

PAIN ASSESSMENT:
MODEL CONSTRUCTION AND ANALYSIS OF WORDS USED
TO DESCRIBE PAIN-LIKE EXPERIENCES

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ABSTRACT

This study was designed to identify and analyse conceptual dimensions underlying the concepts pain, ache and hurt in order to provide a theoretical basis for further development of a methodology for the assessment of pain in clinical practice.

The three words, pain, ache and hurt were studied in 1.814 contexts found in a computer based concordance of 7.8 million texts from Swedish newspapers and novels. Separately from the above procedure the words were also located and analysed in a thesaurus of Swedish Bring. In addition to the two above linguistic methods, a questionnaire was given to 106 subjects comprising students, nurses and patients where they were asked to explain the meaning of the words pain, ache and hurt.

The main results of the study are as follows:

1. A pain analysis mode has been constructed which can be used for the analysis of pain-like experiences.
2. The concepts pain, ache and hurt are distinguished from each other with regard to causes, the actual pain experience and effects of the pain experience.
3. Expressions typically used to modify the three concepts have been identified and analysed.
4. The concept pain was consistently associated with words of high intensity followed by ache which can be said to have mid intensity.

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INTRODUCTION

The main sources of information about patients' pain-like experiences are verbal reports from the patients themselves, and observations of the patients' behaviour before and after treatment. Even though verbal reports play an important role in the assessment of pain, few attempts have been made to examine the words and phrases which appear in pain transactions (1).

Diller (6) studied cultural differences associated with pain terminology and he found that languages vary according to the number of terms usually employed to refer to pain. In some languages a single inclusive term may be used. In other languages there are several distinct terms used commonly.

Melzack and Torgerson (15) made a study of how subjects classified 102 pain related words. They found 3 main dimensions of the pain experience: sensory, affective and evaluative. Prieto et al (17) arrived at the same conclusion in their study of patients with low back pain. This classification was later used by Melzack in the construction of the McGill pain questionnaire (MPQ) (14), an instrument which can be used to determine the qualitative properties of different pain syndromes (7).

Crockett et al (5) identified five factors underlying the description of pain in patients with low back pain and in volunteer students exposed to electric shock pain on the MPQ; immediate anxiety; perception of harm; somesthetic pressure; cutaneous sensibility; and sensory information.

Reading (18) examined the internal structure of the MPQ in patients with acute episiotomy pain and reported six factors; 1) emotional/fearful with sickening-spatial qualities; 2) sensory reaction 3) sensory properties of predominately traction pressure; 4) thermal/incisive; 5) evaluative sensory component; 6) tender-splitting. He suggests that patients experiencing acute pain report their pain differently than patients with chronic pain.

Recent studies (4, 12, 16) suggest that patients with low back pain tend to choose special groups of words on the MPQ to describe pain. Dubuisson and Melzack (7) report that different types of pain are characterized by a distinctive constellation of verbal modifiers and Kremer et al (11) states that the number of affective modifiers used on the MPQ was the best predictor of psychiatric disturbances.

In contrast to the above findings Fordyce et al (9), found only weak correspondence between patients' semantic description; of their pain and medical diagnostic labels. They (9) stated that it appears unlikely that word choices by which pain is described will

hold up as reliable discriminator among subgroups across a spectrum of patients, cultures and patient selection factors.

Even though the MPQ is in wide use today, there are however, some methodological questions which can be raised about it. 21% of its words are classified under miscellaneous. This either shows that the theoretical grounds for the classification are not sufficient or that the existing ground has not been optimally utilized. Furthermore, the taxonomy is not externally exhaustive since the list of affective qualities of pain, included, as will be shown below, is incomplete. Thirdly, there are difficulties in the application of the assignment of intensity values between the subclasses of the main semantic categories.

In Swedish culture there are three words which seem most central to pain-like experiences, these are *smärta* (*pain*), *värk* (*ache*) and *ont* (*hurt*) (10). Correspondents of these terms have also been identified as basic terms used to describe pain-like experiences in English (8).

A recent study (10) designed to develop a methodology for the assessment of pain in clinical practice has shown that the Swedish words *smärta* (*pain*), *värk* (*ache*) and *ont* (*hurt*) have different intensities. Pain (*smärta*) has the highest intensity followed by *ache* (*värk*) with *hurt* (*ont*) having the lowest. Each of these words were reported to be associated with particular sets of qualitative and quantitative descriptors which reflect either sensory or affective-evaluative components of the pain experience.

The above mentioned study focused mainly on the intensity of the pain experience, leaving other dimensions such as quality, location and duration unexplored. This study is therefore designed to provide more complete analysis of the conceptual dimensions underlying the words *pain*, *ache* and *hurt*. The results of the analysis will then be compared to the MPQ.

METHODS

We have used a methodology which is basically derived from linguistics and which is somewhat different from the methods most frequently employed in the research on pain. Emphasis is on understanding the different meanings reflected in the use of the words *pain*, *ache* and *hurt*, and not on clinical measurement and statistical correlation of these terms. Thus we believe the chosen methodology provides a more direct route to a study of conceptual dimensions than some of the previously used methods.

Method 1

The first step was to study the meaning of the three chosen terms by an analysis and a classification of their use in a large number of contexts. The contexts were found in a computer based concordance of texts from Swedish newspapers and novels. A concordance is a list in which the words of interest are arranged alphabetically, together with the contexts in which they occur (13). The occurrences of the three words *smärta* (pain) *värk* (ache) and *ont* (hurt) were as below: *pain* (*smärta*) (683) *ache* (*värk*) (334) and *hurt* (*ont*) (797) occurrences out of total corpus of 7.8 million words. Each context was studied and the particular use made of the word in that context was noted. The different meanings found were then grouped according to the main conceptual dimensions we could find.

Method II

Separately from the above procedure the three words were also located in a thesaurus of Swedish Bring (3). The thesaurus attempts to make a total categorization of conceptual areas (13) All three words occurred in several different areas; *pain* (*smärta*) (7 areas) *ache* (*värk*) (3 areas) and *hurt* (*ont*) (2 areas). An analysis was then made of the major conceptual dimensions underlying each area and the partial synonyms of each term in the different dimensions were noted.

Method III

A questionnaire was given to 106 subjects, where they were asked to explain the meaning of the words pain, ache and hurt.

The subjects comprised 54 nursing students with a median age of 21.5 years; 41 nurses with a median age of 39.5, with 5-25 years of experience within the health care system and 12 patients with chronic pain syndrome with a median age of 41.5 years. Eleven men were among the students and 3 men were among the nurses. A content analysis was then made of the different meanings given to the words pain, ache and hurt and their modifiers. The different conceptual dimensions were identified and compared with the results of the concordance and thesaurus studies.

RESULTS

The results from the concordance study, the thesaurus study and the questionnaire are compatible. There were no major differences in the findings from the questionnaire with regard to the subjects' ages, sex and experience within the health care system; nor were their major differences between patients and nurses. A further result was that the

results of the concordance study, to a very large extent, predicted the categories found in the thesaurus based and questionnaire based studies.

The three words pain, ache and hurt were found to have a large common core of meanings centering around a finite number of conceptual dimensions related to causes of pain, the actual experience of pain and the effects of the pain experience. These conceptual dimensions have been identified and grouped together in a model which is presented in Table I.

Below we will now present the different conceptual dimensions identified within the model.

I. Causes of the Pain Experience

Within the areas of causes we found the following dimensions:

- A. *Impersonal causes* - Among the impersonal causes one can distinguish the following three main categories.
1. External macro events i.e. causes of a social, political, economic or environmental nature.
 2. External medium size events such as traffic accidents.
 3. Micro sized events such as infections, injuries and disease. In this category we also include physical injuries the prehistory of which is unknown.

Types of impersonal causes of the pain experience found to be exclusively associated with the words pain, ache and hurt on the micro level were:

pain: renal, pelvic and ureteric stones, gallbladder problem, myocardial infarction
ache: rheumatoid arthritis and inflammation
hurt: trifle injuries

- B. *Personal causes* - Personal causes are those that are connected with the intentional action of another person resulting in a pain-like experience. The main conceptual categories of personal causation are as follows.

1. The causing agent or the person who performs the activity leading to the experience of pain.
2. The place where the activity takes place.
3. The motive of the agent performing the activity.

4. Instruments used in performing the activity.
5. The activity itself.

Examples of how the different categories of personal causation are related to each other are presented in Table II where we, for example, can see a relationship between the instrument used to cause the-pain and the activity causing the pain. Note that most words listed under activity are words used on the MPQ (14) to describe the sensory aspect of the pain experience.

In some cases the pain experience is dependent upon an instrument of some kind which penetrates the skin. More often though, the instrument is not directly mentioned, but instead appears indirectly as a quality modifying the pain-like experience. This type of instrumental modification seems to be largely restricted to the word *pain*, in a few cases used with *hurt*, and rarely used with *ache*. Examples of words used are: cutting (axe, knife) sharp (knife), boring (drill) and pricking (needle), gnawing (teeth).

II. The Pain Experience

The major conceptual subcategories of the pain experience itself which have been identified are sensory-cognitive and affective-evaluative reactions. These categories, which are subsequently subdivided into several dimensions of the pain experience, are presented below and examined in relation to the words pain, ache and hurt. Whenever numbers are given in the tables that follow they refer to numbers that are aggregated from occurrences in the concordance and results from the questionnaire.

A. Sensory-cognitive

Temporal duration and dynamics

The three terms pain, ache and hurt co-occurred with the following temporal modifiers presented in Table III.-The data indicate that *pain* is an experience of a sudden short discontinuous duration, *ache* an experience of longer continuous duration, and that *hurt* is a brief and transient experience with regard to duration.

Dynamic modifiers involving light sensations (blinking, lighting) are used with *pain* while those that involve sound or proprioceptive qualifiers are used both by pain and ache. That the word grinding (molande) is the most frequent modifier for ache shows that dynamic status of ache is less than that of pain. Hurt does not appear to be dynamical in nature.

Spatial location

Under this heading we deal with the way in which the terms are used to localize pain in the body. The data presented in Table IV represent how pain, ache and hurt were located in the body.

Firstly, we observe that *pain* is only localized in 18% of its occurrences, *hurt* in 35% and *ache* in 72%. In our view this is because *pain* refers to a dynamic process affecting an organ temporarily and localization thus often becomes less important. However, when pain is localized it is often given more specific localization than is the case with the other two words. *Hurt* occupies a middle position since it in most respects is a vaguer term than the other two. *Ache* is localized in most cases since it is usually of long duration and the localization of the pain becomes important. The greater tendency to localize *ache* has probably resulted in certain standard combinations both in English and Swedish with these terms such as head/ache, tooth/ache, tummy/ache.

Further this also explains a tendency to associate words like diffuse with *pain* rather than with *ache* or *hurt*.

The explanation can simply be that *pain* is localized more seldom than the other two terms.

Intensity

The perhaps most important dimension of pain-like experiences is intensity. Intensity can be expressed directly by the use of modifiers which have been classified as follows:

- 1) Evaluations of the degree of intensity
- 2) Indications of intensity by analogy with the results of the use of instruments
- 3) Indication of intensity by analogy with a particular state of bodily tension

As can be seen in Table V, intensity qualification directly reflecting degree of intensity is found to be mostly associated with the word pain followed by hurt and only in a few instances with ache. Qualifiers reflecting intensity as the results of the use of instruments are also mainly found with pain. Modifiers describing intensity by reference to bodily tension appears to be related to both pain and ache.

Heat and cold sensations

Another dimension of importance in distinguishing different types of pain is gained by modifiers indicating sensations of heat or chill. The following modifiers (presented in Table VI) of this type were found. As far as this dimension is concerned there is a tendency to associate the word pain with heat rather than cold. Burning is the most common qualifier used with regard to pain.

Other qualities

The qualitative differences between pain, ache and hurt as it surfaces through modifiers used with these terms can be reduced, to a considerable extent, to the primary dimensions of *time*, *intensity* and *heat* and to secondary dimensions such as perceived instrumental source, continuity of experience and bodily tension. However, there might still be other qualitative aspects not captured by these dimensions.

B. Affective reactions

Very often the sensory-cognitive experiences are related to affective reactions. We can distinguish three types of such reactions.

 affective-physiological

 affective-emotional

 affective-evaluative

Affective-physiological

Table VII presents an overview of affective reactions related to the words pain, ache and hurt. The data presented on affective reactions takes into account not only linguistic experiences that directly modify pain-like experiences, e.g. a *worrying ache* but also expressions denoting affective states said to co-occur with pain-like experiences, e.g. *she felt pain and fear*.

We have made this decision since it seems very difficult to know whether an affect is an ingredient of a pain-like experience or whether it is to be regarded as a separate and parallel process to the pain experience. All of the data is as before based on an aggregation of data and from concordance and questionnaire. As we see the most salient connections are between pain and exhaustion and ache and fatigue respectively. Hurt is apparently not strongly connected with any particular kind of affective-physiological reaction.

Affective-emotional

Turning secondly to affective states of a more psychological kind we found the following connections, presented in Table VII. The most frequent connection was with emotional states related to fear (53 cases). Among these states we see a very clear connection with pain. More than 70% (37/53) of all the connections are of this type. We also see a connection between ache and hurt and the mildest of the fear words (fear and anxiety).

The second most frequent connection was with some kind of despair (27 cases). Here we see that the strongest connection can be found with ache but that pain is strongly associated with those words that most clearly indicate despair.

The third most frequent association was with emotions of anger (18 cases). Here we see a connection between what one might call strong anger and pain but also that a clear connection exists between hurt and irritation.

Emotions connected with shame, as can be seen in Table VII are associated both with pain and hurt. Joy only with pain.

To summarize we see that pain is more strongly connected to emotional reactions than any other pain word. The emotions are fairly diverse, ranging from fear, anger to shame and joy. The strongest connections seem to exist between pain and fear and to some extent anger and joy. When it comes to despair we find a slightly stronger association with ache. With regard to hurt there is no consistent pattern of emotional reaction.

Affective-evaluative

Pain-like experiences are associated with affective states. Sometimes it is possible to regard these as evaluations based on affect rather than as directly experienced affects. As can be seen in Table VIII the word pain is associated with words of a higher intensity value than the words ache and hurt. There is here, an overlap with the earlier discussed evaluations of degree of intensity. However, since the evaluations also have a very strong affective component we have chosen not to group them with the pure intensity modifiers.

III. Effects of Pain-Like Experiences

A. Behavioural effects of pain

In order to understand the uses of pain, ache and hurt, it is important to consider not only causes but also effects of pain. Apart from being connected with affective reactions, painlike experiences often give rise to distinct behavioural reactions. Table IX presents an overview of behaviour associated with pain-like experiences.

The most frequent behavioural manifestations of pain-like experiences found in the data are vocal (77/145) followed by face (45/145) and the rest of the body (23/145). Within all three types, most manifestations are connected with pain 62/77 vocal, 42/45 face, 22/23 body. All of the vocal behaviour associated with ache has fairly low intensity and is very clearly associated with the expression of sorrow (wail, weep, sigh, moan). *Hurt* shows a similar tendency but not as marked as *ache*. High intensity and vocal behaviour associated with panic and fear is almost exclusively associated with *pain*. Further, *pain* has both holistic and specific association with the face. For example, it seems often to be associated with the eyes. *Pain* is also associated with the body as a whole. This is not the case with *ache* and *hurt*, except for association of sweating with *ache*. This result is in harmony with the earlier finding that pain is seldom localized.

B. Social effects of pain

The social effects of pain experience were often alluded to and concern things like the following:

- 1) Medical treatment
- 2) Other peoples reactions to the pain-like experience
- 3) Limitation of action

Examples representing these aspects of social effects are presented in Table X. The third type, limitation of action, has been more difficult to collect evidence on but is often concerned with the costs or benefits associated with the sick role.

Effects like most other phenomena we have studied are mostly associated with *pain*, followed by *ache*, except in the case of consumption of pills which to a very great extent is associated with *ache*. The fact that we found 13 examples of the word ache being associated with something which one has to learn to live with is worth noting.

DISCUSSION

A model of the conceptual components of pain-like experiences has been constructed and presented in this paper. The model is derived from and has been used to analyse the different meanings attached to the Swedish correspondents of the words pain, ache and hurt and is compatible with the general model of communication and action presented in Allwood (2).

In constructing the model we used three methods, concordance thesaurus and questionnaire. We found that the concordance method was the richest of the three methods and in itself was sufficient to cover also the results from the two other methods.

Each of the above mentioned methods involved the use of written data concerning the words pain, ache and hurt in Swedish. This of course places limitations on the generalization of the findings of this study with regard to being representative to how people really speak about pain in real life situations.

We have experienced a few minor problems associated with the translation of words from Swedish to English. These problems however, were not judged to influence the results of the study.

The pain analysis model and the MPQ

The model presented in Table I gives a more comprehensive picture of the complete pain experience than the MPQ. The model does not only include conceptual dimensions of the actual pain experience, but also includes conceptual dimensions related to causes and effects of the pain experience and shows a relationship between these different aspects. With our model we have been able to classify most of the words placed by Melzack (14) under the category miscellaneous on the MPQ. Furthermore, we present a taxonomy which is more exhaustive with regard to affective qualities than the MPQ.

The results of this study, along with the results of the Gaston-Johansson study (10) can probably also provide a theoretical framework for the assignment of intensity values between subdimensions of the main semantic categories associated with pain experiences (a problem in the MPQ). Both studies indicate that an intensity difference exists between the words pain, ache and hurt and their specific sensory, affective and evaluative modifiers. This is not the case with the MPQ (14) where words with obviously different meanings and intensities (flickering, sharp, punishing, sickening) in calculating the total score for the pain rating index are all given their absolute subclass value of one, irrespective of the fact that this value was originally assigned relative to other words in the particular subclass where the words occur.

The main components of the model

Causes

The most interesting types of causes are probably those of a personal nature. This type of causes permit us to gain some insight into the relationship between instruments used to cause pain and the use of modifiers associated with the word *pain* and perhaps even some idea concerning the importance of past experience. A post-operative patient in pain for example may not only experience surgery as a positive treatment, but may also associate the surgery with earlier punishment or assault and perhaps even torture.

The pain experience

We have identified 2 major dimensions, sensory-cognitive and affective of the actual pain experience. This finding is similar to the findings of Melzack and Torgerson (15) and Prieto et al (17). We have also identified 7 subdimensions which are similar to the 6 factors identified by Reading (18). Crockett et al's (5) findings seem to be related mainly to physiological and affective factors and thus do not provide a general classification of the dimensions that are relevant. Immediate anxiety, perception of harm and sensory information appear to reflect characteristics which we have associated with the dimensions affective-emotional and sensory-cognitive. More specifically their analysis also seems to be primarily limited to the concept pain as distinct from ache and hurt.

In our study, as was suggested in the Crockett study (5), we found that the different modifiers describing pain reflect sudden, fast, sharp, and when localized, specifically localized high intensity sensory information which is considered to be carried by the laterally located neo-spino-thalamic tract. We therefore suggest that information which is codified within the concept pain is carried by A-delta fibers and the neo-spino-thalamic tract.

The somesthetic pressure dimension identified by Crockett et al (5) in our data seems to reflect a state associated with the word ache and manifested through such modifiers as dull, heavy, annoying and unbearable.

If we combine the results of our study with the suggestions made by Crockett et al (5), this dimension seems to represent sensory information carried by C-fibers and the medially located paleo-spino-thalamic tract involving slow, dull, less specifically localized pain experiences (5).

Our data thus support the hypothesis that usage of the words *pain* and *ache* tend to reflect different neuro-anatomical structures and activity. No such support has been found for a correlation with the word *hurt*. If it is the case that *pain* and *ache* can be

correlated with neurophysiological and anatomical structures then in contrast to the suggestion by Fordyce (9) it seems likely there is a universal basis for the different distinctions employed in the pain vocabularies of different languages.

The results of the study are compatible with Gaston-Johansson (10) showing that the word *pain* was consistently associated with words of high intensity followed by *ache* which can be said to have mid intensity. The word *hurt* is the vaguest of the terms. This probably means that hurt is used as an all purpose term. This probably also means that hurt is associated with less specific content than the two other terms, which in turn might explain why the qualities attributed to hurt primarily have to do with intensity. This type of attribution requires less specific content of that to which the attribution is made.

The affective reactions associated with *pain* are those which are often experienced in threatening situations and the fight or flight response. The association of pain with anxiety is often found in the scientific literature. However, the association between the word *ache* with states of depression, grief and sorrow is not equally well documented.

Effects

The behavioural reactions that were found were more often connected with pain than with ache or hurt. Pain also appears to be more associated with uncontrollable behaviour than with ache and hurt. It is generally accepted that behavioural manifestations are a poor indication of the intensity of the pain experience, however our findings seem to indicate a need for a more systematic study of behaviour with regard to the experiences of pain and ache. Duration as well as intensity of the pain experience with regard to behavioural manifestations, seem to be important aspects for further study.

Social effects of the pain experience are in most cases related to the sickrole. The word *pain* refers to a more serious state than the other two terms. There is a need for medical help and risk of death inherent in the word *pain*.

The word *ache* refers to a less serious state than pain and is of a longer duration and therefore requiring mental endurance and adjustment. No immediate life threatening situations seems to exist when the word ache or its modifiers are used.

The word *hurt* does not seem to refer to a specific state which has serious social consequences for the individual.

Our data also indicates that a person's pain behaviour affects the behaviour of his significant others. Secondary gains can be obtained in the form of positive treatment and avoidance behaviour. Negative aspects associated with pain behaviour and the sick role

such as stigma, social isolation, and a negative self concept could be mainly associated with ache because of the time element.

In conclusion we would like to state the main points of the paper.

1. A pain-analysis model has been constructed which can be used for the analysis of pain-like experience.
2. Some differences between the concepts pain, ache and hurt and the expressions typically used to modify them have been identified and analysed. This information should also be helpful in the development of a methodology for the assessment of pain.
3. No significant differences with regard to conceptual dimensions were obtained when comparing data from a concordance based on newspapers and novels and data from a questionnaire asking subjects (patients and nurses) to explain the concepts pain, ache and hurt.

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Table I. A pain analysis model reflecting conceptual dimensions of pain-like experiences.

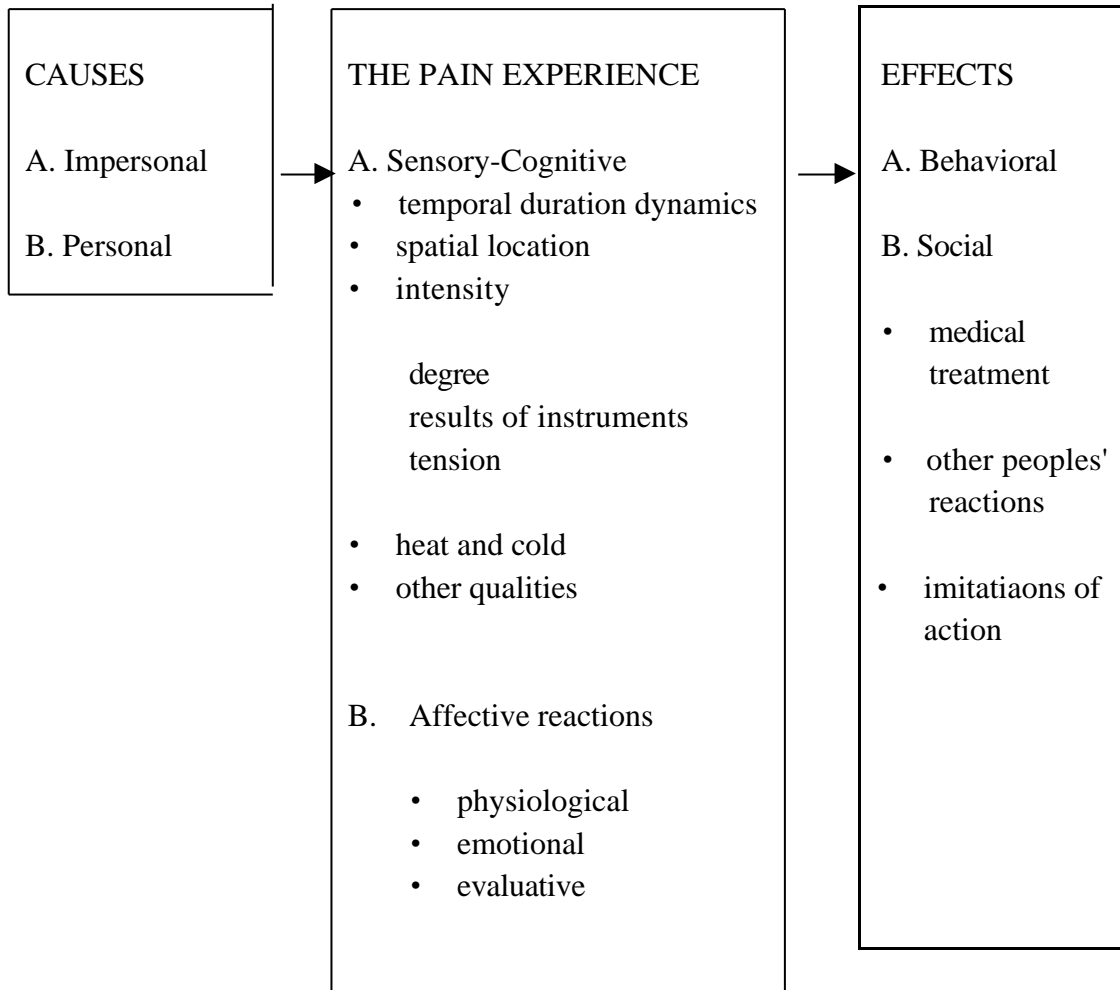


Table II. Some personal causes of the pain experience organized in relation to a model of rational motivated action.

CAUSING AGENT	PLACE ACTIVITY	MOTIVE	INSTRUMENT	
doctor	operating room	to help	scalpel	operation cutting
nurse	hospital	to help	needle	pricking
mamma/pappa	home	to dis- cipline	hand	punishing hitting beating whipping thrashing
enemy/friend	street	to hurt	teeth hand fist	assult biting gnawing scratching squeezing pinching pulling pressing pounding
torturer	torturer chamber	to hurt	fire hot iron needles sharp knife digger	burning burning pricking cutting stabbing

Table III. Temporal duration and dynamical qualities related to the words pain, ache and hurt.

	PAIN	ACHE	HURT
TEMPORAL DURATION			
sudden/plötslig	24		2
quick/snabb	4		3
fast/snabb	5		6
transient/övergående	11	4	35
brief/kortvarig	15		9
intermittent/återkommande	9	3	3
momentary/ögonblick	2		
interval/intervall		2	
periodic/periodvis		1	
continuous/ihållande	13	72	
steady/stadig	4	4	
permanent/ständig	2	13	
longtime/långtid	6	47	
always/alltid		5	
DYNAMICS			
flashing/blixtrande			
blinking/blinkande	2		
lighting/blixtrande	10		
spreading/utbredning	1		
radiating/utstrålande	4		1
pulsating/pulserande	1	4	
creeping/krypande	1		
shooting/ skjutande	1		
pumping/pumpande	1		
trembling/darrande	1		
grinding/molande	2	36	
throbbing/ bultande	5	2	
pounding /dunkande			
beating/dunkande	3	10	
dull/dov	2	7	

Table IV. Bodily locations associated with the words pain, ache and hurt.

	PAIN	ACHE	HURT
Total no of occurrences	683	334	797
No of occurrences where a localization in body is identified	122	242	280
No of bodily localizations referred to	51	44	37
Most frequent bodily location:			
Head	4	45	38
Back	3	22	40
Legs	5	20	6
Feet	5	8	42
Stomach	6	9	29
Whole body	1	26	11

Table V. Modifiers denoting intensities associated with the words pain, ache and hurt.

	PAIN	ACHE	HURT
<i>Degree of intensity</i>			
powerful/kraftig	3	1	
violent/våldsam	4		
violent/häftig	5		
strong/stark	6		
intensive/intensiv	33	2	
deep/djup	12	3	
mighty/väldig	4	1	
much/mycket		4	
little/litet		1	10
mild/svag			4
expletive words			14
<i>Intensity indicated by analogy with the use of instruments</i>			
crushing/krossande	1		
tearing/sönderslitande	9		
stabbing-axe/huggande	11		
cutting-knife/skärande	16		
sharp/vass	1		
sharp/skarp	15		
pricking/sticking	4		1
stinging/stingande	2		1
penetrating/genomträngande	4		
boring/genomborrande	2		
gnawing/gnagande		1	
<i>Intensity indicated by a modifier indicating tension</i>			
exploding/sprängande	2	1	
pressing/kramande		3	
cramping/krampaktig	2	3	
pressing/tryckande	1	1	
tight/snörande	1		
tense/spänd	1		1
stiff/stel	2	2	
pulling/dragande	1	1	
sore/ömt			5
tender/ömt			

Table VI. Heat and cold sensations associated with the words pain, ache and hurt.

	PAIN	ACHE	HURT
chill/kylig	1		
cold/kall	1		
freezing/iskall	2		
hot/het	2	2	
burning/brännande	18	4	1
scalding/skållande	5		

Table VII. Affective reactions related to the words pain, ache and hurt.

	PAIN	ACHE	HURT
AFFECTIVE PHYSIOLOGICAL			
suffocating/kväljande	2		
exhausted/utmattad	4	1	
fatigue/trötthet	1	9	
dyspnea/andnöd		1	
nauseating/äckel	3		
AFFECTIVE EMOTIONAL			
<i>Fear</i>			
fear/rädsla	9	2	5
horror/fruktan	8		
panic/panik		1	
anguish/ångest	8		
terrified/skräck	4		
anxiety/ängslan	3	3	3
frighten/skrämd	1		
oro/worry	4		2
<i>Despair</i>			
despair/förtvivlan	3	3	2
sorrow/sorg	6	2	
melancholy/melankolisk	1	1	
lonely/ensam	1	1	
empty/tomt		2	
no pleasure/olust		1	
heavy/tung		4	
<i>Anger</i>			
fury/raseri	2	1	
wrath/vrede	3		
irritation/irriterad	1	3	8
<i>Shame</i>			
guilt/skuld	9		8
shame/skam	2		
regret/anger	1		
<i>Joy</i>			
pleasure/lust	6		
joy/glädje	10		
happiness/lycka	4		

Table VIII. Evaluative qualifiers associated with the words pain, ache and hurt.

	PAIN	ACHE	HURT
insufferable/olidligt	13		
terrible/fruktansvärt	13		9
horrible/ohyggligt	6		
unbearable/outhärdligt	21	2	
painful/plågende	11	4	1
painful/pinande	4	1	
torture/tortlande	2		
awfully/hemskt	3		
unpleasant/obehagligt	7	1	
troublesome/besvärlig		4	9
positive/positivt	4		

Table IX. Behaviour manifestations associated with the words pain, ache and hurt.

		PAIN	ACHE	HURT
vocal	voice/röst	6		
	cry/skrika	28		3
	cry/vråla	7		
	wail/klaga	1	3	
	weep/ gråta	9	2	3
	sigh/stöna	8	1	1
	moan/jämra		1	
	groan/gnälla			1
	words/ord	3		
	facial	face/ansikte	15	
grimace/grimas		7		1
pale/greyish/blek/gråhy		3		
wrinkled forehead/rynka panna				1
eyes/ögon		10		
closed eyes/slutna ögon		2		
potruding eyes/ögon utskjutna		1		
month agape/munnen vidöppen		1		
trembling /darrande.				
lower lip/darrande underläpp		1	1	
dry lips/torra läppar		1		
clenching teeth/sammanbitna tänder		1		
bodily		holding a body apart/hålla sig	4	
	turn/skruva sig/vrida sig	4		
	shake in the whole body/ skaka i hela kroppen	1		
	faint/svimma	3		
	sweat/svettas	1	1	
	blood/blod	6		
	stench/stank	2		
	palpations /hjärtklappning	1		

Table X. Social effects related to the words pain, ache and hurt

	PAIN	ACHE	HURT
<i>Medical treatment</i>			
Help from a physician/nurse	7		
Give an injection for the pain	13		
carry out a treatment	1		
give pills (aspirin and valium)	5	11	
<i>Other peoples reactions</i>			
show tenderness and love	7		
give help	3		1
notice and give attention	1		
experience guilt or pain	3		
experience something negative	1		
avoidance behaviour		1	
<i>Limitation of action</i>			
death	18	3	1
helplessness	5	6	
you have to learn to		13	
live with it			