

# Discussion of International Association for the Study of Pain (IASP) pain definition: What has changed in 2020?

Buket Özkara Yılmaz<sup>1</sup> 

Emre Aydın<sup>2</sup> 

<sup>1</sup> Department of Neurology, Faculty of Medicine, Sanko University. Gaziantep / Türkiye

<sup>2</sup> Department of Neurology, Faculty of Medicine, Bandırma On Yedi Eylül University. Balıkesir / Türkiye

## Abstract

International Association for the Study of Pain (IASP) assigned a committee for setting a definition of pain, in year 1979. Despite many criticisms and suggestions, the definition introduced in year 1979 has been kept almost unchanged, except for the slight changes made in years 1986, 1994, and 2011. Since the criticisms from various philosophical and scientific disciplines increased in the recent period, the association assigned a team of 14 researchers and clinicians, who were at the forefront in their disciplines, in year 2018 to revise the definition. Slight modifications were suggested for the definition and explanation in year 2020. In this paper, the definition of pain suggested in year 2011 is examined first. Then, the alternative definitions and criticisms from the scientific and philosophical actors are discussed and, finally, the criticisms addressing the definition proposed in 2020 are reviewed after assessing the definition.

**Keywords:** International, pain, definition, criticism

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## Corresponding Author:

Buket Özkara Yılmaz

Email: [buketozkara4188@hotmail.com](mailto:buketozkara4188@hotmail.com)



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## Introduction

Everybody knows the pain as a feeling however, when it was wanted to define exactly, it doesn't seem as easy as before. International Association for the Study of Pain (IASP) was formed in 1975, and started to work on a definition for pain that many scientists from different sub-disciplines can be agree on. The definition was criticized from many different points of view. In this article the definition of pain suggested in year 2011 is examined first, after discussing the main topics, it is pointed why a revision is needed and finally some clarifications will be made.

### Definition and Explanation of Pain in 2011

#### *Pain*

An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

#### *Note*

Pain is always subjective. Each individual learns the application of the word through experiences related to injury in early life. Biologists recognize that those stimuli which cause pain are liable to damage tissue. Accordingly, pain is that experience which we associate with actual or potential tissue damage. It is unquestionably a sensation in a part or parts of the body but it is also always unpleasant and therefore also an emotional experience. Experiences which resemble pain, eg, pricking, but are not unpleasant, should not be called pain. Unpleasant abnormal experiences (dysaesthesiae) may also be pain but are not necessarily so because, subjectively, they may not have the usual sensory qualities of pain. Many people report pain in the absence of tissue damage or any likely pathophysiological cause; usually this happens for psychological reasons. There is no way to distinguish their experience from that due to tissue damage if we take the subjective report. If they regard their experience as pain and if they report it in the same ways as pain caused by tissue damage, it should be accepted as pain. This definition avoids tying pain to the stimulus. Activity induced in the nociceptor and nociceptive pathways by a noxious stimulus is not pain, which is always a psychological state, even though we may well appreciate that pain

most often has a proximate physical cause.

When the main definition can be dissected to two parts for analyzing, it can be achieved that the first parts are the same but the second parts are different sentences.

1) Unpleasant emotional and sensory experience + related with actual or potential tissue damage

2) Unpleasant emotional and sensory experience + can be defined in terms of actual or potential tissue damage

The first parts of the sentences indicate that the pain is a subjective state of consciousness, whereas the second parts defines if it is related with any actual or potential tissue damage. It can be understood that the pain is a subjective state of consciousness that incorporates actual or potential tissue damage or pain is experienced similar to those experienced by individuals having tissue damage. For IASP, the main point of view the definition can be accepted as its subjectivity [1].

The term "sensory" in the definition refers to a subjective consciousness experience arising from pain-specific neural system structures (different from other sensory experiences), having a specific *sui generis* qualitative character different from the other sensorial states such as sight and touch senses, and generally localized to a specific region of the body. The term "unpleasant" indicates the hedonic part of the experience. It is emphasized that all the consciousness states have a hedonic value (pain, neutral, pleasure) and the pain experience is an unpleasant experience. The term "emotional", as widely used in psychology, is accepted as the organism's complex response, which consists of subjective behavioral and physiological components, to internal and external stimulants. In case of pain, it can be considered that the emotional response determined by neurophysiological changes in tissue damage is experienced in an unpleasant way.

First sentence above successfully defines the classical pain experiences arising from actual tissue damage. It can be seen that the main purpose of the second sentence is to explain the pain experiences that can not be physically related to tissue damage. Majority of the explanation

following the definition aims to explain the relationship of pain with tissue damage. To sum up, explanation part emphasizes that;

Pain is a subjective experience,

It has specific qualitative characteristics (unpleasant, sensory, and emotional),

This experience is not necessarily related with tissue damage,

This experience does not have to be verbally expressed,

Other experiences, which are similar to the pain but do not have the qualitative characteristics that are specific to the pain, can not be defined as pain,

Even if it is related with physical and nociceptive system, it can not be degraded to them,

A person, who states that he/she has pain, should be considered to have pain.

#### ***Criticisms and alternative definition suggestions***

The criticisms addressing the pain definition made in 2011 can be clustered under several main topics: firstly, philosophic criticisms asserting that the definition creates a fictitious mental-physical duality, and eliminates the necessity of pain experience's mental origin from physical processes; secondly cognitive-linguistic criticisms alleged the pain experience requires, as a preliminary assumption, high levels of consciousness and linguistic skills; thirdly some thinks, it is ignored that pain experience have the social determinants and evolutionary origins; and finally, criticisms advocating that some terms in the definition ("unpleasant", "related", "can be defined in terms of") have no clear meaning or do not clearly represent the importance of experience.

In philosophical criticisms, it is asserted that the definition creates a mental/physical dualism by focusing on the subjective consciousness states. Statements '*... many individuals report pain when there is no tissue damage or any possible pathophysiological reason*' in the explanation and the statement '*... or can be defined in terms of this damage*' in the main definition prioritize the subjective experience for the pain experience and it suggests that the accompanying physical

situations are contingent for the experience. According to the philosophical thought system called Cartesian Dualism, the realm of existence consists of non-spatial thinking existence/essence (res cogitans), main characteristic of which is the thought, and material existence/essence (ras extensa), main characteristic of which is to occupy a place [2].

Even if not as naïve and concrete as Descartes emphasized, the philosophers adopting the Dualist (duality of mind and body) thought define the mind and body as different from the aspect of existence. Although how to define the relationship between two realms of existence has not been clearly identified, it is advocated that there must be a relationship between them. The definition of pain expresses this relationship from the possibility (not mandatory) aspect and this situation causes problems from the perspective of the dualist philosophical approach. Materialist-reductionist philosophical perspective, however, claims that all the phenomena, including the mind, can be explained by reducing them into physical processes (reductive) Accordingly, the definition defining the relationship between pain experience and physical processes (tissue damage) from the possibility perspective is problematic also from the aspect of physical philosophical theories.

Even if IASP attends mostly on the subjectivism, the definition doesn't reject the pain is realized by the neurobiological system. It can be thought that, differing from the previous explanations, the relationship between physical processes and experience stated in definition can be re-assessed by considering the mechanistic pain classification introduced by IASP in year 2011. According to this classification, all the pains can be clustered under 4 titles (the vast majority in the first three of them); nociceptive pain, neuropathic pain, nociplastic (algopathic) pain, and pains with (yet) unknown reasons [3,4,5]. It can be stated that nociceptive pains originate from actual or potential damage of non-neuronal tissues or stimulation of nociceptors, whereas neuropathic pains originate from lesions or diseases affecting the somatosensory neural system, and nociplastic pains can be defined as the change of the sensitivity of nociceptive system without

a lesion or stimulus affecting the nociceptors or somatosensory system. It can be stated that, if it is possible to examine many pain experiences, which cannot be related to a physical disorder stated in the definition, in detail, they can be assigned to one of the pathophysiological pain classes introduced by IASP and, in case of an increase in clinical competence in future, there will be no pain experience that cannot be related to physical processes and philosophical criticism will not create a problem for the definition of pain.

Another criticism addressing the definition is that pain experience requires high level of cognitive and lingual skills [6]. For instance, asserted that, not having the ability to express themselves, the newborns, toddlers, mentally retarded individuals, those having dementia, those having lingual limitations, and primate and non-primate animals cannot meet the lingual and cognitive criteria specified in the definition [7,8]. Aydede stated that the sentences "... *many individuals report pain when there is neither tissue damage nor potential pathophysiological reason.*", "... *if the subjective expressions are considered, then there is no way to distinguish the experiences generally originating from the tissue damage.*", and "...*if an individual considers his/her experience as pain and defines it the same as the pain arising from the tissue damage, then it should be considered as pain.*" in the definition are the main points addressed by the lingual-cognitive criticisms. Aydede alleged that the individuals asserting the criticisms misinterpreted these sentences and they accept the presuppositions that it is possible to express the hypothesis "*if it is expressed verbally(p), then there is pain experience (q)*" as "*if it is not verbally expressed (-p), then there is no pain experience(-q)*". However, Aydede emphasized that these presuppositions incorporate a fundamental logical error; the hypothesis that "if p, then q" cannot be interpreted as "if -p, then -q". It can be claimed that, since there is no sentence in the definition that the presence of a connection between pain experience and lingual processes is compulsory, the connection is possible but, even if it is not verbally expressed, it is possible to experience pain [9].

Some of the thoughts advocating the biopsychosocial model in social sciences and health sciences argue that pain diagnosis considers the experience disconnected from the social and cultural aspects. They highlight the pain can be experienced via the mediation of the environment, the opponents addressing this criticism may assert that it cannot be denied that all the consciousness experiences, including the pain, should be examined within the social and cultural environment but it's necessary but not the sufficient condition. They use an example of a pain experience in the desert, that social aspect is not a fundamental necessity for the pain experience So, besides the social and psychological conditions, many other factors can affect the pain experience and such far causal factors should not necessarily be included in a general definition [10].

The criticisms arguing that some terms in the definition ("unpleasant", "related", "can be defined in terms of") have no clear meaning, the term 'unpleasant' makes many acute and chronic pain experiences, which are clinically severe, tend to be perceived unimportant [7], whereas the term "related" expresses the relationship between experience and physical processes loosely. For instance, in the unpleasant dentist anxiety, which is related with a childhood trauma, can meet the relatedness criteria specified in the definition [11-13]. Addressing these difficulties, Aydede suggested the use of the term "*paradigmatically occurring as a result of...*" (paradigmatically arising from actual or potential tissue damage), which is claimed to better emphasize the mental and physical causality, instead of the term "related". Here, the author points out the compulsory relationship between tissue damage and experience by using "paradigmatic" instead of "related". For the cases with no tissue damage, by referring to the subjective similarity of experience, it was recommended to use the term "*similar to or the same type of current experience*" (paradigmatically occurring as a result of an actual or potential tissue damage or the same or similar to the current experience) instead of "*can be defined in terms of*" [9].

## Results

In conclusion, pioneering researchers studying the definition of pain and remarking the subjects mentioned above proposed alternative definition suggestions to the definition by IASP;

Some think that the definition misses the emphasis of evolutionary origins, Wright proposed the definition below;

*“Unpleasant sensation that has evolved to motivate the behavior to avoid or minimize the tissue damage or promotes recovery.”* [13].

Arguing that the term ‘unpleasant’ trivializes the importance of pain experience and does not sufficiently emphasize the psychosocial aspect of the definition, Williams and Craig suggested the definition;

*“Pain is a distressing experience associated with actual or potential tissue damage with sensory, emotional, cognitive and social components.”* [7].

The definition is criticized that there is no clear idea about the body-experience distinction and the term ‘unpleasant’ does not reflect the existential importance of pain, Cohen proposed the definition;

*“Mutually recognized somatic experience that reflects a person’s apprehension of threat to their bodily or existential integrity”* [10].

Generally advocating that the definition by ISAP is sufficient, Aydede proposed changing some of terms, meanings of which cause uncertainty according to his thought;

*“Unpleasant sensory and emotional experience that paradigmatically results from actual or potential tissue damage or is of the same kind or similar to such an experience.”* [9].

After the analyzing the criticisms from various disciplines and suggestions of leading researchers, IASP proposed a preliminary definition in July 2019 on its website and the feedbacks were received between 7<sup>th</sup> August 2019 and 11<sup>th</sup> September 2019. The preliminary definition of pain that was provided for the public feedback;

### Pain

A distressing sensory and emotional experience

typically associated with, or resembling that associated with, actual or potential tissue damage

### Notes

1) Pain is a subjective experience that is always affected by biological, psychological, and social factors to various degrees.

2) Pain and nociception are different phenomena: pain experience cannot be degraded into activity in sensory pathways.

3) Individuals learn the pain concept and its implications through their life experiences.

4) If a person expresses that his/her experience is a pain, then it is respected and accepted.

5) Even though pain generally serves for an adaptive role, it might have negative effects on functional, social, and psychological wellbeing.

6) Verbal description is only one of several behaviors expressing the pain; inability to establish a communication does not eliminate the possibility of a human or non-human animal to experience pain.

### Etymology

Medieval English, from Anglo-French *peine* (pain, sorrow), Latin *poena* (punishment), and Greek *poine* (payment, punishment, indemnity). \*Montreal Declaration, which is a document published on 3<sup>rd</sup> September 2010 in the 1<sup>st</sup> International Pain Summit, states that “Access to pain management is a fundamental human right”.

The Committee, which assessed 808 feedbacks from 46 countries, determined 4 major principles to be used in setting the final form of definition; 1) definition of pain should be simple and practical to be translated to other languages. 2) definition should better specify the personal pain experience. 3) definition should offer more specificity about various components of pain. 4) pain should refer to tissue injury and be more compatible with modern conceptualizations. As a result of the feedbacks that the Committee received, it was stated that the term “distressing” is not easily understood and not easy to translate and unlike the term “unpleasant”, it reminds the motivational aspects besides the hedonic aspect,

the old term should be used. Considering the recommendation of drawing less attention to the tissue damage in accordance with modern pain concepts, it was suggested to use the term “related with” from the old definition instead of “typically originating from” proposed in the draft definition. No change was proposed for the explanation. Then, IASP finalized the definition and published it in year 2020 [14,15].

### **2020 Revised Pain Definition and Notes (Notes Were Unchanged)**

#### ***Pain***

An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.

### **Discussion**

#### **Discussion of the New Definition**

It can be stated that IASP generally noted the lingual-cognitive and biopsychosocial model criticisms and made several additions to the notes part of the new definition. Unsympathetic long paragraph of note is shortened and rewritten systematically. As the main point of the definition, pain is accepted as a subjective experience which has specific characteristics. Beside this it can be claimed that the question of how to distinguish the pain experience which are no pain but similar to pain, is the main problem that the definition has difficulty in answering [9]. It seems hard to determine why many different types of pain such as sore, throat, migraine are considered as pain but many experiences that are similar but not pain [12]. The definition by IASP addresses this point by stating that the qualitative characteristics of experiences in cases of actual or potential tissue damage should be defined as pain. When the definition can be examined by dividing into two parts; the first part defines the experience and has the 1<sup>st</sup>-person epistemology, while the second part defines the physical damage and has the 3<sup>rd</sup>-person epistemology. It is aimed to define distinctive characteristics of experiences in the 1<sup>st</sup>-person epistemology by making use of the physical damage terms in the 3<sup>rd</sup>-person epistemology. At this point, it can be claimed that the definition involves an epistemological dilemma. To solve

this problem, the first option is to loosen the link between the first and second parts of definition in order to include all the types of pain in the large pathophysiological scale, whereas the second option is to keep the link between the first and second parts solid in order to better define the limits of pain. It can be stated that IASP in the preliminary draft definition in 2019 and Aydede in the alternative definitions he proposed, aimed to put the second option in practice. The terms Aydede suggested to add into the definition aim to emphasize the physical processes and to define the limits of pain more clearly. The term “distressing” proposed in the preliminary draft in 2019 instead of the term “unpleasant” aims to better define the pain experience. Since IASP aims to offer a wide description involving all the types of pain as a general principle, it can be seen that it preferred using the terms, which keep the link between physical processes and pain experience looser. Given the last sentence of definition, it can be said that the phrase “resembling that associated with” considers the relationship of subjective pain experience with the tissue damage looser when compared to the term proposed by Aydede.

### **Conclusion**

As the main point of the definition, pain is accepted as a subjective experience which has specific characteristics. Besides this, it can be claimed that the question of how to distinguish the pain experience which are no pain but similar to pain, is the main problem that the definition has difficulty in answering.

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#### ***Conflict of interest***

The authors declare no conflict of interest in preparing this article.

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**Text Box 1. IASP Definition of Pain (2011)**

**Pain**

An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

**Note**

Pain is always subjective. Each individual learns the application of the word through experiences related to injury in early life. Biologists recognize that those stimuli which cause pain are liable to damage tissue. Accordingly, pain is that experience which we associate with actual or potential tissue damage. It is unquestionably a sensation in a part or parts of the body but it is also always unpleasant and therefore also an emotional experience. Experiences which resemble pain, eg, pricking, but are not unpleasant, should not be called pain. Unpleasant abnormal experiences (dysaesthesiae) may also be pain but are not necessarily so because, subjectively, they may not have the usual sensory qualities of pain. Many people report pain in the absence of tissue damage or any likely pathophysiological cause; usually this happens for psychological reasons. There is no way to distinguish their experience from that due to tissue damage if we take the subjective report. If they regard their experience as pain and if they report it in the same ways as pain caused by tissue damage, it should be accepted as pain. This definition avoids tying pain to the stimulus. Activity induced in the nociceptor and nociceptive pathways by a noxious stimulus is not pain, which is always a psychological state, even though we may well appreciate that pain most often has a proximate physical cause.



**Text Box 2. Revised IASP Definition of Pain (2020)****Pain**

An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.

**Note**

- 1) Pain is a subjective experience that is always affected by biological, psychological, and social factors to various degrees.
- 2) Pain and nociception are different phenomena: pain experience can not be degraded into activity in sensory pathways.
- 3) Individuals learn the pain concept and its implications through their life experiences.
- 4) If a person expresses that his/her experience is a pain, then it is respected and accepted.
- 5) Even though pain generally serves for an adaptive role, it might have negative effects on functional, social, and psychological wellbeing.
- 6) Verbal description is only one of several behaviors expressing the pain; inability to establish a communication does not eliminate the possibility of a human or non-human animal to experience pain.

**Etymology**

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