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Governments should measure pain when assessing societal wellbeing

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Standfirst

Governments make efforts to measure citizens' wellbeing and the indicators are constantly evaluated. Evidence across the social and medical sciences shows that pain is a socioeconomic, psychosocial, and behavioural phenomenon. Governments should incorporate the systematic measurement of pain into metrics of wellbeing.

Citizens' wellbeing and societal progress are important goals of policymaking. Traditionally, national income has been considered the key measure to evaluate these objectives. The greater the Gross Domestic Product (GDP) of a country, the more prosperous a nation and their citizens were supposed to be. However, prosperity in the sense of national wealth does not necessarily translate to other measures of wellbeing. In recent decades, researchers provided evidence that greater national income was not associated with greater life satisfaction among citizens in the long run ¹. As a result, the value of the GDP as an indicator of societal progress has been challenged and governments have started to consider a wider variety of wellbeing measures, such as metrics drawn from the Sustainable Development Goals framework and psychological variables like happiness and life satisfaction (<https://www.oecd.org/wise/measuring-well-being-and-progress.htm>).

These measures have been extensively studied and taken by many governments around the world. Yet, indicators of national wellbeing are still under constant scrutiny. For instance, the UK Office for National Statistics is continuously updating the UK's Measuring National Well-being Programme in an attempt to cover all areas that influence people's wellbeing, namely, health, relationships, accommodation, education, work, and the environment, among others (<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing>). In line with this proposition, researchers suggested that alternative approaches to measuring societal wellbeing should be taken into account ². Building on this work, the present article argues that governments should also consider the role of individuals' pain.

Pain is one of the most common human experiences. Pain refers to the feeling that people have when their body hurts. In some cases, pain can be associated with physical damage. However, people may also experience pain without having specific injuries. This article focuses on bodily pain that may or may not be linked to physical damage. Billions of people around the world are suffering pain and trends have been on the rise ³. Specifically,

the percentage of people in pain all over the world increased from 26 in 2009 to 32 in 2021. This rising trend has been found in several population groups: men and women, the younger and the elderly, people with low and high income, and people with low and high education ³. Pain has detrimental effects on the human body and mind. Pain is strongly linked to aspects of mental wellbeing, such as life satisfaction ⁴ and financial stress ⁵, and to behaviours, such as drug and alcohol misuse, and suicide ⁶. Pain is incredibly costly for the economy and the healthcare system: for example, more than \$600 billion are spent annually in the US to treat pain, a figure that surpasses the cost of heart diseases and diabetes ⁷. These circumstances highlight the importance of pain at both the individual and the national levels.

Societal aspects of pain

Traditionally, pain has been considered a pure medical issue. New and fast-growing scientific work has shown that socioeconomic, psychosocial, and behavioural factors play a key role in pain (Figure 1). As one of many examples, Case et al. ⁶ found that people with greater education reported lower levels of pain than those with lower education and that the gap in pain between the more and the less educated has been widening over time in the US. Employment is also linked to pain. In general, people who are unemployed tend to report greater pain than those who are employed ⁸. In line with these findings, a cross-sectional study found that people with lower income reported greater pain than those with higher income ³.

Recently, there has been an accumulation of evidence that shows that social stressors are strongly linked to pain. For example, using a worldwide sample, Macchia and Oswald ⁸ showed that pain was lower in an economic boom and greater in an economic recession. These findings held after controlling for individuals' employment status suggesting that general unemployment can have consequences for pain even for those who are employed.

The authors argue that the financial stress that people may suffer during an economic downturn hurts in the body. In line with this work, Chou et al.⁵ provided experimental evidence that economic insecurity leads to financial stress which triggers pain. Similarly, work-related psychological distress preceded the occurrence of new episodes of pain in a prospective cohort study of nursing students⁹.

Pain can also be the cause and the consequence of behaviours that have detrimental implications for people's overall wellbeing. For instance, pain is one of the most common causes of drug and alcohol misuse⁶. Pain plays a key role in the US opioid epidemic which constitutes one of the most significant public health concerns of all times. Since the 1980s pain has been extensively treated with opioid analgesics and reporting pain has been one of the most commonly used routes to obtain a prescription of opioids¹⁰. Prior research documented a bidirectional relationship between drug use and pain: Using data from the Midlife Development in the US study (MIDUS), Gleib et al.¹¹ showed that pain predicted drug misuse which also led to greater pain. The behavioural consequences of pain can also be seen in the labour market and the workplace. Results from a study with a British cohort, showed that pain in midlife was linked to poor labour market outcomes, especially, joblessness at age 55¹². Pain has also detrimental implications for the employed: people in pain tend to be less productive, show higher rates of absenteeism, and choose early retirement¹³.

Why pain should be measured

The role of pain as an indicator of societal wellbeing can be considered from two perspectives: (1) what pain captures and how it can complement other measures of wellbeing, and (2) how important measuring citizens' pain is for policymaking.

With regard to the first point, pain can capture aspects that the currently used measures of psychological wellbeing, such as happiness and life satisfaction, may struggle to address. Although pain and life satisfaction have been found to be negatively associated ⁴, in certain situations, these measures may give contradicting results. For instance, it may be the case that someone who is dying of a terminal and painful illness is satisfied with the life they have lived. This person may score nine out of ten in life satisfaction and nine out of ten in pain. This episode suggests that measuring both life satisfaction and pain together may provide a more representative assessment of the situation.

Pain and psychological states are highly interrelated: negative emotions such as frustration, worry, anxiety, and depression can create pain and exacerbate it as well as pain can lead to poor mental health ¹¹. Measuring pain can help to decode this bidirectional link. First, pain can be seen as a more reliable indicator as it can be easily felt in the body whereas traditional psychological wellbeing measures involve more complex evaluations. Although these psychological assessments are valuable, they may require an additional thinking process that may bias people's responses. Second, due to the social stigma linked to poor mental health, people may be more likely to report a migraine attack that was triggered by stress instead of the negative emotions that led to the pain. In light of these circumstances, pain can be considered a psychological indicator in addition to a physical health outcome. In particular, as pain refers to the feeling that people have when their body hurts, pain could fall into the well-established category of experienced wellbeing which involves other feelings, like happiness, stress, and boredom.

With regard to the second point, measuring pain is beneficial for policymaking as pain is one of the most important public health challenges. For instance, in the US, nearly 50% of people who visit the emergency department present some kind of pain ¹⁴, the fatal opioid epidemic is strongly related to pain ¹⁰, and billions of dollars are spent to treat citizens' pain ⁷.

In addition to the implications that pain has for health policy per se, pain is relevant for public policy for wellbeing more broadly. The fact that pain is emerging as a socioeconomic, psychosocial, and behavioural phenomenon suggests that governments should systematically collect annual measures of citizens' pain levels in their countries.

Next steps for measuring pain

Pain has been measured in large scales surveys for a long time. However, government agencies and international organisations that are making specific efforts to monitor and improve citizens' wellbeing would also benefit from including pain in their wellbeing programmes and national surveys. For instance, the Sustainable Development Goal number 3 which aims to promote good health and wellbeing for all could also consider reducing people's level of pain among its targets. How to measure pain is a question that deserves attention. Following physicians and scientists, pain can be measured with a numerical scale. For example, people could be asked "how much bodily pain do you have right now?" and could answer anything from 0 (no pain) to 10 (worst imaginable pain). This brief question will help governments to monitor pain in an efficient and affordable way. The validity of this approach and its value to science was demonstrated in a recent investigation ¹⁵. Moreover, measured in a longitudinal way, this pain scale can provide valuable information about changes in pain over time.

Measures of psychological wellbeing are extremely important to assess societal welfare as they overcome the limitations of standard statistics, such as the GDP. Yet, scholars across the social sciences have recently highlighted the need for alternative approaches to measuring wellbeing. Considering pain an indicator of citizens' welfare can help to advance the science of wellbeing and improve the design and evaluation of public policies for wellbeing.

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Competing Interests

The author declares no competing interests.

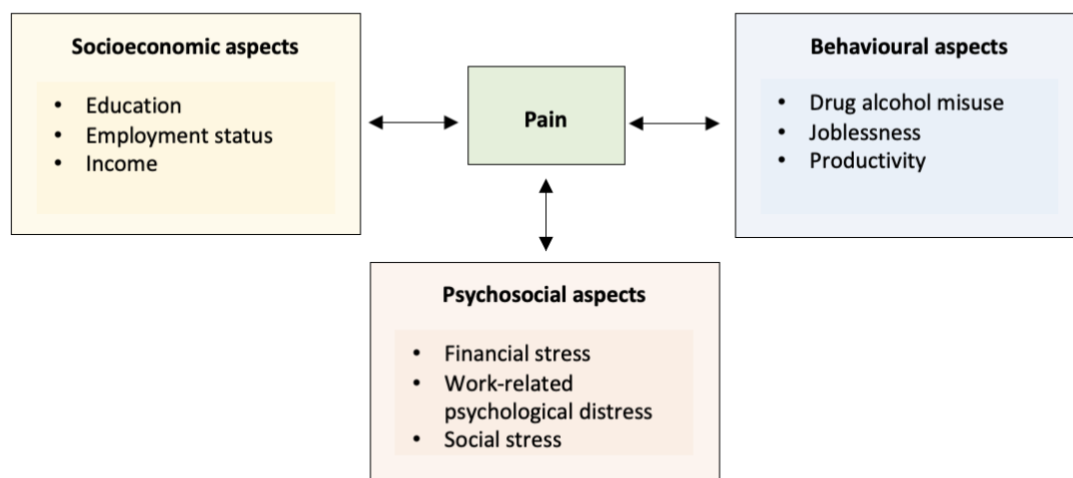


Figure 1. Socioeconomic, psychosocial, and behavioural aspects of pain. The figure shows socioeconomic, psychosocial, and behavioural contributors to, and consequences of pain. For example, education, employment, and income have been found to be key predictors of pain. At the same time, pain can influence educational attainment, employment status, and income level reinforcing the link between pain and those socioeconomic aspects.