



happy**nomics**

POPULATION BENCHMARK REPORT

The Value of Pain & Suffering

A condition-specific
well-being valuation
benchmark

ILLUSTRATIVE SAMPLE

MATTER PROFILE

Reference	Illustrative — chronic low-back pain
Age	38
Diagnosis	Chronic low-back pain (supplied by counsel)
Prognosis	Persistent · ~10-year horizon
Purpose	Demand · mediation · settlement · reserves

Prepared by

Boris N. Nikolaev, Ph.D.

Happiness & Well-Being Economist · Happyonomics LLC

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Confidential & Privileged

Prepared for illustration

1 About the Expert

WHO PREPARED THIS



Boris N. Nikolaev, Ph.D.

Professor · Happiness & Well-Being Economist

Dr. Nikolaev is a professor of business and one of the most-published scholars in the economics of happiness and well-being, with **more than 50 peer-reviewed publications** and **over 15 years** of research on how income, health, employment, and life circumstances affect measured well-being. His work appears in leading journals — including the *Journal of Business Venturing*, *Journal of Applied Psychology*, *Journal of Economic Behavior & Organization*, and *Journal of Happiness Studies* — and has been featured by Forbes and the Brookings Institution.

Happynomics applies that peer-reviewed research tradition to the valuation of non-economic loss — pain, suffering, and diminished enjoyment of life — in legal and settlement contexts, using disciplined, auditable methods rather than intuition or rules of thumb.

Ph.D., Economics

50+ peer-reviewed publications

15+ years of well-being research

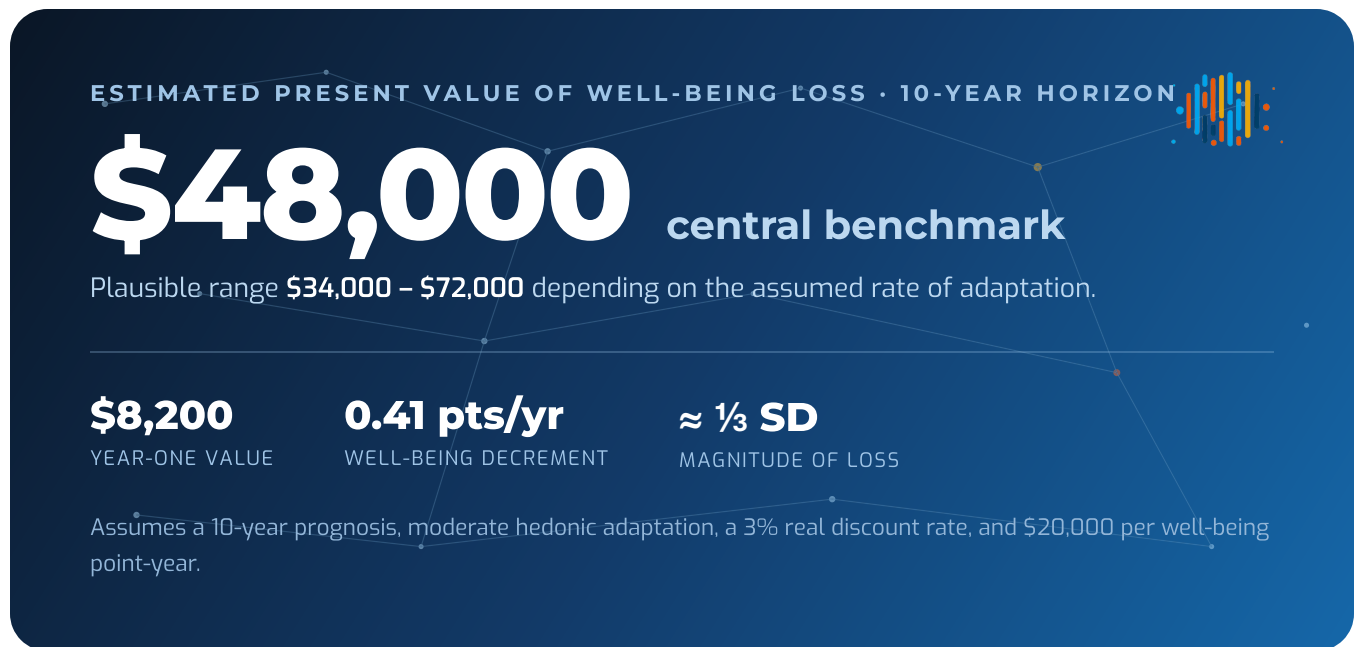
Featured by Forbes & Brookings

University affiliation, where stated, is provided for identification only. Happynomics LLC is independent and is not affiliated with, or endorsed by, any university.

2 Executive Valuation Summary

THE NUMBER

This report estimates the monetary value of the non-economic loss — the pain, suffering, and diminished enjoyment of life — associated with the diagnosis and prognosis supplied by counsel. It values the injury the way an appraiser values a damaged asset: **by comparison to comparables**, measuring how much lower the well-being of people living with this condition runs relative to demographically similar people without it, and converting that measured loss into dollars.¹



The estimate is grounded in the reported experience of tens of thousands of comparable Americans, converted through a conservative, externally sourced dollar standard,² and projected over the stated prognosis. It is offered as an evidence-based benchmark to inform the valuation of non-economic damages — a scientific alternative to a multiple of medical bills.

1. Estimated from nationally representative U.S. survey data using established, peer-reviewed well-being valuation methods, with controls for income, demographics, employment, and personality.
2. The value per well-being point-year is drawn from independent, largely U.S. standards (health cost-effectiveness thresholds and the value of a statistical life-year). This report adopts **\$20,000** — a deliberately conservative figure at the low end of that range.

3 Benchmark Inputs

WHAT WAS SUPPLIED

This benchmark is computed from the following inputs. Diagnosis, causation, and prognosis are taken as established by other evidence in the matter; this report offers no medical or legal opinion.

Condition	Chronic low-back pain
Claimant age	38
Prognosis / duration	Persistent · 10-year horizon (medical input)
Adaptation assumption	Moderate — about half of the loss persists
Discount rate	3% real
Value per point-year	\$20,000 (external standard)

Supplied by counsel. The diagnosis and prognosis above are provided by counsel and the treating and examining physicians. The benchmark should be paired with that medical record; duration in particular is a medical determination, not a statistical one.

4 The Measured Loss

COMPARABLES

Just as the diminished value of a damaged vehicle is established by comparing it to comparable vehicles, the well-being cost of an injury is established by comparing people who live with the condition to observably similar people who do not. Holding income, age, sex, family, employment, and personality constant, chronic back pain is associated with the following reduction in reported well-being:

TABLE 1 — MEASURED REDUCTION IN WELL-BEING

Outcome	Estimated effect	95% interval	Basis (respondents)
Life satisfaction (0–10 scale)	–0.41 pts	[–0.48, –0.34]	≈ 5,600
Psychological functioning	–0.90 pts	[–1.17, –0.64]	≈ 5,600

The life-satisfaction measure is used for the valuation; the larger effect on eudaimonic (psychological) functioning is reported as corroboration that the loss reaches beyond momentary discomfort into a person's sense of autonomy, mastery, and purpose.

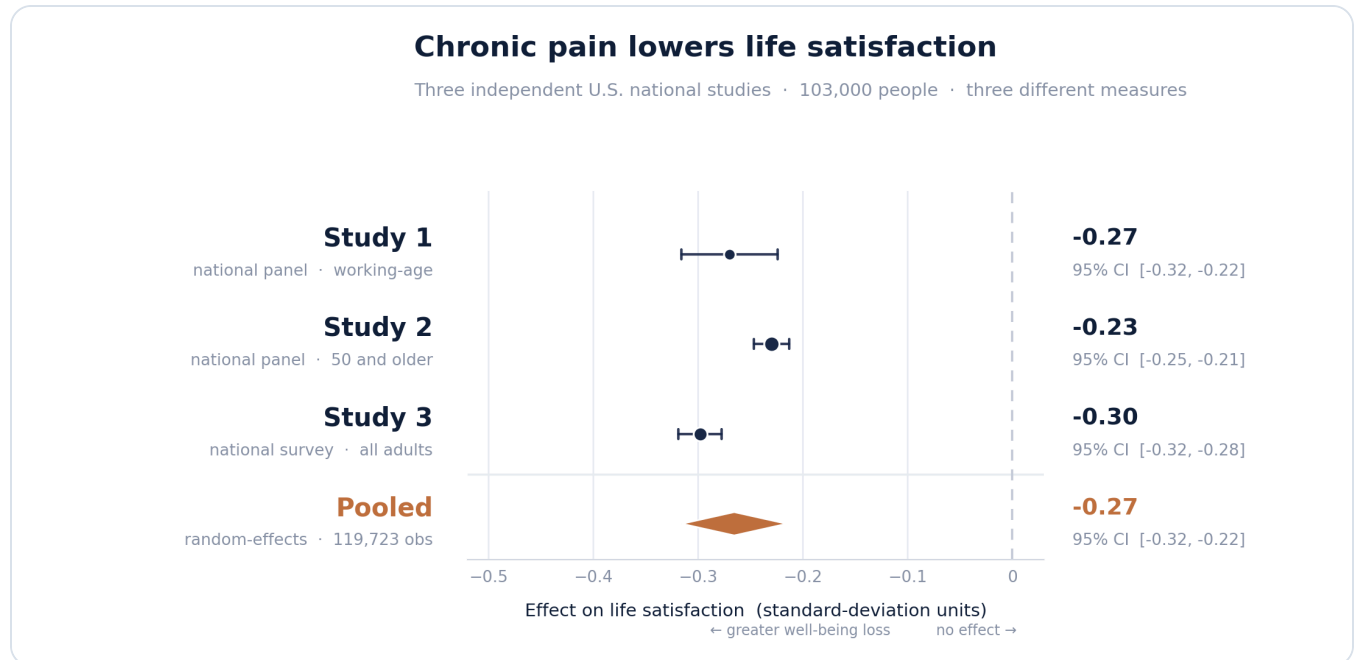
A reduction of roughly **0.4 points of life satisfaction** — about a third of a standard deviation — is a substantial, statistically significant loss. It is the comparables-based measure of how much the injury lowers well-being, on average, among the people who live with it.

Method note. Effects are estimated with a random-effects panel model on nationally representative U.S. survey data, standard errors clustered at the person level. The condition-specific figure is produced from Happynomics' maintained coefficient library.

5 Evidence Base

WHY IT GENERALIZES

The finding that chronic pain substantially lowers well-being is not the artifact of one survey. It has been confirmed in **three independent, nationally representative U.S. studies** — together comprising roughly **100,000 Americans**, measured with three different well-being instruments.



Chronic pain's effect on life satisfaction in standard-deviation units, estimated separately in three independent U.S. national studies, with a pooled random-effects summary (diamond). Independent measures, independent samples — one convergent result.

TABLE 2 — CHRONIC PAIN AND LIFE SATISFACTION ACROSS THREE STUDIES

Source	Description	Effect (SD)	95% interval
Study 1	U.S. adult longitudinal panel	-0.27	[-0.32, -0.22]
Study 2	U.S. older-adult longitudinal panel	-0.23	[-0.25, -0.21]
Study 3	U.S. national adult health survey	-0.30	[-0.32, -0.28]
Pooled	Random-effects · ≈ 103,000 people	-0.27	[-0.32, -0.22]

The same convergence holds for the major compensable life events. Divorce and bereavement, measured independently in all three studies, produce closely matching losses:

TABLE 3 — LIFE-EVENT LOSSES REPLICATE ACROSS STUDIES (VS. MARRIED)

Event	Study 1	Study 2	Study 3
Divorce / separation	-0.32	-0.39	-0.36
Widowhood	-0.20	-0.20	-0.25

Effects in standard-deviation units of life satisfaction. Convergence across independent data sources — different instruments, ages, and survey organizations — is the signature of a reliable finding.

De-identified sources. This report uses de-identified source labels (Study 1, Study 2, Study 3) to protect Happynomics' proprietary coefficient library. In retained expert matters, source identities and full technical materials are disclosed as required under the applicable rules, typically subject to an appropriate protective order.

6 Why the Benchmark Is Reliable

THE SAFEGUARDS

The benchmark is designed to be durable under scrutiny. Five features support it:

01

Independent replication

The chronic-pain effect is estimated across three separate national studies, not one — the direct answer to "does this generalize?"

02

Consistent direction

The effect is negative and statistically significant across every model family and every study.

03

Full controls

Models hold constant income, demographics, family status, employment, and personality — the usual alternative explanations.

04

Robust to specification

Across the full family of defensible control sets, the effect is negative and significant in **100%** of specifications; a coefficient-stability diagnostic and an E-value confirm it is not readily explained by unmeasured confounding.¹

05

Corroborating measures

A larger effect on eudaimonic functioning confirms the loss reaches beyond momentary discomfort into a person's broader flourishing.

06

No-litigation bias

Respondents reported their well-being in national surveys with no lawsuit in view and nothing to gain from overstating.

1. Specification-curve analysis (Simonsohn et al., 2020); coefficient-stability (Oster, 2019); E-value (VanderWeele & Ding, 2017). Full diagnostics are available in a retained engagement.

7 Valuation & Sensitivity

THE RANGE

The measured well-being loss is converted to dollars and projected over the injury's expected duration. Because the dollar value is anchored externally rather than to the claimant's earnings, the estimate does not vary with income — two people who suffer the same loss receive the same figure. The central estimate sits within a disclosed range; the two assumptions that most affect it are adaptation and duration.

TABLE 4 — SENSITIVITY TO ADAPTATION (10-YEAR HORIZON)

Adaptation assumption	Present value
None — loss persists in full	\$71,700
Moderate — about half persists (used)	\$48,300
Substantial — little persists	\$34,300

TABLE 5 — SENSITIVITY TO DURATION (MODERATE ADAPTATION)

Duration	Horizon	Present value
Soft-tissue, resolves within a year	1 yr	\$8,200
Medium-term	5 yrs	\$30,100
Stated prognosis (used)	10 yrs	\$48,300
Permanent (lifetime)	45 yrs	\$115,800

Adaptation is calibrated to the peer-reviewed evidence on recovery after injury: partial and incomplete for chronic pain and severe conditions, more complete for transitory ones.¹ Younger claimants with permanent injuries carry materially higher present values because the loss is borne over more years.

1. On incomplete adaptation to chronic pain and disability, see Oswald & Powdthavee (2008); Lucas (2007); McNamee & Mendolia (2014); and the meta-analysis of Luhmann et al. (2012).

8 Scope of This Benchmark

HOW TO USE IT

This report provides a condition-specific **population benchmark** for the well-being loss associated with the diagnosis and prognosis supplied by counsel. It is designed to inform demand letters, mediation, settlement discussions, case screening, and reserve analysis, and rests on a peer-reviewed valuation method used across two decades of research in economics and public health.¹

The report assumes that liability, medical causation, diagnosis, and prognosis are established by other evidence. It does not offer medical opinions, legal opinions, or opinions on punitive damages.



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1. The well-being valuation method has been applied across two decades of peer-reviewed research and was proposed for the calculation of compensatory damages in the *Journal of Legal Studies* (Oswald & Powdthavee, 2008).

Illustrative sample. This document demonstrates the format and content of a Happynomics Population Benchmark Report. It does not describe a real claimant and is not legal advice or an expert opinion in any actual matter. Figures reflect population-average findings under the disclosed assumptions.

9 Selected References

PEER-REVIEWED BASIS

The valuation rests on an established, peer-reviewed research literature in economics, psychology, and public health. Representative sources:

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