Clinical Pain Research

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Translation, contextual adaptation, and reliability of the Danish Concept of Pain Inventory (COPI-Adult (DK)) – A self-reported outcome measure

Abstract

Objectives – Pain is a growing concern globally, and an individual and societal burden. Pain science education (PSE) is a promising avenue for managing chronic pain, but targeted PSE is needed. The Concept of Pain Inventory for Adults (COPI-Adult) is a newly developed self-reported outcome measure aimed at targeting PSE. It is currently unavailable in Danish and has unknown reliability. The aims of this study were (1) to translate and contextually adapt to Danish and (2) to determine reliability in terms of test–retest reliability, internal consistency, and measurement error.

Methods – Step (1) was as follows: a dual panel approach was used to translate, contextually adapt into a Danish version. Step (2) was follows: a heterogenic sample of Danish adults >18 years ($n = 150$) was included in the test–retest analysis, test interval between 7 and 14 days, both answered via REDCap-link. Based on COSMIN recommendations, the following reliabilities were estimated: the test–retest using intraclass correlation coefficient ($ICC_{2.1}$) and internal consistency using Cronbach's alpha level. Measurement error in terms of standard error of measurement (SEM) and smallest detectable change (SDC) were calculated.

Results – Step (1) was as follows: the first panel reached 100% consensus on the wording of the COPI-Adult (DK), with no alterations by the second panel. Step (2) was as follows: good to excellent test–retest reliability was found with $ICC_{2.1}$ value (95% confidence interval) 0.88 (0.84–0.91), excellent internal consistency for the 13-item COPI-Adult (DK) with α = 0.939, SEM of 2.53, and SDC of 7.02.

Discussion – The COPI-Adult (DK) was successfully translated and contextually adapted. It is a reliable questionnaire with excellent internal consistency. The COPI-Adult (DK) shows promise in research and clinical practice.

Keywords: COPI-adult, reliability, COSMIN, Danish, chronic pain

1 Introduction

Chronic pain affects one in every five across the globe [1] and is on the rise [2]. It is both a personal problem for the individual who suffers from pain, affecting physical function and mental health [3], and a societal problem [4,5], with large costs due to sick leave, loss of productivity, and treatment costs [6–8]. A recent systematic review highlighted that best practice care for musculoskeletal pain should include education [9] about the science of pain [9,10]. Pain science education (PSE) is designed to reconceptualize pain as a bio-psycho-social experience rather than a merely biomedical problem [11]. Systematic reviews indicate that patients benefit from this type of education [12–14] and it may reduce pain intensity, disability, and catastrophizing and improve function [13,14]. However, not all patients benefit from this type of education. The cause is not clear but may be due to the lack of comprehending the information and integrating the knowledge into everyday skills and competences [12,15].

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As PSE operates within a theory of conceptual change [11], it is important to identify the knowledge gaps, misconceptions, and needs of the individual, to tailor the education and enhance learning outcomes [9]. To identify these knowledge gaps and misconceptions, Pate et al. developed the Concept of Pain Inventory (COPI) [16] as a tool to measure one's concept of pain and to serve as a tool to help meaningful conversation and shared decision making with the patients. This was originally developed for children but in 2022 the COPI-Adult [17] was developed and a preliminary validation in an adult population showed promising psychometric properties. It covers concepts such as "pain does not equal harm," which is known to reduce catastrophizing and fear of movement, in questions such as: "4. You can feel a lot of pain even when an injury is small" and "8. You can feel a little bit of pain even when an injury is big" and "Relationship between pain and physical activity" which can affect level of disability and function: "9. Pain usually feels better if you move your body a little bit more each day," "11. Resting for a long time can make pain worse," and "13. Pain can be too protective if it stops you getting moving again." This tool does not exist in Danish, and there is a further need to investigate the psychometric properties and investigate the use of it with patients and clinicians.

The aims of this study were [1] to translate and contextually adapt the COPI-Adult to a heterogeneous Danish adult population and [2] to investigate the test–retest reliability and measurement error of this Danish version in a heterogenous adult population.

2 Methods and materials

This two-step study was conducted at Health, Training and Rehabilitation, Køge Municipality, Denmark from June 24, 2021, to June 14, 2022. This article is reported using the taxonomy, terminology, and definitions proposed by COSMIN (*COnsensus-based Standards for the selection of health Measurement INstruments*) for patient-reported outcome measures (PROMs) [18–21]. The study followed the Helsinki Declaration [22]. No ethics approval was needed due to the study design (Act on Research Ethics Review of Health Research Projects, October 2013, Section 14.2). The study was pre-registered at Aalborg University and GDPR regulations were followed. All data were collected through REDCap™ and stored at a secure file share at Aalborg University.

2.1 Step 1: translation and contextual adaptation

The first step was conducted in June 2021. Before initiating this study, permission to translate and contextually adapt the original English language COPI-Adult [17] was granted from the original author (JP). A dual panel approach, in which two panels translate, and contextually adapt the questionnaire, was used to turn COPI-Adult into the COPI-Adult (DK). This approach was chosen as it has been found superior to a forward–backward translation [23].

2.1.1 Participants and procedure

Participants in both panels provided written consent to participate in this study and *sociodemographic data* in terms of sex, age, marital status, educational level, profession, years of work experience, chronic pain status (pain more than 3 months), and possible pain duration were collected. The first panel of six people were all bilingual in Danish and English, a criterion for inclusion. As recommended by Swaine-Verdier et al. [24] for a first dual panel, we strove for a broad sample of professions, with people in and outside of academia, to have between 5 and 7 people for a fruitful discussion and to have only a few medically trained persons involved [24]. Due to restrictions on the grounds of the coronavirus disease 2019 (COVID-19) pandemic, the meeting was conducted online through Microsoft Teams. Pragmatically, we recruited friends and colleagues from our colleagues.

To ensure a proper focus group discussion, the participants in the second panel were selected from the same workplace, so they could meet in person despite COVID-19 restrictions. We strove for a varied social and occupational background and omitting people with the disease in question was desired.

2.2 Step 2: test–retest reliability and measurement error

2.2.1 Participants and measurements

From June 2021 to April 2022, a heterogenic sample of adults, including students, people who were part of the work force in and out of health care professions, as well as retirees from any profession, were all invited to

participate in the test–retest of the newly developed COPI-Adult, Danish version. We strove to include a broad spectrum of ages, to recruit a sample with varying degrees of prior knowledge about pain science to ensure we used all the bandwidth of the tool, and to have at least 10 participants per item in the questionnaire, i.e., a minimum of 130 included. We expected healthcare students to have a higher degree of prior knowledge.

Sociodemographic data in terms of sex, age, marital status, educational level, years of work experience, previous PSE, and chronic pain status (pain more than 3 months) were collected.

The COPI-Adult consists of 13 items, each rated on a 5-point Likert scale ranging from 0 = "Strongly disagree" to 4 = "Strongly agree," with scores ranging from 0 to 52. A higher score indicates greater alignment with contemporary pain science.

2.2.2 Procedure

Potential participants were invited to participate in this study via a link to a REDCap survey. They were provided with information about the study that it was voluntary to participate and that consent could be withdrawn at any time. According to COSMIN recommendations, to assess the reliability of a questionnaire the construct of interest needs to be unchanged. We do not expect the concept of pain to change after 7–14 days, so 7 days after completing the first questionnaire, an automated email was generated by REDCap with a link to the second questionnaire. This interval was set to minimize recall bias [25]. Participants who completed the second questionnaire more than 14 days after the first were excluded from the analysis, to avoid a change in the construct of interest (here the concept of pain). Participants who had failed to tick the consent box in the baseline survey were also excluded from the analysis, despite completing the second questionnaire. Participants with missing items were also excluded from the analysis.

2.2.3 Data analysis

All data were analyzed using IBM SPSS Statistics (version 28, IBM Corp., Armonk, NY, USA). Descriptive statistics (mean and standard deviation [SD], median and range and proportions [%]) were used to describe socio-demographic status. We tested for systematic bias between test and retest in the COPI-Adult scores. Paired samples t-test and 95% confidence intervals (CIs) were used. We calculated the

intraclass correlation coefficient ($ICC_{2,1}$) (*two-way mixed effects model, total agreement between single scores*) to express the test–retest reliability [26]. Any systematic difference in the group between the two measures was included by choosing $ICC_{2,1}$ total agreement and we provided a conservative ICC estimate. We deemed excellent reliability to be >0.90, good 0.75–0.90, moderate 0.5–0.75, and poor <0.5 [27]. To examine agreement between the two measures, a Bland–Altman plot was made. The bias was calculated as mean of the difference between the two measurements, upper limits of agreement (LoA) as bias + (1.96 × SD of the mean) and lower LoA as bias − (1.96 × SD of the mean).

Measurement error was estimated by calculating the standard error of measurement (SEM) [19], and we chose $SEM_{agreement}$, in which both random and systematic errors are included, by using the following formula: $SEM = SD \times \sqrt{(1 - ICC)}$ where $SD = \sqrt{(SS_{total}/n - 1)}$ [28]; SS_{total} = sum of squares total, n = the total number of tests + retest, and ICC = the calculated $ICC_{2,1}$. We converted $SEM_{agreement}$ to the smallest detectable change $(SDC)_{ind}$ using the following formula: $SDC_{ind} = 1.96 \times \sqrt{2} \times SEM$ where SDC_{ind} informs that it is at an individual level [29,30]. SDC_{ind} is equivalent to the smallest change in a person's score that with a 95% probability is a true change in the construct over and above the measurement error of the questionnaire at an individual level. SDC_{ind} is expressed as SDC95%. The SDC value is expressed in the same unit as the questionnaire score, which makes interpretation in the clinic easier.

Internal consistency was measured calculating a Cronbach's alpha. Cronbach's alpha ranges between 0 and 1, and higher values reflect greater internal consistency. α-Values ≥0.9 were deemed excellent, $0.8 \leq \alpha <$ good, $0.7 \leq \alpha < 0.8$ acceptable, $0.6 \leq \alpha < 0.7$ questionable, and $0.5 \leq \alpha < 0.6$ poor [31]. The COPI-Adults is a unidimensional scale [17], which is required to report Cronbach's alpha.

3 Results

3.1 Step 1: translation and contextual adaptation

The first panel ($n = 6$) had a mean age of 32 years (range 29–41 years), and only two were healthcare professionals (both trained as physiotherapist, one had further gained a master in physiotherapy and was conducting a PhD). The others were non-healthcare professionals. The second panel ($n = 5$) consisted primarily of laymen, but with one healthcare professional (occupational therapist) who was a

stand-in on the day of the meeting. Although omitting people with the disease in question is recommended, there was one member out of five with chronic pain (representative of the background population). The mean age was 44 years (range 30–58 years).

The first author (BE) had reviewed the questionnaire with the original author (JP), to ensure complete understanding of the questionnaire, the purpose, and the intended meaning of each item before translating the COPI-Adult into Danish and to have a basis for discussion. BE is bilingual in Danish and English. Prior to the first panel discussion, the original COPI-Adult was forwarded to the panel participants along with the suggested Danish translation. The participants were asked to make their own translation prior to reading the translation made by BE and note any interpretive issues understanding the BE translated version. To ensure that the panel had a sufficient understanding of the purpose of the questionnaire, and the thoughts behind it [24], the original author of the COPI-Adult [17] had video recorded a 7-min introduction to the COPI-Adult [32], which the panel viewed before initiating the discussion.

The participants in the second panel were all included from the same workplace and could meet in person despite COVID-19 restrictions. The participants were presented with the agreed translation and had been asked to complete the questionnaire for themselves in advance and note any difficulties in completing the questions. They did not have access to the original version and were not given the scoring key until the day of the panel discussion. BE coordinated both panels and ensured that the meaning of the original items was retained.

The translation of the introduction paragraph preceding the questionnaire was discussed, and the panel quite easily agreed on the wording. Each individual item was then discussed. For each item, 100% consensus was reached in the group on the wording, but alternative wordings were noted and later introduced to the second panel as an alternative. With item 9 "Pain usually feels better if you move your body a little bit more each day," the panel had a problem with regard to the "bit more," since this indicates that you *must* move more each following day. The introduction, where information on a shared database is introduced, was found to have confusing wording and the text crowded. Before proceeding on to panel 2, the original author was contacted for clarification on the aforementioned two issues. For item 9, the panel suggested that "bit more" was removed in the translation, which was acceptable to the original author, and the suggested rewording of the information on the shared database was likewise accepted. The reworded introduction was discussed, and no further changes were made. Each item was discussed and accepted.

For each item, the alternative wordings were presented, but none of the alternative wordings were found better than the agreed version. The last item: "Pain can be too protective if it stops you getting moving again," had to be read more than once by all participants. They understood the statement, and when given clinical examples of this, they agreed that the wording was correct and that the answer would reflect how up to date with contemporary pain science one is. Overall, no words were edited from the agreed translation of the first panel, and the panel found the items meaningful, lending evidence toward good content and face validity. See Appendix S1 for the translated Danish version of the COPI-Adult.

3.2 Step 2: test–retest

Figure 1 shows that a total of 293 people participated in the test–retest study. However, 23 failed to tick the "consent box" and were excluded from the analysis. A further 108 failed to answer the retest, resulting in 162 included in the test–retest. Nine people were excluded due to a time interval of >14 days, and further three were excluded due to missing items, resulting in 150 people included in the analysis. There were some demographic differences between those who completed both questionnaires and those who did not respond to the second questionnaire (non-responders were slightly younger and living without a partner). Population characteristics and descriptive data from step 2 (test–retest) are shown in Table 1. A good-to-excellent $ICC_{2,1}$ value was found, and SEM and SDC for the questionnaire were calculated (Table 2). A Bland–Altman plot (Figure 2) illustrating the agreement between the two measures demonstrated a slightly higher score at the follow-up compared to baseline (0.59 points 95% CI 0.024; 1.163).

To measure internal consistency, a Cronbach's alpha was calculated. The COPI-Adult (DK) consists of 13 items, there were 150 participants who answered the study, and the value of Cronbach's alpha = 0.939.

4 Discussion

Our dual panel translation successfully translated and contextually adapted the English version of the COPI-Adult into a Danish language. The comprehensive test–retest results in a broad sample showed good reliability and the SDC was 7 points on the 0- to 52-point scale.
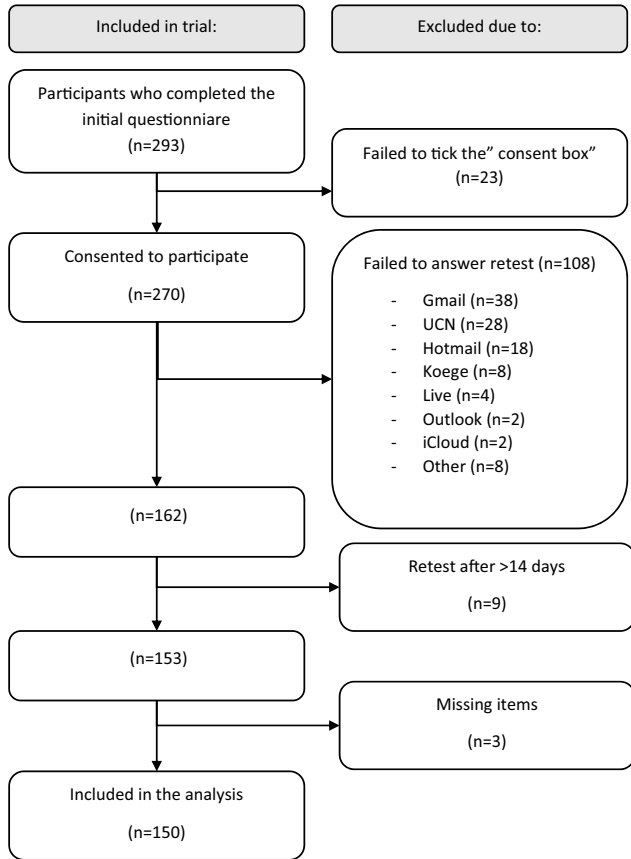
Figure 1: Flowchart of participants.

Table 1: Population characteristics from step 2; test–retest (*n* = 150)

| Characteristic	Measurement	Mean (±SD) or number (%), median, IQR and (range)
Sex	Women	108 (72%)
Age	Years	43.31 (±14.93), 19–80
Marital status (*n* = 147)	Married/co-living	119 (79.3%)
	In a relationship	10 (6.7%)
	Single	18 (12%)
Level of education	Primary school	2 (1.3%)
	Upper secondary school	25 (16.7%)
	<3 years after upper secondary school	20 (13.3%)
	3–5 years after upper secondary school	82 (54.7%)
	>5 years after upper secondary school	21 (14%)
Profession	Physiotherapist	52 (34.7%)
	Physiotherapy students	21 (14%)
	Social and healthcare worker	14 (9.4%)
	Nurse	8 (5.4%)
	Occupational therapist	8 (5.3%)
	Social worker	3 (2%)
	Health consultants	4 (2.7%)
	Dietitian	3 (2%)
	Others	37(24%)
Work experience	Years	15, 6-28 (0–60)
Pain duration (*n* = 41), 27.3%	3–6 months	2 (1.3%)
	6–12 months	1 (0.7%)
	1–2 years	4 (2.7%)
	3–5 years	7 (4.7%)
	5–10 years	8 (5.3%)
	>10 years	19 (12.7%)
Average pain last 24 hours (*n* = 41)	Visual analog scale	43.22 (±22.49) 5–87
Previous experience with PSE (More than one answer was possible)	At doctor	17 (11.3%)
	At physiotherapist	39 (25.2%)
	At psychologist	4 (2.6%)
	On the internet	28 (18.5%)
	During my education	56 (37.1%)
	At a course	49 (32.5%)
	Others	5 (3.3%)
	Never	47 (31.1%)

Data are described with mean (±SD) for normally distributed data and median (min–max) for non-normally distributed data [range].

4.1 Comparison to previous literature

The original English version went through a test of reliability that included a period of 1–2 weeks between each test. Similarly, we tested the reliability using 14 days between test and retest to replicate the original design. Our results regarding reliability (ICC 0.88 [0.84–0.91]) aligned with the original study showing an ICC of 0.84 (0.71–0.91). The SDC_{ind} in the original study was 3.4 points and the LoA was 6 points. We found that the SDC was 7.0 points and the LoA ranged from −7.6 to 6.4 points. SDC_{ind} and LoA are calculated to reflect the smallest change in a person's score that with a 95% probability is a true change in the construct over and above the measurement error of the questionnaire at an individual level. Collectively, the findings suggest that changes of 7 points (corresponding to a change of roughly 13%) are needed to reflect changes larger than the measurement error at an individual level.

Other tools to examine knowledge on pain exist, among others the Neurophysiology of Pain Questionnaire [33]. However, psychometric properties have not been very convincing [33]. The Danish version of the Neurophysiology of Pain Questionnaire has been examined by Stæhr T, Rathleff MS,

Baad-Hansen L, and Christiansen DH and failed to demonstrate satisfactory measurement properties (ICC of 0.39). Furthermore, the NPQ is a yes/no/undecided questionnaire,

Table 2: Mean (±SD), absolute test–retest difference, ICC$_{2,1}$, SEM, and SDC for COPI-Adult (DK)

	Test mean ± SD (95% CI)	Retest mean ± SD (95% CI)	Difference mean ± SD (95% CI)	ICC$_{2,1}$ (95% CI)	SEM	SDC
COPI-Adult (DK)	39.8 ± 7.6 (38.6–41.0)	40.4 ± 7.2 (39.3–41.6)	−0.60 ± 3.6 (−0.02 to −1.16)	0.88 (0.84–0.91)	2.53	7.02

SD: standard deviation, ICC$_{2,1}$: intra-class correlation – two-way random effects, total agreement, SEM: standard error of measurement with total agreement, SDC: smallest detectable change at an individual level = SDC95%, COPI-Adult (DK): Concept of Pain Inventory for Adults in Danish, CI: confidence interval.
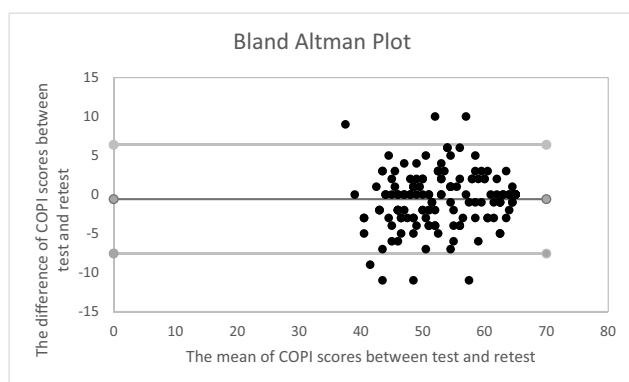
Figure 2: Bland–Altman plot of agreement between measurements.

which leaves little room for engaging in conversation, and is also susceptible to guesses. In contrast, the COPI-Adult has a 5-point Likert scale for all 13 items, which provides a more nuanced assessment. Hence, the COPI was found to be a relevant alternative to explore.

4.2 Clinical implications

Understanding gaps or misconceptions about pain within individual patients is a relevant treatment target in clinical practice. How and what patients think about their pain may influence their thoughts, behaviors, and ultimately their pain experience [34]. Ideally, PSE should be individually tailored to enhance learning and give the patient an opportunity to tell their story. This approach was recommended in the review and meta-analysis from Watson et al. [15]. Based on this study, the COPI-Adult is now available in a Danish language suitable for further testing of the clinical utility. This study further strengthens the knowledge about reliability and SDC, which may be useful in a clinical setting for assessing pain science knowledge and beliefs during rehabilitation. Because overall scores are quite high, and the SEM is quite large, future research could assess over longer time periods and examine whether ceiling effects occur. The COPI-Adult takes only a few minutes to complete and is possible to

complete in a self-directed manner, e.g., before being seen by a health care professional.

4.3 Future research

Other psychometric properties to look at include content, construct and criterion validity, responsiveness, and interpretability. Although COPI-Adult only takes a few minutes to complete and can be answered by patients on their own, future studies should assess the appropriateness of the tool in a clinical setting. These studies should especially focus on the extent to which the COPI-Adult can be implemented in the clinic (e.g., use of the assessments to inform treatment, and if it engages patients with patient education). It is of further importance to uncover which type of patient will benefit most from responding to the COPI-Adult and whether systematic use for all is relevant. Therefore, identifying specific indicators for applying COPI-Adult to specific patients may be both time effective and feasible in a clinical setting.

4.4 Strengths and limitations

We used established methods to conduct the translation and took care in selecting relevant members of the panel and used the recommended number of panel members. However, the panel may not be representative of the general population of patients with pain complaints, or those with low levels of health literacy and lower-than-average reading skills. Future studies need to further develop and test the questionnaire across different populations to ensure that the language is suitable across the clinical populations. A limitation is also that the original questionnaire is still undergoing further validation and testing, and a translation can arguably be premature. During the test–retest part, only 150 participants (out of the 293) ended up completing both surveys and were used in the analysis. This is a significant limitation, but our drop-out analysis showed no strong signs of a selection

bias, indicating little potential impact on our overall conclusions. We discovered that the autogenerated second questionnaire from REDCap ended up in the SPAM mail for those who have Gmail and Hotmail accounts, which alone accounted for 56. We did not investigate if this is also the case for other mail accounts, but this is a point of attention for further studies. There also seemed to be an issue with the consent box, since 23 had missed ticking this off despite continuing to answer the questionnaire. It is possible that the differences in responses between the two timepoints are affected by bias such as a learning effect. Future research could use more than two timepoints to help unravel this potential issue. A limitation in the study is that the pre-registration of the trial at Aalborg University is not readily available to the public.

A significant strength is the robust study design that followed recommendations from COSMIN [25], ensuring, e.g., that subjects answer in the same setting. The number of included individuals also exceeds the minimum recommended number of 10 per items in the scale for the test–retest reliability analysis.

5 Conclusion

The COPI-Adult (DK) is a valid and reliable questionnaire with small SDC and shows promising use in research and in clinical practice.

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Appendix S1. COPI-Adult (DK)

Concept of Pain Inventory for Adults (COPI-Adult (DK))

Eiger, B., Straszek, C.L., Pate, J. W., Rathleff, M.S. (2023) Original COPI-Adult:

Pate, J. W., Simons, L. E., Rush, G., Heathcote, J., Hancock, M. J., Hush, J. M., Verhagen, A., Pacey, V. (2020)

Beskrivelse: The Concept of Pain Inventory (COPI-Adult) blev udviklet til at vurdere voksne personers smerteforståelse.

Scoring: Følgende skala bruges til alle 13 udsagn. Ingen udsagn scores modsat.

0 = Meget uenig
1 = Uenig
2 = Ved ikke
3 = Enig
4 = Meget enig

Jo højere score på COPI-Adult, jo mere er personens viden tilpasset moderne smertevidenskab (Total score er fra 0-52).

Delt Database: Der udvikles en COPI-database til igangværende projekter. Kontakt venligst Joshua Pate på joshua.pate@uts.edu.au hvis du har brug for yderligere information om hvordan du bidrager med COPI data til databasen.

Concept of Pain Inventory for Adults (COPI-Adult (DK))

Eiger, B., Straszek, C.L., Pate, J. W., Rathleff, M.S. (2022) Original COPI-Adult:

Pate, J. W., Simons, L. E., Rush, G., Heathcote, J., Hancock, M. J., Hush, J. M., Verhagen, A., Pacey, V. (2020)

Instruktion: Disse udsagn handler om hvad du tænker smerte er, hvorfor du mærker smerte og hvordan du mærker smerte. Læs hvert udsagn grundigt. Angiv hvor enig eller uenig du er i hvert udsagn.

Udsagn	Meget uenig	Uenig	Ved ikke	Enig	Meget enig
1. At føle dig trist, kan forøge dine smerter	○	○	○	○	○
2. At gøre noget som du nyder, kan mindske dine smerter	○	○	○	○	○
3. At have smerter igennem lang tid, kan gøre hjernen mere følsom overfor faresignaler	○	○	○	○	○
4. Du kan have meget ondt, selv ved en mindre skade	○	○	○	○	○
5. At lære om smerte, kan hjælpe dig til at have mindre ondt	○	○	○	○	○
6. Du kan have en skade uden at have smerter	○	○	○	○	○
7. Hjernen kan mindske eller forøge dine smerter	○	○	○	○	○
8. Du kan have meget få smerter, selv når en skade er stor	○	○	○	○	○
10. Smerterne bliver ofte mindre, hvis du bevæger dig hver dag	○	○	○	○	○
11. Hjernen bearbejder mange indtryk, før du oplever smerter	○	○	○	○	○
12. Længere tids hvile kan forværre smerter	○	○	○	○	○
13. Smerter er en følelse, der skabes af hjernen	○	○	○	○	○
14. Smerter kan være overbeskyttende, hvis de afholder dig fra at komme i gang igen	○	○	○	○	○

Concept of Pain Inventory for Adults (COPI-Adult)

Pate, J. W., Simons, L. E., Rush, G., Heathcote, J., Hancock, M. J., Hush, J. M., Verhagen, A., Pacey, V. (2020)

Description: The Concept of Pain Inventory (COPI-Adult) was developed to assess an adult's concept of pain.

Scoring: The following scale should be used for all 13 items. No items should be reverse scored.

0 = Strongly disagree
1 = Disagree
2 = Unsure
3 = Agree
4 = Strongly agree

Higher COPI-Adult scores reflect greater alignment with contemporary pain science (total scores can range from 0 to 52).

Shared database: Please contact Joshua Pate on joshua.pate@uts.edu.au if you would like further information on contributing COPI data to a database being built for ongoing projects.

Concept of Pain Inventory for Adults (COPI-Adult)

Pate, J. W., Simons, L. E., Rush, G., Heathcote, J., Hancock, M. J., Hush, J. M., Verhagen, A., Pacey, V. (2020)

Instructions: These sentences are about what you think pain is, why you feel pain, and how you feel pain. Please read each sentence carefully. Indicate how much you agree or disagree with each sentence.

Items	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1. Feeling sad can make you feel more pain	○	○	○	○	○
2. Doing something you enjoy can make you feel less pain	○	○	○	○	○
3. Feeling pain for a long time can make the brain more sensitive to warning messages	○	○	○	○	○
4. You can feel a lot of pain even when an injury is small	○	○	○	○	○
5. Learning about pain can help you to feel less pain	○	○	○	○	○
6. You can have an injury and feel no pain	○	○	○	○	○
7. The brain can make pain better or worse	○	○	○	○	○
8. You can feel a little bit of pain even when an injury is big	○	○	○	○	○
9. Pain usually feels better if you move your body a little bit more each day	○	○	○	○	○
10. The brain processes lots of details before you feel pain	○	○	○	○	○
11. Resting for a long time can make pain worse	○	○	○	○	○
12. Pain is a feeling that is made by the brain	○	○	○	○	○
13. Pain can be too protective if it stops you getting moving again	○	○	○	○	○