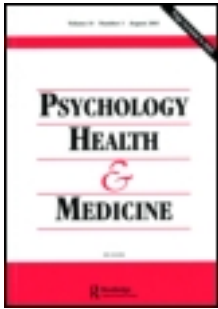


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### The clinical pain acceptance Q-sort: A tool for assessment and facilitation of pain acceptance

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## The clinical pain acceptance Q-sort: A tool for assessment and facilitation of pain acceptance

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The topic of pain acceptance can be clinically difficult to raise in a respectful way. This article introduces a method of managing the topic of pain acceptance in daily clinical practice: The clinical pain acceptance Q-sort. The Q-sort procedure comprises 13 small cards with printed statements concerning pain acceptance on the one side, score numbers on the other side. The procedure involves the patient handling and prioritizing the statements in a personally meaningful order. Both quantitative and qualitative use of the tool is possible. The method has a three-fold outcome: (1) topics of pain acceptance are presented in a multi-faceted way for the chronic pain patient, (2) an approximate assessment of the level of pain acceptance issues is offered to the clinician, and (3) good opportunities for a therapeutic discussion on pain acceptance are made available. The clinical pain acceptance Q-sort procedure may positively contribute to daily clinical work with pain acceptance in a straightforward way. The method provides options for assessment of pain acceptance, for better understanding of the patient, and for clinical training in psychological pain management.

**Keywords:** Q-sort method; acceptance; chronic pain; psychotherapy; existential

### Objective

Acceptance of pain has been a core concept in both the understanding and treatment of chronic pain in recent years, and “pain acceptance” is now an important clinical term in contemporary pain research (Kranz, Bollinger, & Nilges, 2010). Nevertheless, pain acceptance issues are not easy to deal with in relation to daily patient care. This article puts forward a new practical framework for a patient-centered clinical evaluation and discussion of topics related to pain acceptance.

Pain acceptance has been defined in various ways in recent years. The concept was initiated in pain research under the label of “pain accommodation” (Jacob, Kerns, Rosenberg, & Haythornthwaite, 1993), but it was McCracken (1998) who introduced the concept of acceptance in common pain research literature. He originally defined pain acceptance as “acknowledging pain, giving up unproductive attempts to control pain . . . and living a satisfying life despite pain.” Definitions have varied a great deal since then; Hayes, Strosahl, and Wilson (1999) defined pain acceptance as “willingness to remain in contact” with bodily sensations and emotions, Viane et al. (2003) found the best definition as “a shift away from pain

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to non-pain aspects of life,” while McCracken and Eccleston (2003) focus on disengagement from struggling with pain.

From 2000 onwards, conceptions of pain acceptance for one part have been linked to the Acceptance and Commitment Therapy (ACT) movement, where it is a core concept (Dahl & Lundgren, 2006; Hayes et al., 1999). Another development is represented by several ways of measuring acceptance on scales. The scales are investigated along with a number of covariates, confounders, and mediators, and pain acceptance has shown to be an empirically robust concept with positive associations to most mental health variables (Elander, Robinson, Mitchell, & Morris, 2009; Hayes et al., 2004; Reneman, Dijkstra, Geertzen, & Dijkstra, 2009; Viane et al., 2003).

Many pain patients have very limited resources. Some are undergoing long periods of clarification of diagnosis, some have cognitive functions heavily influenced, etc. Others may be in a situation where the thought of “acceptance” of their current physical, mental, and social conditions seems strange or even perverse. Often conversation and discussion of themes relating to acceptance are difficult to manage. However, all chronic pain patients have a need to have the themes and issues of acceptance raised in a psychologically meaningful and respectful way. Working with conversation-based therapy, there remains a need for a phenomenological and existential-oriented psychological way to work with pain acceptance in clinical settings.

The facilitation of sensitive, individual patient handling on the topics of pain acceptance is the purpose of presenting the pain acceptance Q-sort tool in this article. The presentation is followed by results and examples from both quantitative and qualitative use of the clinical Q-sort, reflecting the topics, types, and themes of pain conditions, raised by (1) the instrument, (2) the pain patients, and (3) the psychotherapeutic process.

## Design

### *A mixed approach to pain acceptance – The Q-sort method*

In an innovative research article by Risdon, Eccleston, Crombez, and McCracken (2003), an inspiring perspective on the concept of pain acceptance is found. “Acceptance of physical pain” is not a commonly used psychological term with a long theoretical history, and the authors try to investigate a variety of diverse conceptualizations of pain acceptance among people who are themselves not defined as pain patients. They used the full Q-sort methodology that implies a person to sort a number of statements on a certain topic into a quasi-normal distribution matrix. The sorting process is based on how much a person agrees with a specific statement (then the statement is usually physically put at the right side) or disagrees with it (usually left side) (Beck, 1962; Cross, 2005; Ozer, 1993). In their Q-sort investigation, Risdon et al. (2003) used 80 statements of possible pain acceptance attitudes (examples: “My life is meaningless” (far left), “I am beginning to work through it” (in the middle), “I can live a satisfying life in spite of pain” (far right)). The statements were ranked on a scale from  $-6$  to  $+6$ , and an overview of ranked *common* understandings of “acceptance of pain” was one result. By factor-analyzing the rankings, eight factors of clustered statements were found and labeled by the authors as different principles of pain acceptance based on the headings of: taking control, living day by day, empowerment, accepting loss of self, more to life than pain, not fighting battles that cannot be won, and spiritual strength.

### ***Development and presentation of the clinical pain acceptance Q-sort***

Inspired by these new perspectives some of the original 80 statements were used as direct quotes during psychotherapy sessions. The direct quotes were found to facilitate reflections of acceptance that otherwise were difficult to bring forward in a manner that did not call for psychological resistance. The following development of the clinical Q-sort went along three steps:

- (1) The 80 statements had to be radical reduced to work in a clinical setting. First, two statements were chosen from each of the categories, labeled  $-6$  to  $+6$  by Risdon et al. (2003). The criteria for item selection were pragmatic; the statements should be easy to understand, loaded with content, and have the ability to stand as a “one-liner.” This resulted in a total of 26 statements (because zero is included as a category). These statements were translated into Danish and placed in two parallel sets with 13 statements in each set.
- (2) The two sets were then tested with patients, and second step was the refining of the statements. Patients were asked for their face-value understandings of the statements and for the character of reflections the statements were connected to. Comments, reflections, and associations were all noted, and the statements were re-formulated in order to get the meaning as clear as possible. Two refined sets of 13 statements were then produced.
- (3) Based on the initial clinical experiences with the 26 statements, one final set of statements was selected by picking the best functioning item in each category from the two sets. The final selection was based on the evaluation of (a) how well the patients immediately understood the statement, (b) experiences of how well patients could identify with the statement and relate to it, and finally (c) an examination of the character of the reflections and interpersonal interaction initiated by the statements. Finally, some minor linguistic corrections were made, and the final set was produced.

An English translation of the final set is seen in Table 1. The statements are placed on the front of small cards, and on the back of the cards are written the corresponding numbers from  $-6$  to  $+6$ .

### ***Instructions for use***

#### *Preparation*

Place the cards randomly, face up on a table and state that “on each of these cards there is a sentence that describes the experience of living with long-term/chronic pain. I will ask you to put the cards in an order, so the statements that least match you personally are placed here (left) and the statements that are the best fit for you personally are placed here (right). Take your time and please end up with one long line with all the cards in it.”

#### *Registration*

When all the cards are laid in prioritized order, they are turned around and the numbers on the back are listed on the scoring sheet (Table 2). During registration, the investigator identifies all the cards that are placed more than three places from their otherwise defined space from  $-6$  to  $+6$ ; they are the unusually placed cards.

Table 1. The 13 statements of the accept Q-sort.

+ 6 I can live a fruitful life in spite of pain.	+ 5 I will find new ways to live my life.	+ 4 Pain is not a threat to my existence.	+ 3 I am a whole person again.	+ 2 I know my limitations.	+ 1 I care less about things.	
0 I have to take one day at a time.	- 1 I will not return to the one I was before pain	- 2 I feel the future very uncertain.	- 3 It is impossible to accept something like this.	- 4 I am not equal with others.	- 5 I am abnormal.	- 6 I have failed.

(Numbers shall be marked on the back side of the cards.)

### *Interview*

One by one, the unusually placed cards are turned over with the statement revealed again while asking: “This card is placed a little unusually. Can you remember what you had in mind when you put it there?” The expression of emotions or themes of the patient are then used as a basis for further questioning and exchange around the specific topic. The unusually placed cards are treated as separate themes in the interview/psychotherapy sequence.

### *Scoring*

The test can be scored in a formal way by summing the card numbers on each side of the zero category. When patients have prioritized the cards in an accepting manner, this will result in a negative sum from the left side and a positive sum from the right side. Then the “left-side” total is negated and turned into a figure of equal value (minus to plus or plus to minus), and the figures of the two sides are added into a single score. Example: If left side sum is  $-12$  and the right side is  $7$ , then  $-12$  is turned to  $+12$  and the total score is  $19$ .

Maximum score is  $42$  (if all the plus cards are located on the plus side and all minus cards are located on the minus side and  $0$  in the middle). High scores correspond to high pain acceptance. The score expresses the counts of values of cards placed on the opposite side compared to their pre-defined  $+/-$  value. Scores can result below zero, as low as  $-42$ .

### *Repeated procedure*

If the Q-sort is repeated after some time, the scoring procedure is the same, but the interview can then be based on which cards were placed differently from the first time. Turn one card at a time: “Last time you placed this card somewhat differently. Can you tell me what has happened with this issue since last time?”

## **Results**

### *Participants*

The pain Q-sort has at this time been administered to 48 patients by the author (women 70%, mean age 46.9 years; men 30%, mean age 45.6 years). All participants

Table 2. The score sheet.

<b>Q-sort</b>												
<b>Accept</b>												
<b>patient</b>												
Date:												
-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
Score ____ of 42												
Retest												
Date:												
Score ____ of 42												
<b>Remarks from turning the cards:</b>												
Card nr. ____												
_____												
_____												
_____												
Card nr. ____												
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were allocated to the Multidisciplinary Pain Center at Rigshospitalet, Copenhagen, the national public hospital, and had a pain history lasting longer than one and a half years. Patients were individually referred by physicians to a psychologist for a variety of reasons. The problems were often complex and individual psychological sessions were standard procedure. Psychological treatment was a mix

of psycho-educational and psychotherapeutic elements. Due to the use in psychotherapy sessions, the Q-sort has not been used in a mandatory way. The card-sorting was introduced at different times during a sequence of sessions, but mostly during one of the first three sessions. The test has been well received, none of the patients have refused or questioned participating, and usually they initiate the task of sorting the cards with a very positive and straight-forward attitude. The task does not seem overwhelming even to patients with cognitive deficits.

### ***Quantitative dimensions of the clinical pain acceptance Q-sort***

The scoring procedure results in a quantitative score comprising the maximum score (+42) minus the sum of values of cards with positive statements placed on the negative side and vice versa. The cards are not further weighted in relation to the exact position on each side because this was found to represent an over-interpretation of the Q-sort quantitative abilities. The cards are quite often misread or understood in peculiar ways, which are revealed during the interview on the upturned and re-read cards. The scoring method is therefore kept relatively simple and the scores can function as signals or red flags, they are not meant to express exact “acceptance values”. The Q-sort is not a questionnaire or a scale.

The quantitative measures had the mean acceptance score of 13.7 (SD 18.6), range -35 to +39. Women had a little higher pain acceptance score ( $N = 34$ , mean 14.5 (SD 19.9)) than men ( $N = 13$ , mean 11.5 (SD 15.5)). There were no significant interactions between gender, age, and total scores.

Three persons were retested after approximately four months, and their scores were all higher the second time as expected due to treatment (means time 0 = 14.0, time 1 = 20.6).

### ***Types of problems***

In order to investigate the kind of structure the Q-sort brings forth, two factor analyses were performed.

Content-oriented factor analyses of the R-type (analyzing the statements as variables, patients as cases) gave five factors with eigenvalue  $> 1$ , explaining 66% of the variance (Table 3).

The factor groupings (varimax rotated solution) had logically coherent topics. The cards included in factor 1 (explaining 19% of variance) all concerned topics of *personal incompleteness*. Factor 2 (explaining 13%) was dealing with *worries of the future*, and factor 3 (explaining 12%) was concerning the possibilities of *present acceptance or not*. Factor 4 (also explaining 12% of variance) dealt with the *possibilities of a new way of living*, and factor 5 (only one statement, explaining 10%) had to do with the *daily limitations*.

### ***Types of pain patients***

Factor analysis of the Q-type (analyzing patients as variables, statements as cases, revealing clusters or “prototypes” of attitudes of the patients, as “genuine” Q-methodology most often are used for showed 11 such prototypes with eigenvalues  $> 1$ . As the card sorting in this case is limited to only 13 cards, and as there is no forced normal distribution involved in the sorting, the reliance on

Table 3. Rotated component matrix.

	Component				
	1	2	3	4	5
+ 2	<b>0.788</b>				-0.316
+ 3	<b>0.712</b>		-0.210	-0.337	
-4	<b>-0.649</b>			-0.272	
-6	<b>-0.637</b>		-0.304	-0.212	-0.511
-5	<b>-0.600</b>	-0.423			-0.224
+ 4		<b>0.836</b>			
-2		<b>-0.662</b>		0.263	
-3		-0.201	<b>0.825</b>		
+ 6	0.276	0.286	<b>0.723</b>		
-1		-0.226	-0.325	<b>0.703</b>	
+ 5		0.411		<b>0.651</b>	
+ 1			-0.268	<b>-0.521</b>	
0					<b>0.888</b>

Note: Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization.

the results must be less ambitious in comparison with a full Q-sort of an investigational design. Therefore, aiming at explaining half of the variance in the material (in fact 54%), a solution with the three most represented prototypes was chosen.

*Patient type 1* is characterized by high factor loading values on statement +5 and 0, and low values at statements -6 and -3. The type of patient can be described as being *on the way into a state of acceptance*. Self respect is reestablished, and the patient acknowledges the possibility of living with a chronic pain condition.

*Patient type 2* is characterized by high loadings on the very different attitudes of statement +6 and -3. Lowest values are found on -1 and -5. This type can be described as patients who have found their way of proper living, having the self esteem as a normal person, feeling that they are themselves, but still have one main issue: They *basically cannot accept the condition of chronic pain*.

*Patient type 3* is characterized by highest loadings on -4 and +1, low values on -3 and -2. This type can be described opposite to type 2, they have found a way to accept the pain condition, they can see a predictable future for themselves, they have stopped worrying, but they have another main issue left: *The feeling of being of no value, not equal to others*.

### **Clinical vignettes**

The scores have usually been within a range of what could be expected from prior knowledge of the patients, but occasionally something less expected turned up. Following are two clinical vignettes where the quantitative scores were of importance: An immigrant lady from Bosnia at the age of 55 with modest Danish language skills had a long history of fighting for her rights to an early retirement and pension. She claimed to have been worn out during her years of physical work, and she seemed happy finally to have gained the early retirement funding.



The Q-sort surprisingly showed a very low quantitative score (−12) and the interview revealed that despite her apparent attitude, she had never accepted her chronic pain and her inability to continue to work. The following sessions could address this, making her receptive to other meaningful and positive ways to use her energy.

The second vignette concerns a 45-year-old Danish man with constant pain from several areas of the body due to a serious traffic accident only one and a half year before. He was crippled and requires a wheel chair for the rest of his life. Despite his bad fate, he scored surprisingly high on the quantitative Q-sort (+32). During interview, he explained that his attitude to life was influenced by his work with people with Down's syndrome. "If they can make the best of their condition in life, so can I," he explained. He was already actively engaged in social activities and did not have much time for psychology sessions.

### *Qualitative dimensions of the clinical pain acceptance Q-sort*

From a psychotherapeutic viewpoint, the *qualitative* procedures of the Q-sort seem to be the most important. The qualitative aspects comprise the conversation occurring when the odd-placed cards are turned over again and re-read. The cards have all been turned upside down for a while during the registration of values on the scoring-sheet. It seems that the entire process: the patients handling and reading the cards, turning the sentences over in their heads a couple of times, having the card turned for a while, and then re-reading a few of them – the whole procedure can prompt positive processes of personal change.

Three kinds of reactions and reflections will be mentioned here with clinical examples:

- (1) *Unearthing of pain acceptance issues.* A 62-year former truck-driver with persisting lower back pain communicated loudly and directly. He was not the ideal type of psychology session client. He spoke of his many difficulties in daily living, his frustrations at being immobile, and his bad temper that he had difficulty in controlling. His relations with his wife and to their 13-year-old son were under threat. After a number of regular sessions, the accept Q-sort was presented. The patient laid the cards in a structured manner with no sign of emotional involvement. The cards were turned upside down. The card "−4" was placed at the end to the very right (at the +6 position). When the card was turned and read again ("I am not equal with others"), the patient unexpectedly started crying. He then related for the first time his feelings of being of no value at all. "Nothing is left of what I have always counted on. All of my acquaintances are gone, my self-respect is lost." The following sessions changed completely and were now centered on topics of low self esteem and possible futures, topics very hard to discuss for a formerly proud and authoritarian personality.
- (2) *Clear statements of self-acknowledgement not otherwise formulated.* A 46-year-old man had almost lost his right arm and had growing, but very little sensory and motor nerve connections to it, except for the severe pain he felt. The hope for a future with a normally functioning arm was fading, but not neither acknowledged nor mentioned. When card +3 ("I am a whole person again," placed in position 0) was turned, he forcefully

stated: "I will fucking never be whole again. It is gone. One can never be whole again, but one can have a partial victory. I will always be handicapped."

- (3) *Prompting of a turning point and future issues.* A 30-year former carpenter was involved in an accident and lived for three years with constant tiredness, serious concentration difficulties, and pain in the neck and head. His only expressed hope was that the condition might stop, so that he could resume work. He had previously defined himself through work, sports, and physical activities. Three cards were turned and re-read in a sequence. At card +3 ("I am a whole person again," placed at position -6), he stated: "I feel myself divided between being ill and my desire to be something else." Some minutes later the card -4 was turned ("I am not equal with others," placed at position +2). He now reflected: "I have always thought about others in a black/white way before. If you are on social welfare you are nothing!" Finally, turning card +5 ("I will find new ways to live my life") he stated: "But I have always found new ways before. I have to work on it from here." He ended the session by being puzzled how "such simple cards and in such little time I could think of something completely new."

### **Discussion**

The initial experiences with the clinical pain acceptance Q-sort have shown different kinds of benefit. In a quantitative way, it has provided a rough score of pain acceptance and a number of themes for a starting point of conversation on difficult topics, and it has produced an initial image of three prototypes of patient's attitudes. In a clinical way, the Q-sort has provided a variety of words, sentences, and attitudes for the patients which again have prompted transformative processes during conversations on the various themes.

The first kinds of results are in line with what can be expected from the Q-sort methodology. The method has been proposed as a principle method of studying attitudes within the health field by Cross (2005), and it has been valued for combining unique strengths of qualitative and quantitative research (ten Klooster, Visser, & de Jong, 2008). The method represents an explanatory analysis of the responder's perspective as well as formal and well-defined data collection that can be analyzed statistically.

The difference between the R and Q factor analysis of course concerns the nature of the results, but the two methods also have a main difference regarding the size of the sample. While the R analysis would be better conducted by a larger sample, this is not needed for the Q analysis, where usual and sufficient sample size comprises 30–50 responders (Cross, 2005; ten Klooster et al., 2008). For the R analysis and for the computations of the mean scores of the Q-sort, the sample size in this study may be seen as too little, giving this study limitation in defining any "norms" of the tool. As all the procedures are done in the Danish language, it is necessary to make experiences with the tool in other languages to determine the normal mean in the translated versions. The mean scores are not absolutes.

In this study, the Q-sort has also shown potential for better clinical understanding of processes that in the end may lead to a state of acceptance, and it has provided material that can be used in rigorous qualitative text analysis on a later occasion.

## Conclusion

The clinical pain acceptance Q-sort has shown to be a simple, low-tech procedure that can be managed during most clinical sessions, providing rich clinical relevant information on the psychology of chronic pain conditions.

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A printable version of the cards mentioned in Table 1 can be downloaded from <http://peterlacour.dk/en/publikationsliste/>