ORIGINAL REPORT

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STRUCTURE AND CONCEPTUALIZATION OF ACCEPTANCE: A SPLIT-SAMPLE EXPLORATORY AND CONFIRMATORY FACTOR ANALYSIS APPROACH TO INVESTIGATE THE MULTIDIMENSIONALITY OF ACCEPTANCE OF SPINAL CORD INJURY

Anders AABY, MSc[1,2], Sophie Lykkegaard RAVN, PhD[1,2,3], Helge KASCH, PhD, MedScD[4,5] and Tonny Elmose ANDERSEN, PhD[2]

From the [1]Specialized Hospital for Polio and Accident Victims, Roedovre, [2]InCoRE, Department of Psychology, University of Southern Denmark, Odense, [3]ThRIVE, Department of Psychology, University of Southern Denmark, Odense, [4]Department of Neurology, Viborg Regional Hospital, Viborg and [5]Department of Clinical Medicine, Aarhus University, Aarhus, Denmark

Objective: To determine the multidimensionality of acceptance of spinal cord injury (SCI).

Participants: Adults with SCI who were admitted to an SCI centre between 1991 and 2020.

Methods: All eligible participants (*n*=686) were invited to complete a survey via REDCap. A 4-dimensional model was hypothesized, which included "Accepting Reality", "Value Change", "Letting Go of Control" and "Behavioural Engagement". Items from 3 acceptance scales were selected to collectively reflect these 4 dimensions: (*i*) Spinal Cord Lesion-related Coping Strategies Questionnaire, (*ii*) Coping Orientations to Problems Experienced, and (*iii*) a modified Acceptance and Action Questionnaire. A split-sample principal component analysis (PCA) and confirmatory factor analysis (CFA) approach was used.

Results: Complete data were provided by 431 participants (62.8%). A PCA on sub-sample one suggested a 4-factor model based on eigenvalues ≥1, corresponding to the hypothesized model of acceptance. A CFA on sub-sample 2 showed good model fit, adding further support to the model.

Conclusion: These findings suggest that acceptance is a multidimensional construct with 4 facets that represent distinct, but interconnected, psychological processes. This model of acceptance can be used as a framework for future research and clinical practice to deepen our understanding of acceptance processes following severe injuries, such as SCI.

LAY ABSTRACT

Acceptance has long been considered a core principle of adjustment in rehabilitation psychology. However, several distinct ways of defining and measuring acceptance exist in the literature. The aim of this study was therefore to explore the nuances of acceptance by combining these different definitions in a multidimensional model of acceptance, and testing it empirically. The sample included 431 adults with spinal cord injury who responded to 3 acceptance questionnaires that defined acceptance differently. The statistical analysis showed that acceptance should be regarded a multidimensional construct with 4 facets: "Accepting Reality", "Value Change", "Letting Go of Control" and "Behavioral Engagement". These facets of acceptance reflect distinct, but interconnected, psychological processes, which necessitates a shift in how researchers and healthcare professionals approach this complex topic. We need to be mindful of these nuances in our understanding of acceptance, but also in our measurement strategy and communication with other professionals and patients.

problems are not directly solvable. Acceptance of the current situation has therefore long been considered a core principle of adjustment in the foundational principles of rehabilitation psychology (3, 4). The importance of acceptance was further emphasized in a recent systematic review finding that higher levels of acceptance were consistently associated with better quality of life (QoL) and favourable mental health outcomes following SCI (5). However, the review also highlighted an incongruity in how acceptance was conceptualized, which is a major source of concern, as research fundamentally relies on precise conceptualizations of its constructs (6). There is therefore a crucial need for a better and more comprehensive understanding of acceptance as a psychological construct.

In the psychological and rehabilitation literature, several distinct ways of conceptualizing and measuring acceptance exist. Wright proposed a theory of disability acceptance as an adjustment of a person's value system, so perceived losses do not devalue existing abilities or the person as a whole (e.g. appreciating having the ability to use a wheelchair without devaluating it as being inferior to walking) (3, 7). More recently, research in SCI has

A spinal cord injury (SCI) often occurs abruptly and causes profound changes in almost all aspects of a person's life (1, 2). In these situations, there is intuitive appeal to the narrative of fighting back, and when faced with a solvable problem, this may indeed be an effective approach. However, we do not always have full control over the conditions of our lives, and some

begun to conceptualize acceptance within the framework of the Transactional Model of Stress and Coping (8). Within this framework, there are 2 general approaches to acceptance: "Accepting Reality" and "Value Change". In the first approach, acceptance is emphasized as simply being an acknowledgement of reality, and thus the opposite of denial (9). The value change approach, on the other hand, is inspired by Wright's theory of disability acceptance and thus focuses on acceptance as a process of changing one's perspective and learning to appreciate new aspects of life (10). In addition to these conceptualizations within a coping framework, there are third-wave cognitive behavioural approaches, such as acceptance and commitment therapy (ACT), which conversely focus on acceptance of painful inner experiences (11). In these conceptualizations, acceptance entails a willingness to experience painful thoughts, feelings, and sensations in order to engage in life activities that are personally valued and meaningful (12). In this perspective, acceptance is thus often divided into 2 sub-dimensions: "Letting Go of Control" and "Behavioural Engagement" (13). The first refers to letting painful thoughts and feelings come and go without trying to control or avoid them, and "Behavioural Engagement" refers to engaging in valued activities, even if it leads to nervousness or anxiousness (13). These different aspects of acceptance might be tapping into the same psychological processes, and there are several conceptual similarities with the Transtheoretical Model of Behavior Change (TTM) (14). For instance, accepting the reality of a situation is similar to what is referred to as contemplation in the TTM, while engaging in valued activities despite painful inner experiences might be the key to taking effective action at a later stage. Taken together, these theoretical perspectives suggest that acceptance of SCI is a multidimensional construct with 4 sub-dimensions: "Accepting Reality", "Value Change", "Letting Go of Control", and "Behavioural Engagement". However, no empirical studies validating this conceptualization of acceptance exist.

Based on the outlined background, the aim of the study was therefore to validate this hypothesized model using both principal component analysis (PCA) and confirmatory factor analysis (CFA). Accordingly, the scope of this study was not to validate specific scales or to develop a new scale, but to provide a conceptual framework of acceptance of SCI based on theoretical perspectives and empirically validated.

METHODS

Participants and procedure

Participants were recruited through a database comprised of individuals with SCI who had been hospitalized at The Spinal Cord Injury Centre of Western Denmark between January 1991 and March 2020, and who had consented to be included in the database. Eligibility criteria were: having an SCI and being 18 years of age or older. All eligible participants ($n = 686$) were invited to participate in the study via a secure e-mail platform. The invitation contained participant information, consent form, and a link to the questionnaires in REDCap (15), a web-based software platform designed for secure data collection. Participants who did not respond to the initial invitation were sent 2 reminders. Data were collected from June 2019 to October 2020.

Measures

Sociodemographic and injury-related data were collected via self-report. Items from 3 acceptance scales were selected based on their diversity in conceptualizing acceptance, their brevity, and their psychometric properties. The Coping Orientations to Problems Experienced (COPE) items were selected to represent "acceptance of reality" (9), the Spinal Cord Lesion-related Coping Strategies Questionnaire (SCL-CSQ) was selected to represent "Value Change" (16), and a conceptually modified Acceptance and Action Questionnaire (AAQ-M) was selected to represent the "Letting Go of Control" and "Behavioural Engagement" aspects of acceptance (13). A total of 13 items were included in the study, and their original response scales were retained (see Table SI[1] for an overview of all the included scales).

Coping Orientations to Problems Experienced Inventory. The COPE is a self-reported 60-item multi-dimensional scale designed to assess various coping strategies used in response to stressful life events (9). Only the acceptance subscale with 4 items was included in this study. In this framework, acceptance is defined as the opposite of denial, so it reflects an acceptance of the reality of a situation (9). The COPE is scored on a 4-point scale, ranging through 1 ("I usually don't do this at all"), 2 ("I usually do this a little bit"), 3 ("I usually do this a medium amount") and 4 ("I usually do this a lot"). Initial validation showed acceptable, but not good, internal consistency with a Cronbach's alpha of 0.65 (9). The COPE has been translated and adapted to a range of different languages and cultures, including Hebrew (17), French (18), and Spanish (19), and has previously been used successfully with an SCI populations (20).

Spinal Cord Lesion-related Coping Strategies Questionnaire. The SCL-CSQ is a self-reported 12-item scale measuring 3 coping strategies: Acceptance (4 items), fighting spirit (5 items), and social reliance (3 items) (16). Only the 4 acceptance items were included in this study. In this framework, individuals, who apply acceptance as a coping strategy, try to accept the new circumstances as an integrated part of life and make necessary revisions to their values and interests to replace those that are no longer attainable (16). The items are scored on a 4-point Likert-scale, ranging from "Completely disagree" to "Completely agree". It has shown adequate internal consistency (Cronbach's alphas between 0.70 and 0.83) (16). The SCL-CSQ has further been adapted to and validated in a range of cultural settings, including Sweden (21), UK, Germany, Austria, and Switzerland (16), Turkey (22), Spain (23) and Iran (24).

Modified Acceptance and Action Questionnaire. The AAQ-M used in this study contains 7 items and measures acceptance processes (13). It should be noted that this is not the widely used

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[1]https://doi.org/10.2340/16501977-2876

AAQ-II, but a modified version hereof. The author of the AAQ-M highlights a cogent methodological concern with the AAQ-II by showing that its items seem to measure psychological distress rather than the process of acceptance per se (13). For this reason, the 7 items in this version were rationally constructed to specifically isolate process from outcome (13). Items 1 and 7 were negatively worded (i.e. a high score reflected low acceptance) and were thus reverse coded prior to further analysis. The scale has previously shown good construct validity and adequate internal consistency (Cronbach's alpha of 0.75) (13). In addition, a factor analysis showed that the acceptance items loaded on 2 different factors that corresponded to "Letting Go of Control" and "Behavioural Engagement" (13).

Translation procedure

All 3 scales were translated from English to Danish using a back-translation procedure. First, 2 authors (AA and TEA) translated each scale from English to Danish. Potential discrepancies were then discussed, and a third author (SLR) was consulted whenever necessary. A consensus was reached, and a native English-speaking person with good Danish language skills then translated back from Danish to English. Three authors (AA, TEA and SLR) discussed discrepancies between the back-translated English version and their respective original English version. Only minor adjustments were necessary at this stage.

Statistical analyses

A split-sample PCA and CFA approach was used to investigate the multidimensionality of acceptance. CFA is ideal for investigating the construct validity when the hypothesized structure has a strong theoretical foundation and is generally considered a stronger source of evidence (25). While the hypothesized multidimensional model of acceptance was based on theoretical perspectives, certain items from each of the included scales might fit better within another domain, and the exploratory approaches provide valuable insights in this regard. Therefore, this split-sample approach was chosen.

The study only included participants with complete data on all 3 acceptance scales. The dataset was randomly split in 2 using the Random Sample of Cases function in SPSS and copied to 2 separate datasets. This function approximates a 50/50 split, but minor variations in sample size may occur (26). A PCA was performed on sub-sample 1 using SPSS version 26. The appropriateness of running factor analysis was assessed with the Kaiser-Meyer-Oklin Measure of Sampling Adequacy (KMO) ≥ 0.6 and with Bartlett's Test of Sphericity being significant ($p < 0.05$) (27). Factors were extracted using Kaiser's criterion (i.e. eigenvalues greater than 1). Factors were rotated using the direct oblimin technique to allow factors to correlate.

Subsequently, a confirmatory factor analysis (CFA) was performed on sub-sample 2 using R version 4.0.4 with the Lavaan package. CFA was performed on the model suggested by the PCA. The model was tested using maximum likelihood estimation. In accordance with Kline (28), the model χ^2, the root mean square of error approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR) were reported as goodness-of-fit indicators for both models. Good model fit was indicated by a non-significant model χ^2 ($p > 0.05$), RMSEA ≤ 0.06, SRMR ≤ 0.08, and CFI ≥ 0.95 (29). It is notable that the p-value of model χ^2 is very sensitive to large sample sizes (28).

RESULTS

Sample characteristics

Of the 686 invited and eligible participants, 431 provided complete data on all 3 scales (62.8%) and were therefore included in the present study. The sample included 286 male participants (66.4%) and 145 female participants (33.6%) with a mean age of 56.76 years (SD 15.00 (range 19–90). Most participants had paraplegia (60.4%) compared with tetraplegia (39.6%), and incomplete injuries (65.1%) compared with complete injuries (34.9%). Time since injury ranged from 1.50 years to 62.42 years, with a mean duration of 14.43 years (SD 11.27). Sample characteristics of the 2 randomly split samples are shown in Table I. The 2 samples were similar in terms of sex, age, injury level, or injury completeness, but differed in terms of time since injury. The mean time since injury for sub-sample 1 was 13.35 years, while it was 15.61 years for sub-sample 2.

Principal component analysis

A PCA was initially performed on sub-sample 1 with all 13 items included ($n = 225$). Items 1 and 7 of the AAQ-M (i.e. the reversed items) were problematic, as they loaded on a different component than very similar, but positively worded, items. These 2 items were thus excluded from the analysis. The exclusion of these 2 items is discussed below.

Next, a PCA was performed with 11 items to explore the factor structure. The data were suitable for factor analysis (KMO = 0.84; Bartlett's test of sphericity χ^2 (78) = 1,179.80, $p < 0.001$). The PCA with direct oblimin rotation revealed 4 components with eigenvalues ≥ 1 (4.89, 1.73, 1.27, 1.00), accoun-

Table I. Sample characteristics of the 2 randomly split sub-samples

	Sub-sample 1	Sub-sample 2
Sample size, n	225	206
Sex, n (%)		
Male	150 (66.7)	136 (66.0)
Female	75 (33.3)	70 (34.0)
Age in years (SD)	55.7 (15.26)	57.9 (14.61)
[range]	[19–88]	[19–90]
Injury level, n (%)		
Paraplegia	111 (49.3)	92 (44.7)
Tetraplegia	70 (31.1)	63 (30.6)
Missing	44 (19.6)	51 (24.8)
Injury completeness, n (%)		
Complete	64 (28.4)	49 (23.8)
Incomplete	111 (49.3)	100 (48.5)
Missing	50 (22.2)	57 (27.7)
Time since injury, years (SD)	13.35 (10.76)	15.61 (11.72)
[range]	[1.58–59.25]	[1.50–62.42]

SD: standard deviation.

Table II. Loadings for each item on the 4 components suggested by the principal component analysis (PCA)

Items	Component 1: "Accepting Reality"	Component 2: "Letting Go of Control"	Component 3: "Value Change"	Component 4: "Behavioural Engagement"
COPE item 1: I get used to the idea that it happened.	**0.78**			
COPE item 2: I accept that this has happened and that it can't be changed.	**0.93**			
COPE item 3: I accept the reality of the fact that it happened.	**0.90**			
COPE item 4: I learn to live with it.	**0.76**			
SCL-CSQ item 1: I have been able to see my lesion in relation to other things in life.	0.37		**0.49**	
SCL-CSQ item 2: I think I have accepted my lesion.	0.44		**0.48**	
SCL-CSQ item 3: My lesion has made me learn to appreciate new things in life that I did not think about before.			**0.80**	
SCL-CSQ item 4: What I have lost physically I have regained in so many other ways.			**0.87**	
AAQ-M item 2: When I feel depressed, worried, or anxious, I do not try to influence or change these feelings.		**0.86**		0.23
AAQ-M item 3: I let my thoughts and feelings come and go, without trying to control or avoid them.		**0.62**		−0.23
AAQ-M item 4: I do the things I want to do, even if it makes me feel nervous or anxious.				**−0.88**
AAQ-M item 5: When I feel anxious, worried, or depressed, I note these feelings but live my life the way I want to.				**−0.85**
AAQ-M item 6: When I feel depressed, worried, or anxious, I do not try to avoid these feelings.		**0.51**		−0.33

COPE: Coping Orientations to Problems Experienced; SCL-CSQ: Spinal Cord Lesion-related Coping Strategies Questionnaire; AAQ-M: a conceptually modified Acceptance and Action Questionnaire. Loadings ≤0.2 are not shown, for ease of interpretation. The highest loading within each item is shown in bold.

ting for 68.29% of the variance. Four items loaded on component 1, 3 loaded on component 2, 4 on component 3, and 2 on component 4 (see Table II). Component 1 consisted of the 4 items from COPE and was thus labelled "Accepting Reality". Component 2 consisted of items 2, 3, and 6 from AAQ-M, which reflect "Letting Go of Control" and was labelled as such. Component 3 consisted of all 4 items from SCL-CSQ and was labelled "Value Change". Of note, item 4 from the SCL-CSQ loaded almost as strongly on component 1 as component 3 (0.44 compared with 0.48). Component 4 consisted of items 4 and 5 from AAQ-M, which reflect "Behavioural Engagement" and was thus labelled as such.

Confirmatory factor analysis

A CFA was conducted on sub-sample 2 ($n=206$) specifying the 4 components from the PCA: "Accepting Reality", "Value Change", "Letting Go of Control" and "Behavioural Engagement". The model had good model fit with the data, χ^2 (59)=98.73, $p=0.001$; RMSEA=0.06; SRMR=0.04; CFI=0.96 (see Table III for specific estimates and Fig. 1 for a plot of the CFA model).

There were weak to strong positive correlations between all factors. The strongest correlations were between "Accepting Reality" and "Value Change" as well as between "Letting Go of Control" and "Behavioural Engagement" (see Table IV).

Table III. The confirmatory factor analysis (CFA) estimates, standard errors, z-scores, *p*-values, and standardized estimates for the 11 items

Items	Estimate	S.E.	Z-scores	*p*-values (2-tailed)	Std. estimate
Accepting Reality					
COPE item 1	1.00				0.82
COPE item 2	1.00	0.07	13.73	<0.001	0.83
COPE item 3	1.05	0.07	14.72	<0.001	0.88
COPE item 4	0.82	0.07	11.79	<0.001	0.74
Letting Go of Control					
AAQ-M item 2	1.00				0.50
AAQ-M item 3	1.32	0.26	5.01	<0.001	0.67
AAQ-M item 6	1.20	0.24	4.92	<0.001	0.60
Value Change					
SCL-CSQ item 1	1.00				0.77
SCL-CSQ item 2	1.30	0.13	10.16	<0.001	0.80
SCL-CSQ item 3	0.83	0.12	7.13	<0.001	0.54
SCL-CSQ item 4	0.93	0.13	7.02	<0.001	0.53
Behavioural Engagement					
AAQ-M item 4	1.00				0.75
AAQ-M item 5	1.23	0.15	7.45	<0.001	0.85

COPE: Coping Orientations to Problems Experienced; SCL-CSQ: Spinal Cord Lesion-related Coping Strategies Questionnaire; AAQ-M: a conceptually modified Acceptance and Action Questionnaire.

Table IV. Correlations between the 4 factors in the confirmatory factor analysis (CFA) model

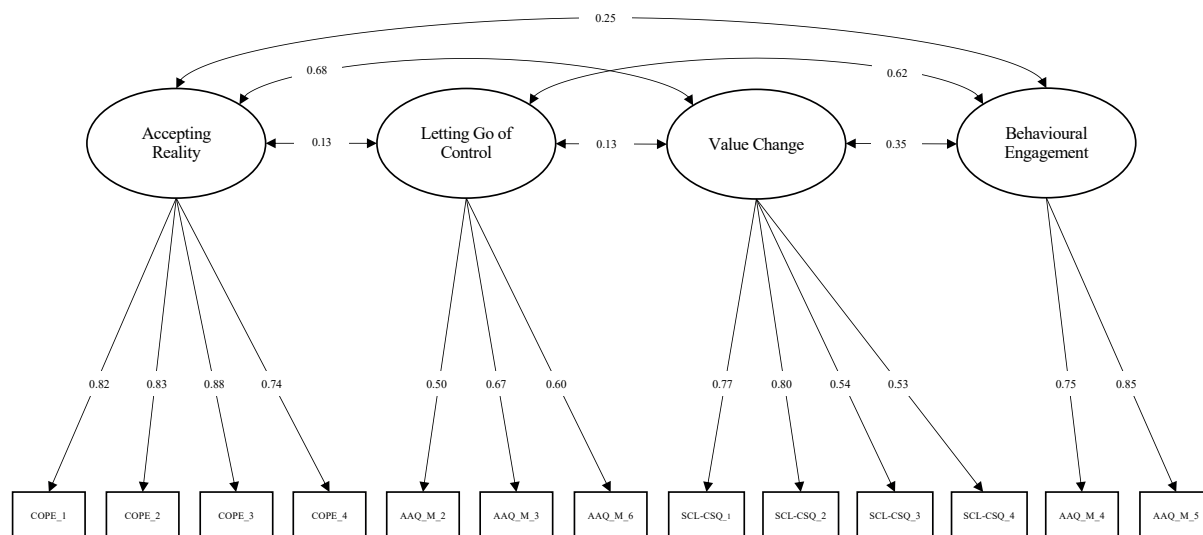|	Accepting Reality	Letting Go of Control	Value Change	Behavioural Engagement
Accepting Reality	1.00	0.13	0.68	0.25
Letting Go of Control		1.00	0.13	0.62
Value Change			1.00	0.35
Behavioural Engagement				1.00

Fig. 1. Confirmatory factor analysis (CFA) model of the 4-dimensional model of acceptance with standardized loading estimates and correlations between factors. COPE: Coping Orientations To Problems Experienced; AAQ_M: A conceptually modified Acceptance and Action Questionnaire; SCL-CSQ: Spinal Cord Lesion-related Coping Strategies Questionnaire.

DISCUSSION

Summary of findings

This study investigated the multidimensionality of acceptance of SCI using a split-sample PCA and CFA approach. A 4-dimensional model of acceptance with the sub-dimensions "Accepting Reality", "Value Change", "Letting Go of Control" and "Behavioural Engagement" was hypothesized and tested. Items 1 and 7 from the AAQ-M were excluded due to severe issues. A PCA in sub-sample 1 with the remaining 11 items suggested 4 components that corresponded with the 4 dimensions of the hypothesized model. All items loaded most strongly on the component of their respective scale. However, item 4 of the SCL-CSQ ("I think I have accepted my injury"), which was conceptually intended to measure "Value Change" loaded almost equally strongly on "Accepting Reality" (0.44) as it did on "Value Change" (0.48). This makes sense, as it shares similarities with both scales due to its non-specific wording. Next, a CFA in sub-sample 2 with the same model showed good model fit, lending further support to the multidimensional model of acceptance of SCI.

The multidimensional model of acceptance in context

The multidimensionality of acceptance was also highlighted in the development of the Multidimensional Acceptance of Loss Scale (MALS) (30). However, MALS was based solely on an explication of the 4 value changes identified in Wright's theory of disability acceptance (30). In contrast, the present study incorporated several theoretical perspectives to suggest a new way of conceptualizing acceptance at a higher order level. The MALS thus complements the multidimensional model of acceptance outlined in the current study, as it describes one of its 4 facets, i.e. Value Change, in greater detail.

The 4 facets of acceptance should be regarded as distinct, but interconnected. Collectively, they describe processes involved in effectively engaging in one's life in the face of adversity. These 4 dimensions may be tapping into the same underlying psychological processes, but manifest themselves sequentially. In many respects the 4-dimensional model of acceptance mirrors some of the underlying processes in parts of the Transtheoretical Model of Behaviour Change (TTM) (14), which is widely used as a framework for studying intentional behaviour change (31). In the first stage of TTM, Precontemplation, a person does not yet recognize the need for behaviour change (14). In some cases, this is due to genuine unawareness, but in other cases it can be denial of the necessity for change. A person must therefore acknowledge the necessity for change (i.e. Acceptance of reality) to get to the next stage, Contemplation, where the person recognizes the need for change (14). In the following stage, Preparation, a person starts planning the behaviour change. In this stage, changing one's perspective and learning to appreciate new aspects of life (i.e. "Value Change") can be crucial components, as this opens new ways of pursuing valued activities. This might be especially relevant for individuals with an SCI, or similarly disabling health conditions, that have often extensively restricted a person's opportuni-

ties for action. To reach the next 2 stages, Action (i.e. taking action to change behaviour) and Maintenance (i.e. sustaining the behaviour change), it often requires a willingness to experience painful thoughts, feelings, and sensations. This is necessary because engaging in new behaviours, even though they are personally meaningful, is often accompanied by a series of unwanted inner experiences, such as increased uncertainty, stress, anxiety, pain, nervousness, etc. (32). To take effective action and maintain it, a person must let go of trying to avoid or get rid of these inner experiences (i.e. "Letting Go of Control") and engage in the valued and meaningful activities undeterred by such experiences (i.e. "Behavioural engagement"). The multidimensional model of acceptance does not map perfectly onto TTM, but their connection show how the 4 dimensions of acceptance are distinct, but interconnected, processes that probably manifest themselves sequentially.

Implications

The findings have several important implications for clinical practice and research in both SCI and related fields of similarly severely disabling health conditions. In general, acceptance should be regarded as a multidimensional construct with facets that are distinct but interconnected. In fact, these facets may manifest themselves sequentially and have differential importance during the adjustment process and in rehabilitation. This necessitates a shift in how researchers and healthcare professionals approach this topic, as the term acceptance is a complex phenomenon. We need to ensure that we are mindful of the nuances in acceptance in our own understanding and in the way we communicate with other professionals and patients. At a more specific level, when choosing a measurement scale researchers and healthcare professionals should think carefully about what facets of acceptance are of relevance in what context. It is important to explore how the different facets of acceptance might relate differentially to various adjustment outcomes, such as QoL, mental health, social participation, physical rehabilitation, and so forth.

The importance of this line of research is further underscored by the need for clinicians being able to pinpoint which facets of acceptance are optimal targets for intervention in terms of their potential positive effects. Moreover, targeting the different facets of acceptance will probably require different therapeutic methods and some facets might be more susceptible to intervention than others. Furthermore, their sequential manifestation, as was evidenced in the connections with the TTM, suggests that some facets might have to be targeted prior to others.

The empirically supported multidimensional model of acceptance provides a framework that can support future research and clinical practice in deepening our understanding of acceptance processes following life-changing injuries, such as SCI. Future research should focus on how the different facets of acceptance may relate differentially to physical, psychological, and social outcomes, their susceptibility to intervention, and which therapeutic methods are effective in targeting each. For instance, ACT has been suggested as a potentially promising intervention to improve mental health in an SCI context (33). ACT directly aims to stimulate "Letting Go of Control" and "Behavioural Engagement" (11), so it would be valuable to explore whether this approach, or adapted versions hereof, could support individuals with SCI in increasing their acceptance across all dimensions. While there are no studies to date that have explored ACT in an SCI context, it has been found effective in similarly disabling health conditions, such as multiple sclerosis (34) and cancer (35).

Strengths and limitations

The current study has several strengths. The multidimensional model of acceptance was based on a solid theoretical foundation. Furthermore, the large sample size of 431 complete responses provided the opportunity to perform a split-sample methodology to utilize the strengths of both exploratory and confirmatory factor analytic approaches, as described in the methods. While there are potential limitations to this approach (36), it is a widely accepted method of cross-validation (37, 38). However, more studies are needed to replicate and validate the model in other samples and across different cultures and similarly disabling health conditions. Lastly, the CFA showed good model fit, lending strong support to the construct validity of the 4-dimensional model.

In addition to the outlined strengths, this study also has some limitations that must be taken into account when interpreting the findings. First, while the 4-dimensional model of acceptance was derived from previous theoretical and empirical work, it is not necessarily exhaustive, and future research might include more dimensions. CFA does not state whether the model is exhaustive; it only states whether the proposed model fits the empirical data. A second limitation relates to the AAQ-M, as items 1 and 7 were excluded from the analysis because of serious issues in the initial PCA. In theory, these 2 items should fit together with items 2, 3, and 6 (13), and they are worded very similarly; almost identically, except for being reverse-scored, i.e. a high score reflected low acceptance (see Table SI[1] for an overview of all the included scales). In the PCA, these 2 items loaded on their own component instead of together with 2, 3 and 6, as would be assu-

med. There was no clear theoretical basis for explaining why these 2 items would be conceptually different, and further non-reported analyses showed that these 2 reverse-scored items correlated negatively with items 2, 3, and 6, when they should have correlated positively. A possible explanation could be that some respondents did not fully understand the questions and thus scored these items similarly even though some were worded positively and others negatively. Generally, the AAQ-M contained items that could be difficult to understand, especially the items reflecting the "Letting Go of Control" facet of acceptance. Future research should explore these response processes in depth, using methods such as the Three-Step Test Interview approach, which investigates whether participants respond to the items as they were intended (39). Lastly, a third limitation was that only individuals who had consented to be part of the database were invited to participate (*n*=686). It is estimated that approximately 3,000 individuals in Denmark live with an SCI (40), so while the response rate was good (62.8%) and the final sample was sufficient for the statistical methodology (28), it is possible that the participants were not completely representative of the whole SCI population in Denmark.

Conclusion

A multidimensional model of acceptance was hypothesized and supported in a split-sample methodology, using both PCA and CFA. The 4-dimensional model, including "Accepting Reality", "Value Change", "Letting Go of Control" and "Behavioural Engagement" was suggested by the PCA in sub-sample 1 and showed good model fit in the CFA in sub-sample 2. This model can be used as a framework for future research and clinical practice to deepen our understanding of acceptance processes following severe injuries such as SCI.

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