domains, (FSQ) functional status domains, or BDI-21 depression scale ratings?

Methods

Participants

The present participants were consenting older adults enrolled in a ten-month group-based rehabilitation intervention in five rehabilitation centres in different parts of Finland (see Fig 2). Of the 100 older adults who gave their informed consent to participate in the study (eligible for baseline analysis n=97), 67 percent (n=63)

remained at follow-up. Most of this attrition was due to cancellations of courses owing to the Covid-19 pandemic. Nine persons dropped out for unknown reasons. The attrition analysis was conducted for these individuals to determine whether drop-out was affected by any systematic patterns.

Figure 2 about here

All the available data on the participants who completed the intervention process were used in the final analysis. Altogether, 63 of the older adults completed the ATPA-19 on both occasions (baseline and follow-up) and data on the other instruments was collected from 57-58 participants. The descriptive characteristics of the 97 baseline and 63 follow-up participants are presented in table 1.

Intervention

The periods in the rehabilitation centres mainly comprised group-based interventions (physical training, psychosocial counselling, and health promotion discussions). Some individual rehabilitation sessions (functional assessments, goal setting, and evaluation sessions of rehabilitation outcomes) were also given. The rehabilitation process was implemented at the rehabilitation centre in three five-day sessions spread over a period of 10 months. Participants also received one home visit during the intervention. The main responsibility for the rehabilitation programme was borne by a multidisciplinary team consisting of a physician, a nurse and a physical therapist. If needed other professionals, such as an occupational therapist, a psychologist or a nutritionist were included in the team. The rehabilitation interventions were financed and supervised by the Social Insurance Institution of Finland (Kela, 2016).

Instrumentation

Rehabilitation centres (producers) are tasked with administering follow-up assessment protocols, as described in the manual issued by Kela. For this ten-month rehabilitation intervention study, four different assessment tools were used to measure possible changes in older adults' subjective functioning. The four tools were the new assessment instrument for perceived human agency (ATPA-19), and the three instruments recognised by Kela. Use at follow-up of the WHOQOL quality of life assessment and the Beck Depression Inventory (BDI-21) is mandatory whereas the Functional Status Questionnaire (FSQ) is optional (Kela, 2016).

Assessment of perceived agency, ATPA-19

The ATPA-19 (see Table 3 for items) is designed to assess perceived human agency. The 19 items, presented as statements, are spread across its three transactional features: competence, resilience, and balance. Participants self-rate each statement on a 6-point scale (1= not at all true, 6= perfectly true).

In previous studies, the many-faceted Rasch model (MFR) has been used to gather evidence on the validity of the internal structure of the ATPA (Lautamo et al., 2020; Juntunen, Lautamo, Lällä, & Pikkarainen, submitted). The MFR model enables the construction of objective scales that are separable from the distribution of the target attributes (Bond & Fox, 2007). Previous studies (Lautamo et al., 2020; Juntunen et al., submitted) have found the content and construct validity of the ATPA-22 and ATPA-19 to be adequate. The ATPA-19 has proven to be a unidimensional measure with excellent internal consistency ($\alpha = 0.90$) when used with older adults (Juntunen et al., submitted). In addition, in a previous study (Lautamo et al., 2020), the ATPA-22 has also shown a strong

correlation with the EuroHIS-8, a quality of life screening tool, when used with young adults.

Assessment of the Quality of Life, WHOQOL-BREF

The WHOQOL-BREF is a self-administrated assessment of perceived quality of life, but it can be also administered by interviewed when self-completion is not possible. (Skevington, Lotfy, & O'Connell, 2004) The WHOQOL-BREF comprises 26 questions in four domains: physical health, psychological health, social relationships, and the environment. The items in each domain are positively scored, with higher scores indicating higher health-related quality of life. Mean domain scores are then calculated for each domain and converted to a 100-point scale (World Health Organization, 1996). The WHOQOL-BREF has been reported to be a high-quality patient-centred generic instrument for individual assessment in clinics as well for research and audit purposes (Skevington et al., 2004). The WHOQOL-BREF also seems to be of benefit in goal setting situations, at least in the context of health care services (Llewellyn & Skevington, 2016).

The psychometric properties of the WHOQOL-BREF have been evaluated using cross-sectional data obtained from a survey of culturally defined adults carried out in 23 countries (Skevington et al., 2004). The internal consistency of the WHOQOL-BREF has been reported to range from average (0.5-0.8) to excellent (>0.8) in all domains except social relationships, where it was below the commonly accepted value of 0.7 in all studies (de Mol et al., 2018; Pomeroy, Tennant, Mills, & Young, 2020; Skevington et al., 2004). The construct validity of WHOQOL-BREF has been reported to be good. Item-total correlations between domains were strong, positive, and highly significant. Discriminant validity between well and unwell participants has also been reported as

good and was best demonstrated in the physical domain (Skevington et al. 2004). The responsiveness of the WHOQOL-BREF has ranged from satisfactory to good depending on the target patient group (Hwang, Liang, Chiu, & Lin, 2003; O'carroll, Cossar, Couston, & Hayes, 2000). Effect sizes of the WHOQOL-BREF have ranged from 0.10 in the social relationship domain to 0.37 in the physical domain (Skevington & Epton, 2018), indicating that the instrument is not highly responsive.

The Beck Depression Inventory, BDI-21.

The 21 -item BDI evaluates key symptoms of depression including mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido (Beck, Steer, Beck & Newman, 1993).

The advantages of BDI are its high internal consistency, high content validity, discriminant validity between depressed and nondepressed subjects, sensitivity to change, and internal propagation. Nevertheless, BDI has some shortcoming including high item difficulty, lack of representative norms, controversial factorial validity, and instability of scores over short time intervals (Richter, Werner, Heerlein, Kraus, & Sauer, 1998).

BDI has been translated and validated in Finland. However, several other Finnish versions have since been developed and are currently in use in Finland. In the present study, in spite of the general assessment protocol stipulated by Kela, two different Finnish versions with different scales were being used in the participating rehabilitation centres. Based on study of Finnish population BDI has a coefficient alpha 0.75 - 0.84 which indicates acceptable internal consistency (Nuevo, Reyna-Liberato & Ayuso-Mateos, 2009). Convergent and discriminant validity was supported by the correlations

found between the BDI-II and other measures among older adults. Thus, the BDI-II has psychometric support as a screening measure for depression (Segal, Coolidge, Cahill & O'Riley, 2008).

Functional Status Questionnaire, FSQ.

The Functional Status Questionnaire (FSQ) is intended to be a generic subjective measurement of functional capability. The FSQ was originally developed to assess physical, psychosocial, social, and role functioning in ambulatory patients (Jette et al., 1986). It is a self-administered survey that takes approximately 15 minutes to complete and can be scored to produce a one-page report for clinical use. Swedish, French, and German versions have been developed. A Finnish language version of the FSQ was developed by Paltamaa (2008). The Finnish version only comprises the two domains of basic activities of daily living (BADL) and instrumental activities of daily living (IADL), which include mobility items. Both BADL and IADL scores have demonstrated good internal consistency (Cleary & Jette, 2000). Cleary and Jette (2000) concluded that the FSQ, although relatively short, is valid tool for use in different settings and with different client groups. However, no test-retest studies or information on its responsiveness to change in the functioning of ambulatory client groups currently exist.

The Finnish version of the FSQ contains 14 items: 4 in the BADL and 10 in IADL domain (Paltamaa, 2008). Participants rate their level of difficulty in performing the different activities over the past month. We used a 4-point scale: 4=usually performed without difficulty, 3=usually with some difficulty, 2=usually with a lot of difficulty, 1=not performed owing to health issues.

Data analysis

First, withdrawal analysis was conducted for the nine participants who dropped-out of the 10-month rehabilitation intervention. Looking at the distribution of responses, we found that the responses "never true" and "very rarely true" were rare, leading to an imbalance in the scale. Due to the imbalance of scale categories, we recoded the original 6-point scale of the ATPA19 to 4-point (Juntunen et al., Submitted), and calculated the two different logit values (pre and post) for level of perceived agency (ATPA-19) using MFR analysis (Linacre, 2020). To obtain comparable quantitative measures, the logit scores for the ATPA-19 items were anchored based on larger data from a previous study (Lautamo et al., 2020). Individual raw scores of the WHOQOL-BREF, BDI-21, and FSQ items were transformed and derived to the scores of the domains (WHOQOL-BREF and FSQ). As two different versions of the BDI-21 scale were in use in the rehabilitation centres, the total index was calculated based on the original BDI II scale (Beck, Steer, & Brown, 2004).

To answer the first research question, i.e., whether the level of perceived human agency of the older adults, measured with the ATPA-19, correlates with the results for the WHOQOL-BREF domains, BDI-21 ratings, or FSQ domains, the correlations between the ATPA-19 logits, WHOQOL-BREF and FSQ sub-domain scores and the total index of the BDI-21 were calculated (Pearson) using the total data of all relevant cases (n=97) (table 2)

To answer the second and third research questions, i.e., whether the ATPA-19 is capable of tracking changes in the perceived human agency of older adults in group rehabilitation and whether the changes in the ATPA-19 measures occur concurrently with those in the different WHOQOL-BREF domains, functional status (FSQ) domains, or depression scale ratings (BDI-21), four different dependent samples t-tests were used. The effect sizes (Hedges'g) of statistically significant changes ($p \leq 0.05$) were

calculated. According to the most commonly used rule of thumb for interpreting Hedges' g values, 0.2 = a small effect, 0.5 = a medium effect, and 0.8 = a large effect (Durlak, 2009). The normality of the variances was confirmed with the Levene's tests.

Results

Mean participants age (see Table 1) was 79 (SD 5.4) at baseline, and 68% of participants were female (72% in follow-up). At baseline, 57% and at follow-up 65% of participants lived alone. Participants' perceived functional capacity (scale 1-10) was 6.5 (SD 1.5) at baseline and 6.7 (SD 1.9) at follow-up. Owing to the Covid-19 epidemic, the last rehabilitation period was cancelled for all 24 participants.

As eight participants (female $n=6$, male $n=2$) dropped out during the 10-month intervention period, attrition analysis was performed. Those who completed the rehabilitation process showed higher ATPA-19 values ($p<.001$), better quality of life in the physical ($p<.001$) and psychological ($p=.003$) domains, a lower BDI-21 index ($p=.004$), and a higher FSQ IADL index than dropouts.

Table 1 about here

Results of the Pearson correlation indicated that there was a significant positive association between the ATPA19 and the domains of WHOQOL-BREF (physical health: $r(90) = .52, p < .001$; psychological: $r(90) = .54, p < .001$; social relationship: $r(90) = .48, p < .001$; environment: $r(90) = .58, p < .001$). ATPA19 and BDI 21 were found to be moderately negatively correlated, ($r(90) = -.29, p = .005$), and ATPA19 and IADL domain of FSQ were found moderately positively correlated ($r(90) = .33, p = .001$). The lowest correlation was revealed between ATPA19 and BADL domain of FSQ ($r(91) = .26, p = .013$). It is important to note that, in the FSQ's BADL domain ratings were strong ceiling effect.

The dependent t-test for the ATPA-19 measures showed statistically significant differences ($t(62) = -6.33, p < 0.001$) in change in perceived human agency between the two measurements (Table 2): the t-test confirmed that the means differed significantly and the effect size was between medium and large (*Hedges' g* = 0.69). Only one other measurement, in addition to the ATPA-19, indicated a positive outcome of the 10-month rehabilitation: the t-test showed a significance level of 0.05 for WHOQOL-BREF, physical domain measure ($t(55) = -2.54, p = 0.014$), although the effect size was relatively small (*Hedge' g* = 0.30). No other statistically significant changes were observed.

Table 2 about here

Discussion

In this study, the main aim was to introduce an agency-based assessment tool into a group-based rehabilitation intervention for older adults in Finland. This was done by evaluating the Assessment of Perceived Agency (ATPA-19) in older adults' rehabilitation by studying its ability to detect changes in comparison with the assessment tools commonly used in Finland (WHOQOL-BREF, BDI-21 and FSQ).

This study found that the ATPA-19 showed a significant positive correlation with the WHOQOL-BREF physical health domain and with the FSQ IADL domain, and a negative correlation with the BDI-21. In contrast, the correlation with the FSQ BADL domain was not statistically significant. However, little variation in the BADL scores was observed owing to the strong ceiling effect. The strongest correlation was between the ATPA-19 and WHOQOL-BREF physical health domain. This is consistent with the results of a previous study (Lautamo et al., 2020) conducted with young adults in which the ATPA-22 correlated strongly with the EUROHIS-8, an abbreviated version of the

WHOQOL-BREF. As the literature contained very little information on predictors of human agency in older adults, it is difficult to compare the lower correlation found in this study between the ATPA-19 and BDI 21 and between the ATPA-19 and FSQ IADL with the findings of other studies.

A strong relationship between occupational balance and health or well-being has been reported (Anaby, Backman, & Jarus, 2010; Bejerholm, 2010; Forhan & Backman, 2010; Wagman, Håkansson, & Björklund, 2012; Park, Lee, Jeon, Yoo, Kim, & Park, 2021). However, a Norwegian study of residential older adults found an association between quality of life and occupational balance among males only (Aas, Austad, Lindstad, & Bonsaksen, 2020). This inconsistency may be due to different definitions of the concept of occupational balance in different studies, such as objective patterns of daily occupations or subjective experience of occupational balance (Wagman, Håkansson, & Jonsson, 2015) or to differences in the target groups investigated. A relationship with health-related quality of life has also been found for both occupational competence (Ishibashi, Yamada, Kobayashi, Hashimoto, & Forsyth, 2013) and resilience (MacLeod, Musich, Hawkins, Alsgaard, & Wicker, 2016).

Instead, more research is needed on the relationship between depression and occupational balance. Furthermore, there is a lack of research on how depression relates to occupational competence, although frailty, illness or functional disability of older adults are risk factors for depression (Chu et al., 2019; Qiu et al., 2020). In addition, research has shown that poorer resilience is associated with depression in older adults (Laird et al., 2019). Future research on the ATPA19 concurrent validity test could be explored with measures assessing its latent concepts, such as the Occupational Balance Questionnaire (Håkansson, Wagman, & Hagell, 2020), Occupational Self Assessment

(Kielhofner, Forsyth, Kramer, & Iyenger, 2008) or State-trait Assessment of Resilience Scale (STARS) (Lock, Rees, & Heritage, 2020).

The second question addressed in this study was to determine whether the ATPA-19 is capable of tracking changes in the perceived human agency of older adults in group rehabilitation and the third to determine whether changes detected by the ATPA-19 are similarly detected with the other instruments. Statistically significant positive changes were observed only in the ATPA-19 scores and in the physical health domain of the WHOQOL-BREF. One unexpected finding was that this positive change did not extend to the other WHOQOL-BREF domains or to depressive symptoms. The BADL and IADL scores decreased during the follow-up period. Although this change was not statistically significant, it should be noted that some deterioration in these skills does not necessarily mean a deterioration in the quality of life or agency of older adults. For example, older adults can replace a disagreeable IADL activity with other leisure activities that correspond to their own values. This may support Christiansen's (1999) view that in older adults, the physical limitations of aging do not automatically impair their competence and that their human agency may even increase. Interestingly, nearly 40 years ago, it was proposed that advanced activities of daily living (A-ADL), including voluntary physical and social activities, could be predictors of impairment in B-ADL and IADL activities in older adults (Reuben & Solomon, 1989). Today, the A-ADLs of participation in societal and leisure activities are universally seen as a meaningful dimension of individual human agency in the life course.

In this study, participants were independent in BADL activities, mainly because of the eligibility criteria for rehabilitation (independence ambulation and living at home, without permanent services). However, agency-based rehabilitation interventions using multidisciplinary theoretical approaches will be needed in the future, as the new cohorts

of older adults will be more heterogeneous as well as have better health and functional capacity, better education and a better economic situation, along with greater diversity in their life courses (Koivunen, Sillanpää, Munukka, Portegijs, & Rantanen, 2020; Munukka et al., 2020). The human agency approach could be useful in interventions for burdened caregivers who may have difficulties managing other responsibilities and roles besides caregiving and may feel trapped in their role as caregivers (Rahmani et al., 2018). In fact, nearly 70% of Finnish caregivers of older adults reported spending 13-24 hours per day on caregiving and feeling often or always trapped (Juntunen, Nikander, Törmäkangas, Tillman, & Salminen, 2017).

In this study, the most significant changes after the rehabilitation intervention were detected by the ATPA-19. It should be noted that, unlike the other assessment tools studied, individuals' ATPA-19 logit values were calculated using MFR (Linacre, 2020). In addition, the ATPA-19 logit scores were anchored based on the scores of a larger data base used in previous research (Lautamo et al., 2020). Thus, the ATPA-19 scores allowed for a more accurate comparison than, for example, calculating sum scores or overall mean scores. It is highly recommended that for research purposes ordinal scores are transformed into logit scores to obtain additive numbers when comparing different data (Bond & Fox, 2007).

Dropouts showed a weaker profile in the baseline measurements. We concluded, therefore, that a person with moderate depressive symptoms and poor quality of life may be at risk of discontinuing the rehabilitation process and dropping out. The assessments used in the first phase of the rehabilitation process should also direct individual goal setting with more precision, focusing on the features that support an individual's perceived agency, and should be more accurately connected to the measures used in the group intervention.

Nowadays, the efficacy of rehabilitation for older adults' is mainly evaluated by assessment of their physical and cognitive capacities and quality of life in relation to their state of health or body functions and structures. These assessment practices have found the benefits of rehabilitation to be weak or temporal and ineffectively integrated into the home setting. However, older adults have many narrative descriptions concerning their perceived changes in their current life situation in their future expectations as an older person. (Pikkarainen & Koivula, 2019) In this study, we designed and implemented a new tool for assessing human agency that included a participation dimension, the aim being to discover not measured but latent, meaningful dimensions of the everyday life and life course of older adults.

Practical considerations.

During a group-based rehabilitation intervention, older adults have a unique possibility to examine their previous life course and agentic history within a contextual dimension of human agency, that is, with their peer rehabilitees. Through these shared individual and cohort experiences, they can evaluate their current human agency with traditional, established functional measures. Therefore, assessing perceived agency should be taken as both a starting point and outcome of gerontological rehabilitation. In clinical use with older adults, the ATPA-19 can be used as an interview tool to help both clients and occupational therapists identify clients' perceptions of their agentic strengths and challenges to their agency.

At the start of a group-based rehabilitation intervention, older adults are not only able to reflect on their life course and agentic experiences but also to negotiate a new kind of agentic project for their future, on both the individual and cohort levels. Older adults' rehabilitation goals should be in line with their individual life course goals. The

ATPA-19 also highlights changes in the areas of individual competence, resilience, and occupational balance. These issues are latent factors rather than symptoms of illness and can be expected to change during the group-based rehabilitation. The ATPA-19 highlights the potential effects of group rehabilitation on these latent factors and the client's perceived agency.

Limitations and strengths.

The study was conducted during 2019 and spring 2020, when some rehabilitation sessions had to be cancelled due to the COVID-19 pandemic, thereby reducing the number of participants in the follow-up assessment. Moreover, the study design did not include a control group, so we cannot determine whether the changes in ATPA-19 are related to the rehabilitation programme or to other factors.

However, one half day webinar, in which staff members were orientated and educated in the theory and practice of the ATPA-19 and their role in data collection, was organized at each rehabilitation centre. However, feedback information was not collected, and thus there was no possibility to evaluate or describe how the ATPA-19 was used in the assessment in either the individual or group setting, or how the results of ATPA-tool were utilized during the rehabilitation intervention with individuals or the group.

The strengths of the study design were the use of a follow-up survey and having sufficient data for the statistical methods used. The five rehabilitation centers were located in different part of Finland, enabling a diversity of Finnish older adults to be reached and evaluated.

Conclusion

In this study, human agency in the ATPA19 was operationalized into three agentic domain, competence, resilience, and occupational balance. As expected, the ATPA19 was positively correlated with quality of life and IADL and negatively correlated with depressive symptoms in the rehabilitation context of older adults. The responsiveness of ATPA19 was promising. Thus, the ATPA19 as a clinical tool for the self-evaluation human of agency by older adults and it also detects individual changes between baseline and follow-up measurements. However, the structural and contextual dimensions of agency should also be studied alongside these individual dimensions as an interactional, parallel component. In line with this goal, the content of rehabilitation interventions should also be studied, with the aim of integrating the agency-based approach into the whole intervention process along with different temporal and contextual elements. The test-retest validity of the ATPA-19 should be further confirmed with different study populations.

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Compliance with Ethical Standards

Ethics approval was obtained from the Social Insurance Institution of Finland.

All research procedures involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: An informed consent was obtained from all participants.

Conflict of Interest: The authors declare no conflicts of interest.

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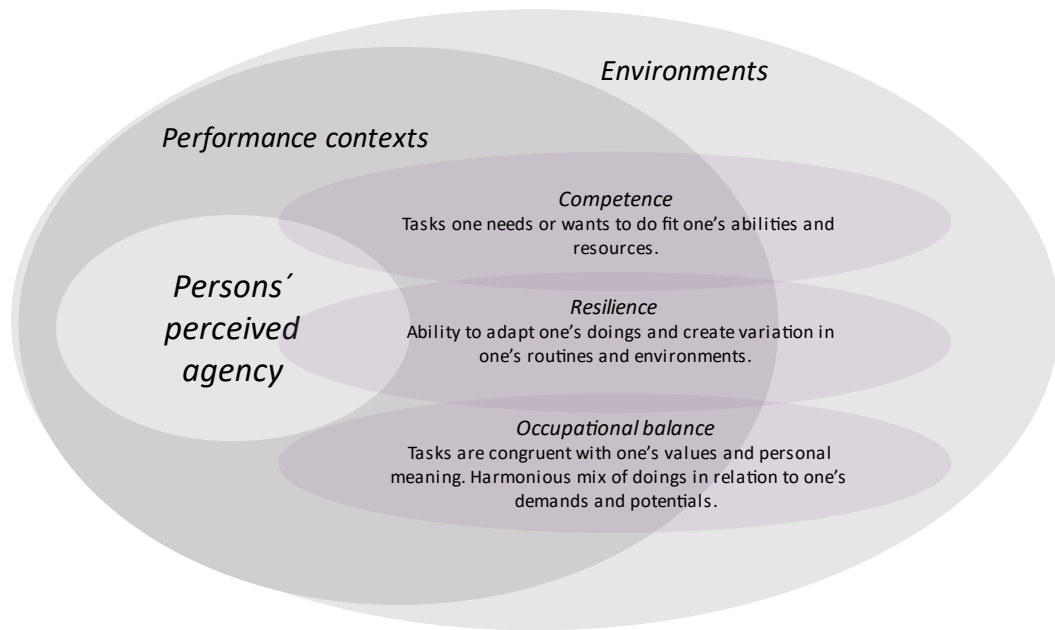


Figure 1 The theoretical features of perceived agency (Lautamo, et al., 2021).

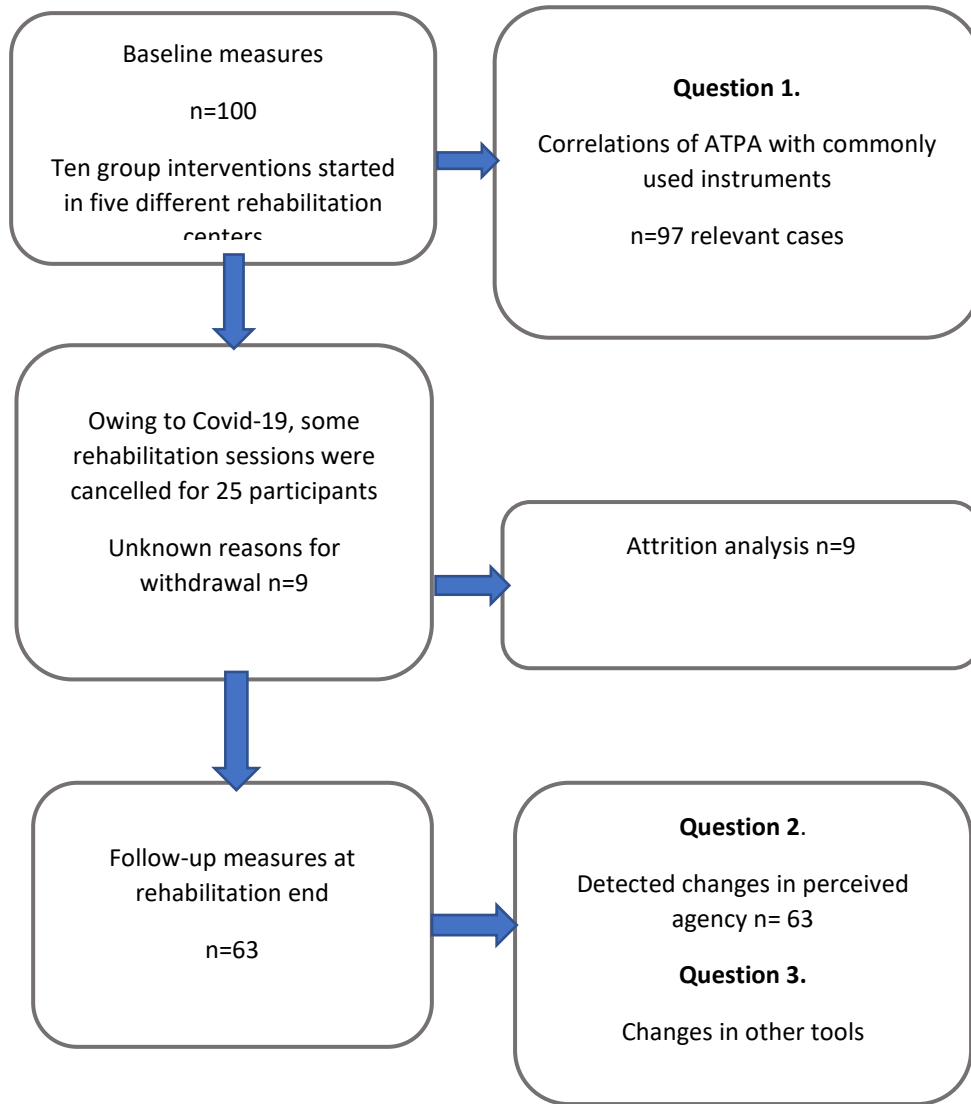


Figure 2. Flow chart of the study

Table 1. Descriptive characteristics of participants at baseline and follow-up.

	Baseline (n=97)	Follow up (n=63)
Age (in years)		
Min-max	69–90	70–90
Mean (SD)	79 (5.4)	80 (5.3)
Gender		
Female (%)	66 (68.0)	45 (71.4)
Male (%)	31 (32.0)	18 (28.6)
Family		
Single n (%)	55 (56.7)	37 (58.7)
Cohabiting n (%)	42 (42.3)	26 (41.3)
Perceived occupational performance		
Min-max (1-10)	3–10	0–9
Mean (SD)	6.5 (1.5)	6.7 (1.9)

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Table 3. The Items of the ATPA19

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1. If necessary, I can flexibly and fluently adapt my performance and routines
 2. I can easily express my thoughts and opinions to other people
 3. I am satisfied with the amount of daily activities I manage to do
 4. I can solve daily challenges in a reasonable way
 5. I am happy with the amount of time I have for rest and sleep
 6. I feel that I have enough time to do tasks that I want to do
 7. I do tasks I get excited about
 8. I do enough daily for others (not too much/not too little)
 9. I make choices about what to do daily
 10. I do tasks that gives me a feeling of competence or satisfaction
 11. I can cope with stressful daily life situations
 12. I feel that I have enough skills to manage the challenges of daily life
 13. I do tasks that I feel are meaningful for me
 14. I dare ask other people for help when I need it
 15. I feel accepted in my community
 16. I feel that different areas of my daily life are balanced
 17. I dare ask other people for help when I need it
 18. I feel accepted in my community
 19. I feel that different areas of my daily life are balanced