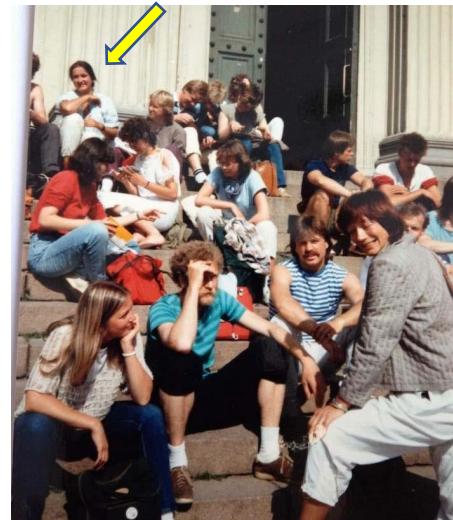
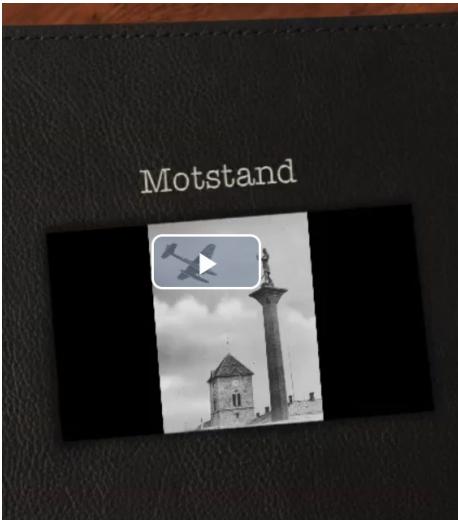


Biologi, biografi, og allostatisk overbelastning

- vi trenger et bedre **språk** for å beskrive tilpasning, mestring og prisen for overlevelse

Linn Getz, lege og Professor i Medisinske aferdsfag
Inst. for samfunnsmedisin og sykepleie, NTNU
Allmennmedisinsk forskningsenhet (AFE)
linn.getz@ntnu.no

På trappa til UiO 1982



Den lille lege og den vide verden på 70° nord

En fersk doktors møte med kommunehelsetjenesten

Jeg fikk aldri treffe Bernhard Getz, men hans bok om Den lille lege og det lange lerret – om medisinstudentens liv i Oslo på 1950-tallet¹⁻⁴, finnes i min hylle. Jeg leste den sikkert på et til Oslo den dagen jeg reiste av sted for å studere medisin. I dag tenker jeg innrommet at hovedgrunnen for dette yrkesvalget var karakterer som var gode nok. Å studere var det mest nærliggende for en flink pike som er oppvokst i skyggen av NTB.

Jeg forsøker å erindre hva jeg tenkte om legeyrket den gang. Det var noe om et spennende fag på grensen mellom menneske og teknologi. Jeg så legen i handlings tegn, koncentrerter om å etterforske symptomer og funn og finne frem til objektive sannheter for deretter å helbrede, lindre eller trøste. I denne tro ble jeg da også utdannet til lege. Og slik opplever jeg yrket mitt også, iblant.

Sykhusturnus gav erfaring i å se sykdommer med pasienter som vedheng. Det var spennende når det skjedde noe – når klinikken var litt dramatisk eller subtil – i hvert fall det «vedhengende» mennesket helt overordnet. Derimot var det ikke like interessant

med dem som bare lå der i sykehusskjorta og verken var innehavere av spennende klinikk eller mulighet for å vise hvem de egentlig var.

Vi kandidater tenkte så mangt der i sykehuskorridorene. Vi lette etter den ekte entusiasmen, den analytiske tanken – og ble skuffet over alle velbegrunnede svar av typen «slik er rutinene her». Vi «stod han av», vakt etter vakt – og for egen del utviklet jeg i det minste til ting: kjennskap til en del prosedyrer og et relativt godt blikk for hvem som er syk og hvem som ikke er det – en viktig ballast for den som kaller seg lege.

Jeg sitter her ved min PC på kontoret et par

dager var gjennomsyret av dyp skepsis: Hva vil han, tro? Hva gjør man egentlig med vorter? Å nei, hun skal ha spiral – bare jeg får det til... Signér her, fru Eliassen skal ha 100 Vival og 100 Halcion, hun pleier å få det. For lengre sykmeldingsperioden, men hva feiler denne mannen, da? Får Stefanussen drosje til sykehuset? Han sier det er litt tungt å reise med bussen i to timer. Jeg – vakthavende for 11 000 mennesker? Snøkav og mørke veier. Lange kvelder alene i kommunal bolig.

Likevel. Etter dette halvåret stod én ting klart for meg: Dette må jeg ha mer av. Jeg tok jobb som kommunelege II i en øy kommune enda lenger nord.

Jeg innrommer det. Vel et år senere sitter jeg trygt nede i Midt-Norge og skriver. Som et bevis på at også jeg var en av eventyrene som kommer, ser og drar. Men ikke forgives, tror jeg. Mitt doktorhode blir aldri det samme, faget medisin aldri helt som jeg trodde det var. En liten verden på 70 grader nord lærte meg mye som jeg aldri skal glemme.

Nordvest i havet

«Han e'kje kaffe vær», sier Aron, gammelskipperen på legeskysbåten Leif-Gunnar. Vi stevner ut Storsundet, kulingen er nordvest. Jeg skal i sykebesøk en sen kveldstime, han Eliot er blitt tungpusten igjen. Heldigvis, jeg er blant dem som ikke har sjøverk, som det heter her opp. Drosje bestilles over mobiltelefonen mens jeg betrakter regnet og skumsprøyten som pisker mot rutene i styrefusset. Vardø radio kaller på en russisk tråler ute i natten. Vi får koke kaffe neste gang.

Det er Arild som kjører drosja i kveld. Han Mens han venter, slår han av en prat med han Johnny som er ute og kjører en tur. Johnny er i 20-årene, bor fortsatt hjemme hos mor og

Velkommen til vårt hjem. Han var nede i naustet og så til båten senest i går. Familien er samlet om han gamlefar. Den unge akademiker står der og skal dømme over liv og helse. En gammel tungpusten sliter i sin ultrøye overgir sin skjebne til en bydame i Helly-Tech vindjakke. Mine ord blir målt, veid, forstått, misforstått – og husket. Var det for slike øyeblikk man opprettet Atferdsfaget?

Svein Håvard kommer med sykebilen, vi fører han Eliot per bil og båt til sykehjemmet for behandling. Jentene på sykehjemmet er alltid villige til å drive sykestue, selv om vi formelt ikke har noe slikt. Hvorfor det ikke finnes refusjon for medisinutgifter der kommunen på denne måten sparer innleggelsjer i sykehuse, fikk jeg aldri noe svar på. På sentral hold fikk jeg vite at «du er ikke den første som spør».

Jeg måtte ut i kommunehelsetjenesten for å skjønne hva politikk er, at den ikke inneholder en logisk drivkraft, at vårt dyrebare demokrati i beste vilje kan beslutte seg til merkelige ting. Idet jeg betraktet kommunelege I, slo det meg at man må besitte den nødvendige blanding av intervensionslyst og evne til resignasjon for å trives i den stillingen. Når kommunestyret har talt opp sine stemmer i dine ideers disfavør, må du akseptere det og finne noe nytt å inspireres av.

Enhver har sin historie

Han Jakob på 82 er på avlastningsopphold på sykehjemmet idet han en kveld får et skikkelig hjerteinfarkt. Han blir ganske fin etter behandling, og jeg sitter ved senga og diskuterer eventuell sykehuisinnleggelse med ham. Jakob synes det er bra han og nå. «Trur du æ står han av?» spør han og hviler blikket sitt i mitt. Jeg tier et sekund. «Klart du står han



Linn Getz

Kommunelege i Surnadal
og stipendiatur
Institutt for samfunnsmedisinske fag
Medisinsk Teknisk Senter
7005 Trondheim



«Du skal skrive ditt fag»

Linn Getz • Steinar Westin

Håndbok for spesialistutdanningen i allmennmedisin



ad Notam
Gyldendal

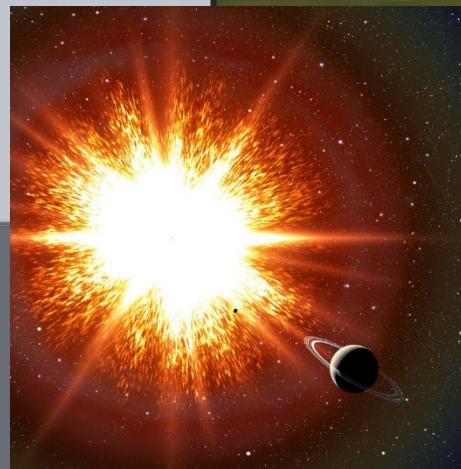
1996



INSCRIBED BODIES

Health Impact
of Childhood Sexual Abuse

Anna Luise Kirkengen



«Akademisk aktivist?»

Springer Science+Business Media, B.V.





Banksy: Barely Legal, 2006

**«Kunnskap som yter
menneskenaturen
rettferdighet»**

1998



«Epistemic injustice» (Miranda Fricker)

Kunnskapsbetinget urett?





- Psyke/Soma
- Individ/Omgivelser
(«indre» / «ytre»)
- Selv/Fremmed
- Arv/Miljø
- Natur/Kultur
- Organisk/Funksjonelt
- m.fl.
- Årsak/Virkning...!

Men det fikser vi vel?

Medical Dictionary

biopsychosocial 

adjective | bio·psy·cho·so·cial | \-sī-kō-'sō-shəl\

Medical Definition of BIOPSYCHOSOCIAL

: of, relating to, or concerned with the biological, psychological, and social aspects in contrast to the strictly biomedical aspects of disease

Explore Merriam-Webster

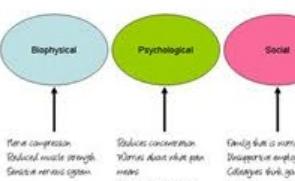


Nettet Bilder Videor Kart Nyheter Utforsk

Bildestørrelse ▾ Farge ▾ Type ▾ Oppsett ▾ Personer ▾ Dato ▾ Licens ▾ Sikkert søk: **Moderat** ▾**The biopsychosocial model of disease**

My long-term health conditions are biological in origin, but the impact has been felt physically, psychologically and socially. My long-term health conditions can't be treated just through the biological medical model alone...

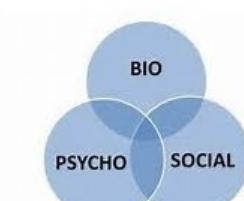
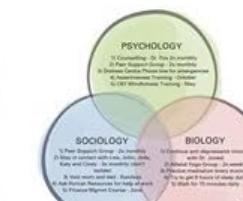
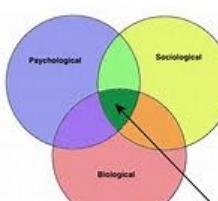
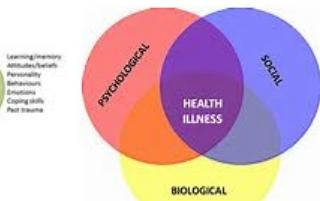
"The medical support keeps me alive, but it is the psychological and social support that enables me to live."

**BIOPSYCHOSOCIAL APPROACH TO UNDERSTANDING HEALTH**

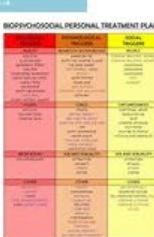
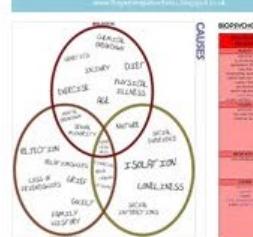
Gender
Physical fitness
Disability
Genetic vulnerability
Inflammation
Neurochemistry
Stress reactivity
Medication effects

Learning memory
Memory retention
Personality
Behaviors
Environment
Coping skills
Past trauma

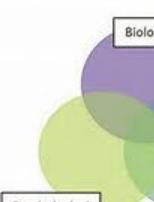
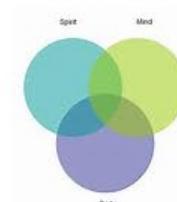
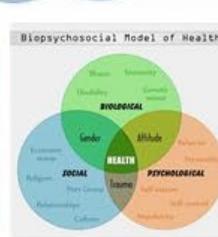
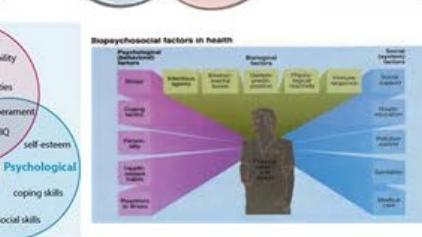
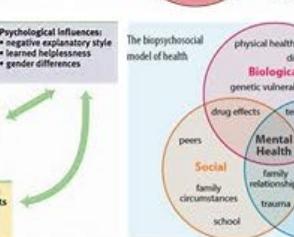
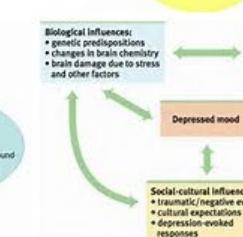
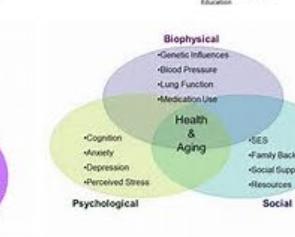
Social supports
Family background
Cultural traditions
Socioeconomic status
Education



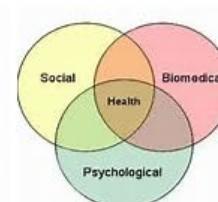
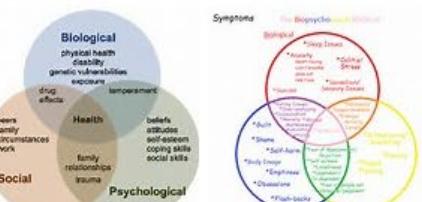
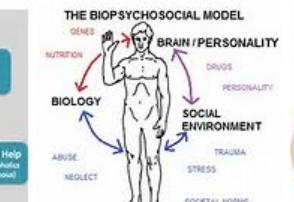
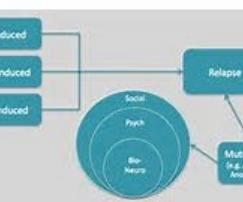
- biopsychosocial framework
- psychological and social factors

**Biopsychosocial Model**

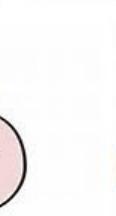
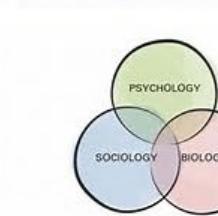
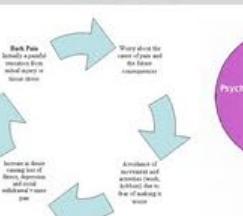
Click each circle.
Biological
Psychiatric
Environmental & Life Stressors



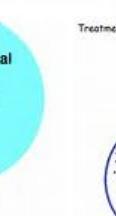
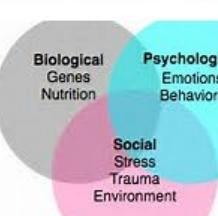
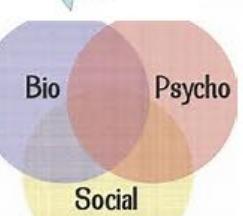
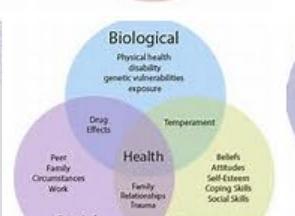
"The medical support keeps me alive, but it is the psychological and social support that enables me to live."



Biological influences:
- genetic predispositions
- epigenetics
- environmental factors
- responses evoked by our own temperaments, gender, personality, beliefs, feelings, and expectations



Biological influences:
- genetic predispositions
- epigenetics
- environmental factors
- responses evoked by our own temperaments, gender, personality, beliefs, feelings, and expectations



Abbass, Allan. 1. Lege fra Canada. 2. Kurerer

frenidagene.no

Bull men uavklart 70-talls-begrep som senere har forvirret generasjoner av fagfolk og

studenter. **Se også DBT for PTSD.**

Diseth, Trond. Nestorpsykiater. *Se også psykosomatikk.*

Getz, Linn. Lege og forsker, NTNU. *Se også allostatisk stress.*

Gingerich, Susan. Sosionom fra USA. Se også IMR.

Hofgaard, Tor Levin. 1. President i NPF. 2. Har meninger. *Se også psyke.*

Jamison, Kay Redfield. Amerikansk psykia-

nne. 1. Journalist. 2. Forfatt
ebattant 4. Rik CV. **Se også**
nas

Jacob. 1. Samfunnspsykologi
asjon Prestasjon 3. Kritisk til-
keliggjøring. *Se også stress*

McGurk, Susan. Opptatt av arbeid og ko-
trening. *Se også Ueland T.; stressolo-*

Mueser, Kim. Amerikansk psykolog og forsker sentral i IMR. *Se også IMR, Kristineervang.*

Psyke, se kropp.

Psykoimmunologi. Gryende kunnskap hvordan immunforsvaret påvirker psyke

Bullmore, Ed. Johannessen, Jan Ol

Ravatn, Agnes. Forfatter. *Se også skrive.*

Part
3

Removing the Straitjacket



Jakten på gode begreper og modeller som frigjør tankene...

- **Allostase - allostatisk overbelastning**
- «The biology of disadvantage»
- «Det som nærer og det som tærer»
- Krieger: «**Embodiment**»; Bateson: «**I come with stories**»
(Kroppsinnskrifter/legemliggjørelse)
- **Biografiens og narrativenes plass i medisin og helsefag?**



22.10.19

Meland JG (red.)
Sykdommers sosiale røtter
Gyldendal akademisk, 2020

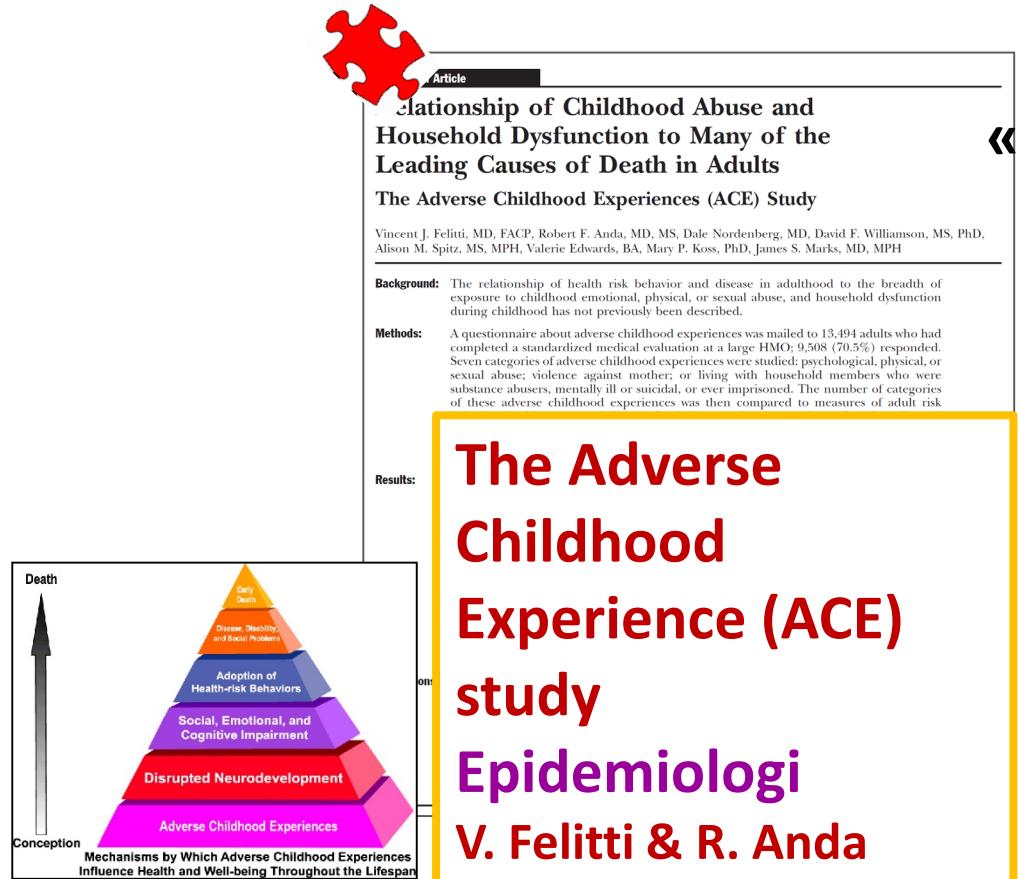
KAPITTEL 10

Kroppsliggjøring av erfaring og mening – belastende erfaringers innvirkning på menneskets biologi

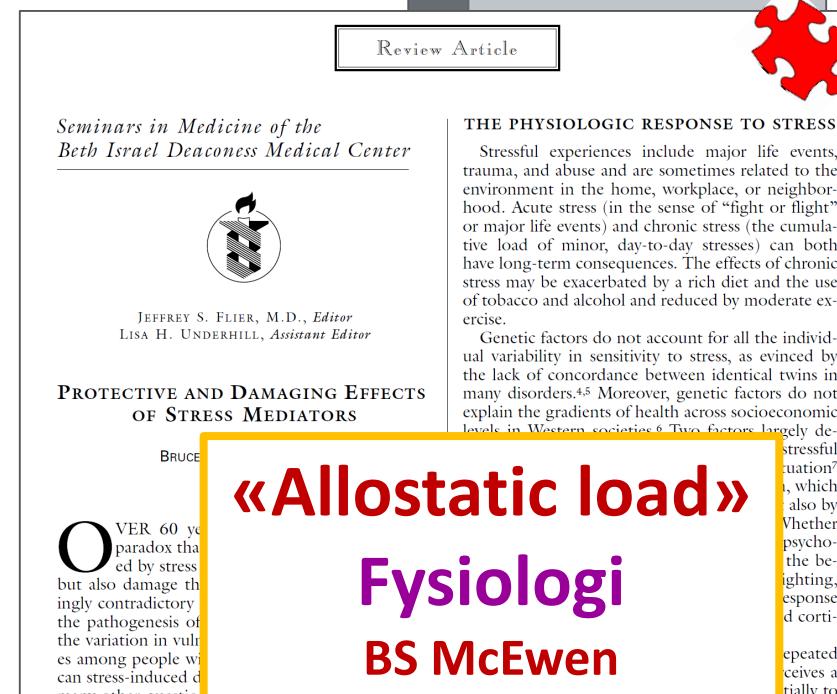
Linn Getz, Anna Luise Kirkengen, Elling Ulvestad



1998



Am J Prev Med 1998;14(4)
© 1998 American Journal of Preventive Medicine



The New England Journal of Medicine

1998

Review Article

Seminars in Medicine of the
Beth Israel Deaconess Medical Center



JEFFREY S. FLIER, M.D., Editor
LISA H. UNDERHILL, Assistant Editor

PROTECTIVE AND DAMAGING EFFECTS
OF STRESS MEDIATORS

BRUCE S. McEWEN, PH.D.

OVER 60 years ago, Selye¹ recognized the paradox that the physiologic systems activated by stress can not only protect and restore but also damage the body. What links these seemingly contradictory roles? How does stress influence the pathogenesis of disease, and what accounts for the variation in vulnerability to stress-related diseases among people with similar life experiences? How can stress-induced damage be quantified? These and many other questions still challenge investigators.

This article reviews the long-term effect of the physiologic response to stress, which I refer to as allostatic load.² Allostasis — the ability to achieve stability through change³ — is critical to survival. Through allostasis, the autonomic nervous system, the hypothalamic-pituitary-adrenal (HPA) axis, and the cardiovascular, metabolic, and immune systems

THE PHYSIOLOGIC RESPONSE TO STRESS

Stressful experiences include major life events, trauma, and abuse and are sometimes related to the environment in the home, workplace, or neighborhood. Acute stress (in the sense of "fight or flight" or major life events) and chronic stress (the cumulative load of minor, day-to-day stresses) can both have long-term consequences. The effects of chronic stress may be exacerbated by a rich diet and the use of tobacco and alcohol and reduced by moderate exercise.

Genetic factors do not account for all the individual variability in sensitivity to stress, as evinced by the lack of concordance between identical twins in many disorders.^{4,5} Moreover, genetic factors do not explain the gradients of health across socioeconomic levels in Western societies.⁶ Two factors largely determine individual responses to potentially stressful situations: the way a person perceives a situation⁷ and a person's general state of physical health, which is determined not only by genetic factors but also by behavioral and lifestyle choices (Fig. 1). Whether one perceives a situation as a threat, either psychological or physical, is crucial in determining the behavioral response — whether it is fleeing, fighting, or cowering in fear — and the physiologic response — calmness or heart palpitations and elevated cortisol levels.

The ability to adjust or habituate to repeated stress is also determined by the way one perceives a situation. For example, most people react initially to the challenge of public speaking with activation of the HPA axis. After repeated public speaking, however, most people become habituated and their cortisol secretion no longer increases with the challenge. But approximately 10 percent of subjects continue to find public speaking stressful, and their cortisol secretion increases each time they speak in



Allostatisk overbelastning

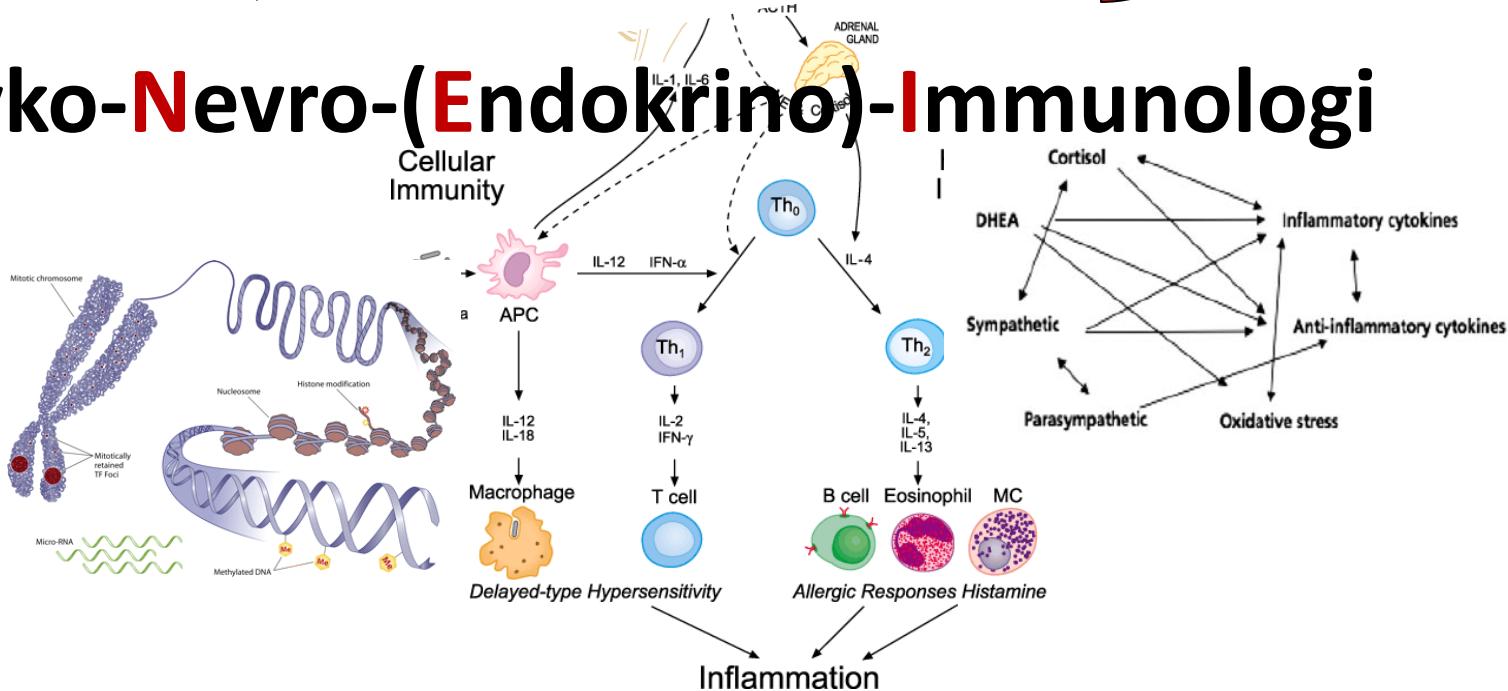
Allo + stasis: gr: Bestå under endring

Hvordan vedvarende
belastninger overbeskatter
kroppens biologiske kapasitet
for tilpasning

Psyken/ Hjernen

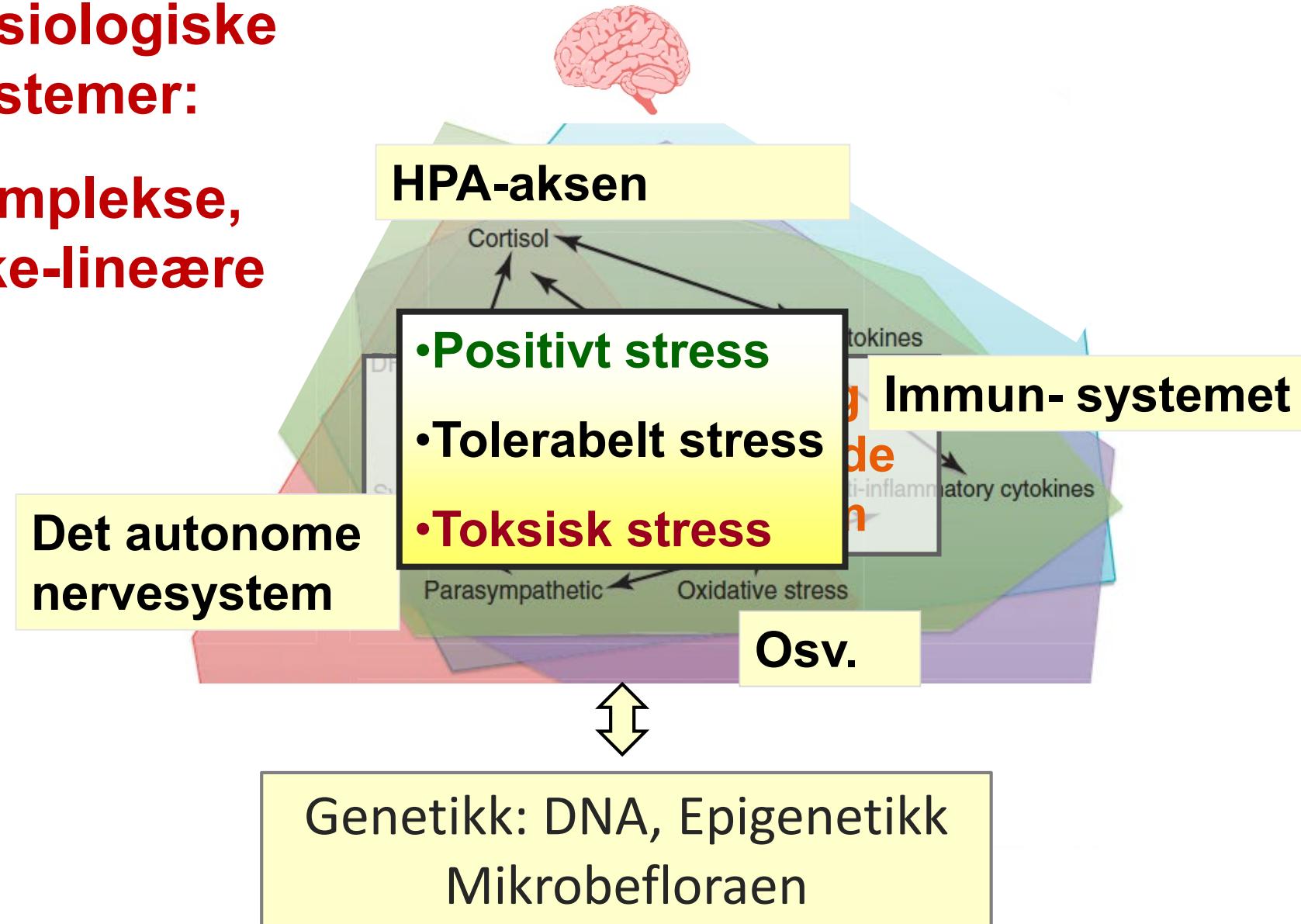


Psyko-Nervo-(Endokrino)-Immunologi



Fysiologiske systemer:

komplekse,
ikke-lineære



Toksisk stress - allostatisk overbelastning

Høy belastning (overveldende påkjenninger, evt. kronisk stress) har biologiske 'kostnader' på sikt:

Allostatisk overbelastning

Et **integrativt begrep** som tar høyde for at **mentale og fysiske belastninger** 'overbeskatter' **de samme fysiologiske systemene**.

Bruce McEwen, 1998

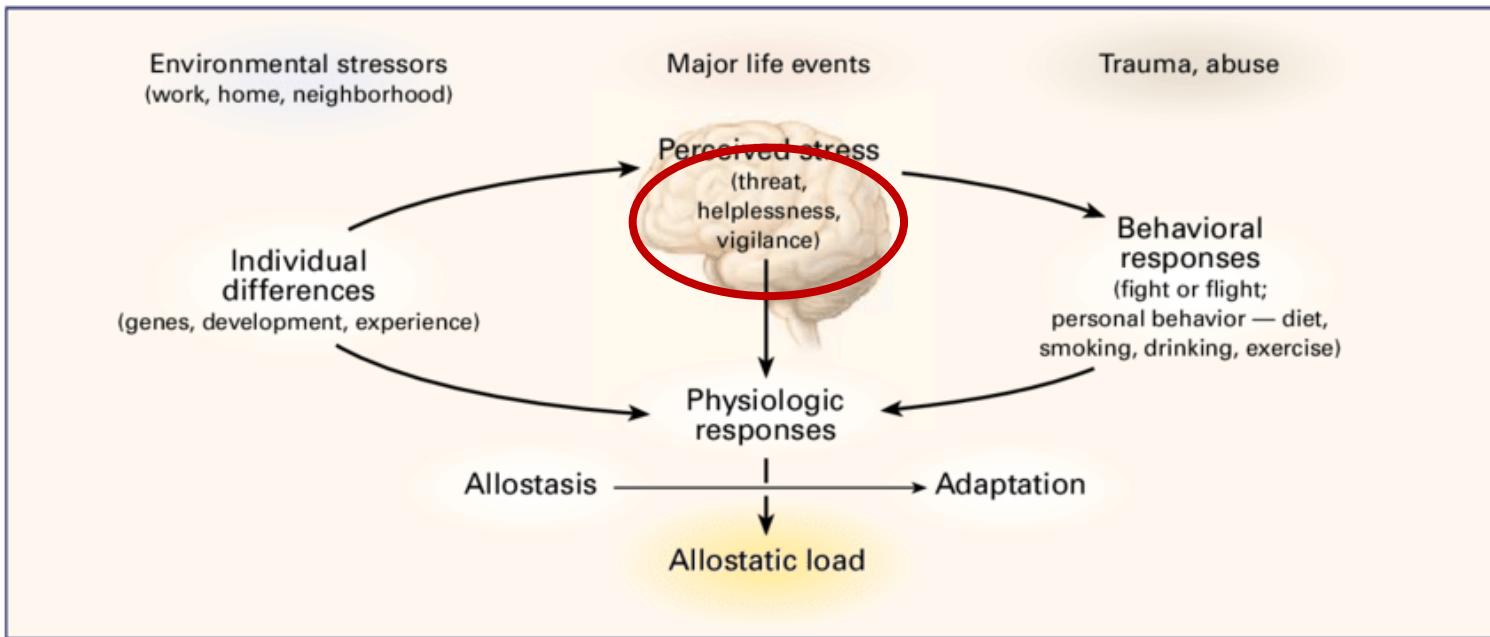


The NEW ENGLAND
JOURNAL of MEDICINE

Allostatisch overbelastning

*“For lite av det som nærer,
for mye av det som tærer”*

- *Anna Luise Kirkengen*



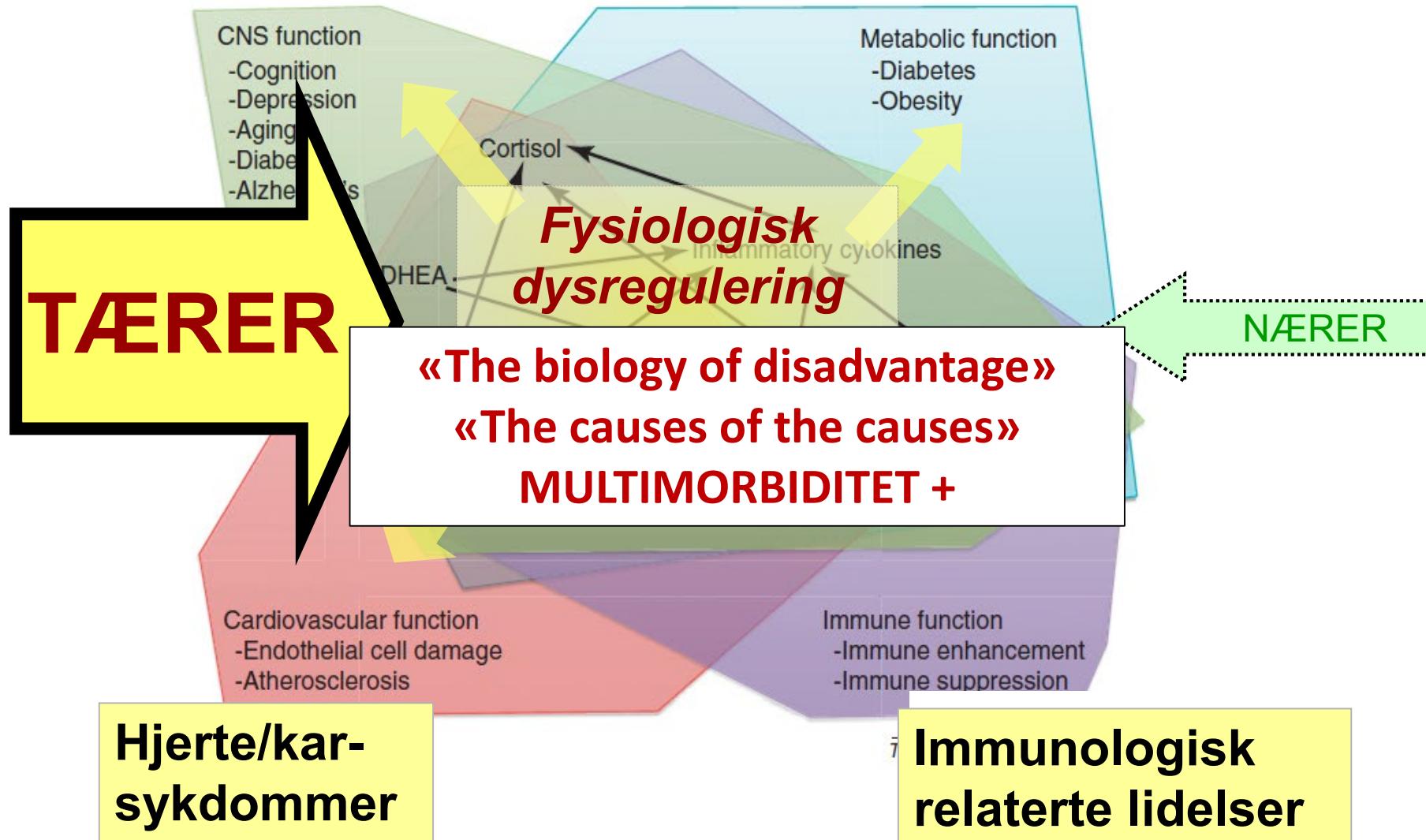
[McEwen BS. Protective and damaging effects of stress mediators. N Engl J Med 1998 \(338\): 171-9](#)

Tabell 10.2 Et fenomenologisk perspektiv på biologien, omsatt i hverdagsspråk i form av «motpoler». Til venstre subjektive erfaringer som fremmer helse (nærer) og til høyre erfaringer som bidrar til sykdom (tærer).

Det tærer å oppleve seg ...	
utestengt	
utrygg	
foraktet	
kenket	
ignorert	
forlatt	
undervurdert	Allostatisk overbelastning “avmaktens patofysiologi”
i alarmberedskap	
utnyttet	
skamfull	
avmektig	

CNS: kognitive og 'psykiatriske' lidelser

Metabolske forstyrrelser



Allostatisk overbelastning

- Kardiovaskulære mål (blodtrykk, pulsfrekvens, m.fl.)
- Lungefunksjonstester (PEF, spirometri)
- Hormonnivåer (cortisol, DHEA-S, A, NA, m.fl.)
- Inflamasjonsmarkører (CRP, IL-6, TNF, Fibrinogen m.fl.)
- Glucose-metabolisme (blodsukker, HbA1c)
- Lipid-metabolisme (TG, HDL, LDL, m.fl.)
- Kroppsmål (WHR, BMI m.fl.)

- *Epigenetisk profil (genregulering)*
- *Telomerlengde*
- *Mitokondriefunksjon*
- *Mikrobiomet?*
- *Nevroplastisitet: hjernen endres; beskytter mot overveldende erfaringer*

Teicher 2016

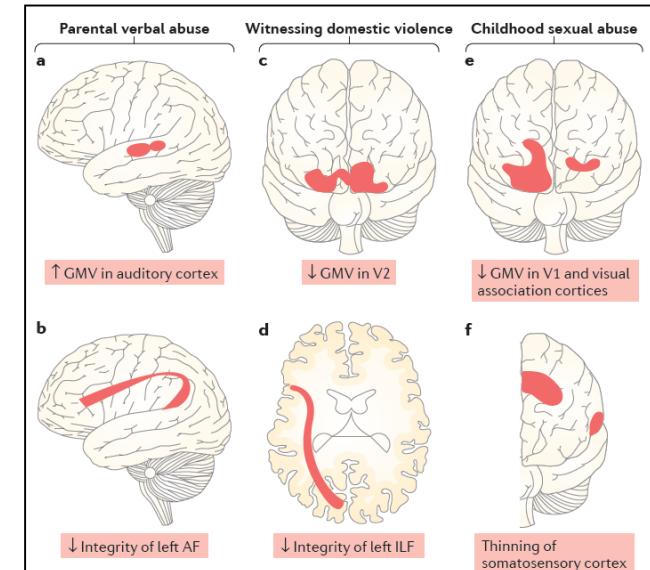


Figure 1 | Abuse type-specific effects on the developing brain. Images depicting the potential effects of exposure to specific types of childhood maltreatment on grey-matter volume (GMV) or thickness and fibre-tract integrity. Exposure to parental verbal abuse was associated with increased GMV in the auditory cortex portion of the left superior temporal gyrus²⁵ (part a) and decreased integrity of the left arcuate fasciculus (AF) interconnecting Wernicke's area and Broca's area²⁶ (part b). Visually witnessing multiple episodes of domestic violence was associated with reduced GMV in right lingual gyrus, left occipital pole and bilateral secondary visual cortex (V2)²⁷ (part c) and decreased integrity of the left inferior longitudinal fasciculus (ILF), which serves as a visual-limbic pathway²⁸ (part d). Adults reporting exposure to multiple episodes of childhood forced-contact sexual abuse were found to have reduced GMV in right and left primary visual cortex (V1) and visual association cortices, as well as reduced thickness in right lingual, left fusiform and left middle occipital gyri²⁹ (part e) and portions of the somatosensory cortex representing the clitoris and surrounding genital area³⁰ (part f). Part a is adapted with permission from REF. 25, Elsevier. Part b is adapted with permission from REF. 26, Elsevier. Part c is adapted from REF. 27. Part d is adapted with permission from REF. 28, Elsevier. Part e is adapted with permission from REF. 29, Elsevier. Part f is adapted from an image courtesy of C. Heim, Charité Universitätsmedizin Berlin, Germany, and J. Pruessner, McGill University, Canada.

Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study



The Lancet 2012

Karen Barnett, Stewart W Mercer, Michael Norbury, Graham Watt, Sally Wyke, Bruce Guthrie

Summary

Background Long-term largely configured for and of comorbidity of

Methods In a cross-se with 314 medical pract disorder type (physica two or more disorders

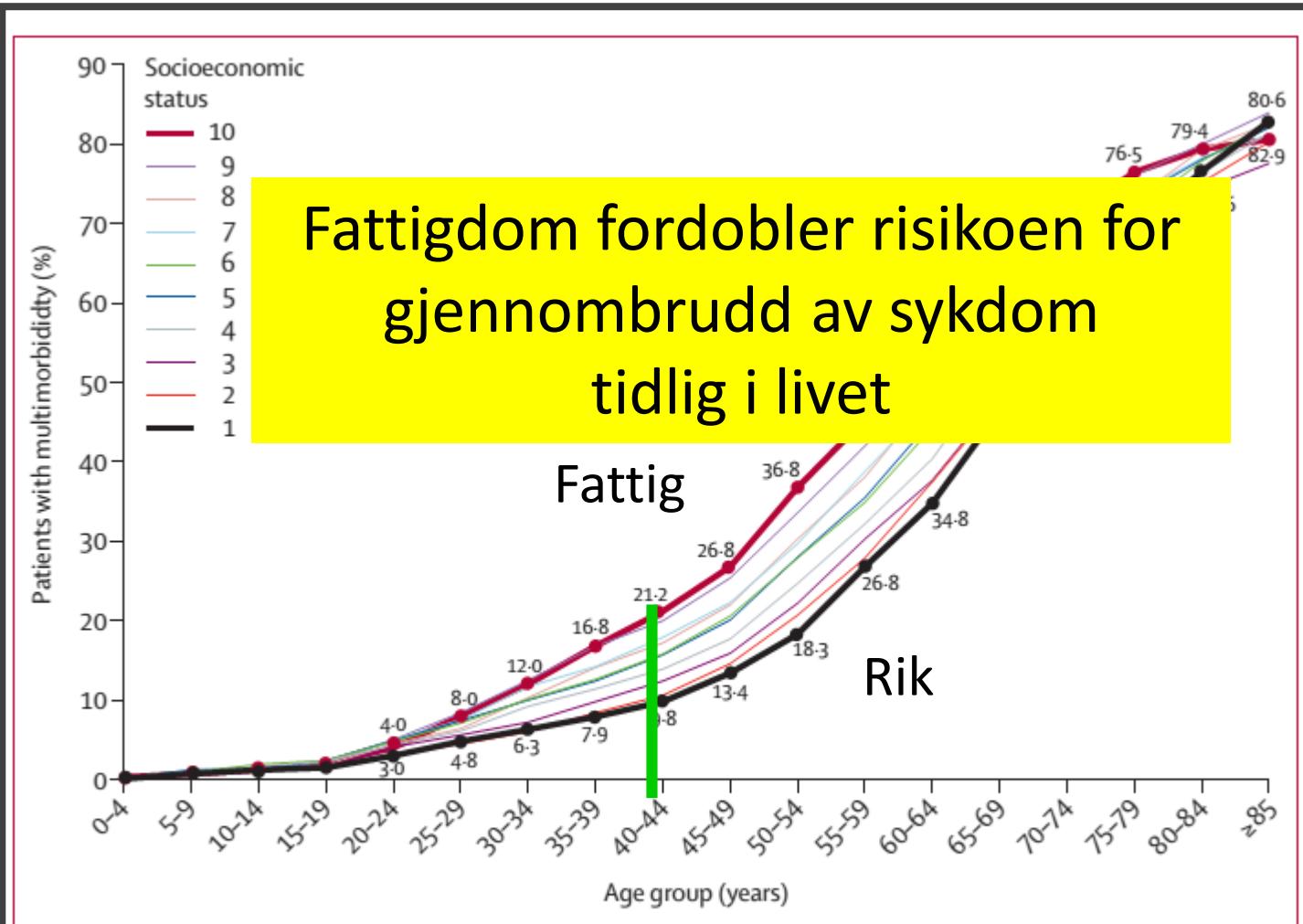


Figure 2: Prevalence of multimorbidity by age and socioeconomic status

On socioeconomic status scale, 1=most affluent and 10=most deprived.

HUNT studien

- Populasjon, 20-79 år
- HUNT 3: 2006-8
- Skjema, målinger,
blodpr.
- Diagnoser, risiko-
faktorer, andre
selvrapporterte forhold





Helseundersøkelsen i Nord-Trøndelag

HUNT 3 (2006-8)

51 Hvor mye melk eller yoghurt drakk du vanligvis?

Sjeldent/ aldri	1-6 gl. pr. uke	1 glass pr. dag	2-3 gl. pr. dag	Mer enn 3 glass pr. dag
<input type="checkbox"/>				

52 Vokste du opp på gård med husdyr?

Ja Nei

53 Når du tenker på barndommen/oppveksten din,
vil du beskrive den som:

Svært god	<input type="checkbox"/>	Vanskelig	<input checked="" type="checkbox"/>
God	<input type="checkbox"/>	Svært vanskelig.....	<input checked="" type="checkbox"/>
Middels	<input type="checkbox"/>		

RESEARCH ARTICLE

Self Reported Childhood Difficulties, Adult Multimorbidity and Allostatic Load. A Cross-Sectional Analysis of the Norwegian HUNT Study

Margret Olafia Tomasdottir^{1,2*}, Johann Agust Sigurdsson^{1,2}, Halfdan Petursson², Anna Luise Kirkengen^{2,3}, Steinar Krokstad⁴, Bruce McEwen⁵, Irene Hetlevik², Linn Getz²

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OPEN ACCESS

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Abstract

Background

Multimorbidity receives increasing scientific attention. So does the detrimental health impact of adverse childhood experiences (ACE). Aetiological pathways from ACE to complex disease burdens are under investigation. In this context, the concept of *allostatic overload* is relevant, denoting the link between chronic detrimental stress, widespread biological

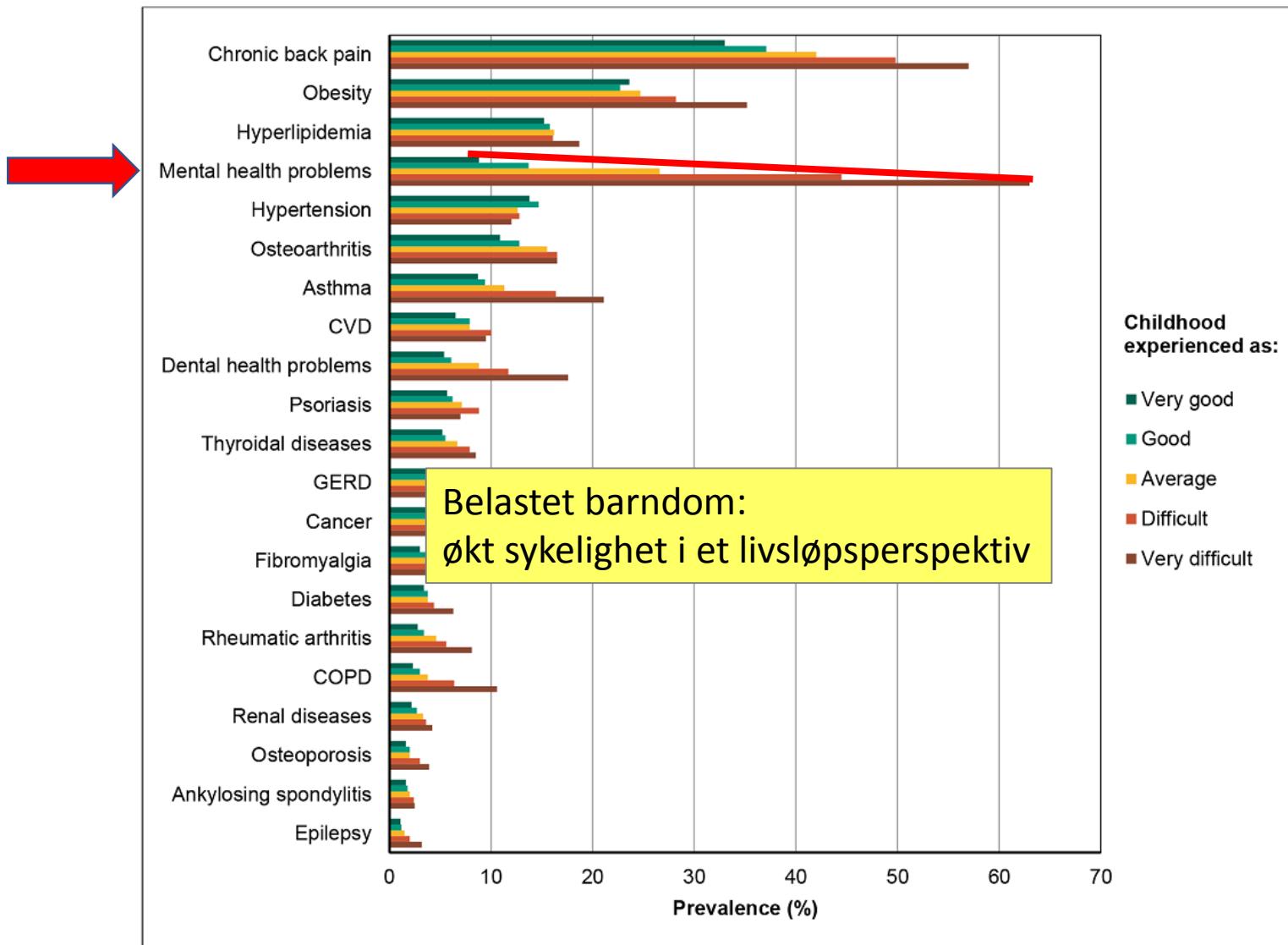


Fig 3. Prevalence of diseases/conditions according to childhood experience for adults (30–69y) in the HUNT3 Study.

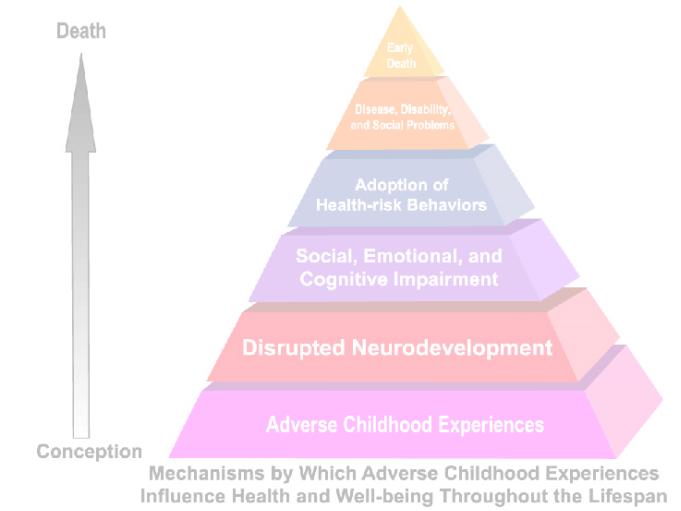
doi:10.1371/journal.pone.0130591.g003

«Metaanalyse» (1997)

Rough God Goes Riding



*Oh the mud splattered victims
Have to pay out all along the ancient highway
Torn between half truth and victimization
Fighting back with counter attacks
It's when that rough god goes riding
When the rough god goes gliding
And then the rough god goes riding
Riding on in...*



threat - vigilance - helplessness



*And it's a matter of survival
When you're born with your back against the wall
Won't somebody hand me a bible
Won't you give me that number to call*

When that rough god goes riding...

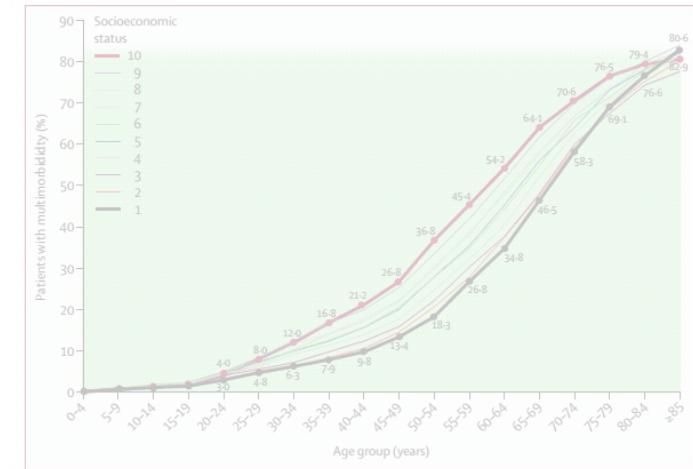


Figure 2: Prevalence of multimorbidity by age and socioeconomic status
On socioeconomic status scale, 1=most affluent and 10=most deprived.

- the biology of disadvantage -

Tabell 10.2 Et fenomenologisk perspektiv på biologien, omsatt i hverdagsspråk i form av «motpoler». Til venstre subjektive erfaringer som fremmer helse (nærer) og til høyre erfaringer som bidrar til sykdom (tærer).

Det tærer å oppleve seg ...	
utestengt	
utrygg	
foraktet	
grenket	
ignorert	
forlatt	
undervurdert	
i alarmberedskap	
utnyttet	
skamfull	
avmektig	

**Allostatisk
overbelastning
“avmaktens
patofysiologi”**

Positive Childhood Experiences and Adult Mental and Relational Health in a Statewide Sample Associations Across Adverse Childhood Experiences Levels

Christina Bethell, PhD, MBA, MPH; Jennifer Jones, MSW; Narangerel Gombojav, MD, PhD; Jeff Linkenbach, EdD; Robert Sege, MD, PhD

+ Supplemental content

IMPORTANCE Associations between adverse childhood experiences (ACEs) and risks for adult depression, poor mental health, and insufficient social and emotional support have been documented. Less is known about how positive childhood experiences (PCEs) co-occur with and may modulate the effect of ACEs on adult mental and relational health.

OBJECTIVE To evaluate associations between adult-reported PCEs and (1) adult depression and/or poor mental health (D/PMH) and (2) adult-reported social and emotional support (ARSES) across ACEs exposure levels.

DESIGN, SETTING, AND PARTICIPANTS Data were from the cross-sectional 2015 Wisconsin Behavioral Risk Factor Survey, a random digit-dial telephone survey of noninstitutionalized Wisconsin adults 18 years and older ($n = 6188$). Data were weighted to be representative of the entire population of Wisconsin adults in 2015. Data were analyzed between September 2016 and January 2019.

MAIN OUTCOMES AND MEASURES Primary outcomes included adult depression diagnosis (ever) and poor mental health (D/PMH). Secondary outcomes included ARSES and social support. Analyses included multivariable logistic regression models.

RESULTS In this study, 6188 adults were included (mean age, 45.2 years; 53.1% women; 84.5% white). The mean number of PCEs included in the analysis was 0.21-0.39 for men (OR, 0.50; 95% CI, 0.26-0.74) and 0.21-0.39 for women (OR, 0.50; 95% CI, 0.26-0.74). Associations between PCEs and D/PMH were adjusted odds ratios ranging from 2.60-4.80 and significant.

The PCE associations with D/PMH remained stable across each ACEs exposure level when controlling for ARSES.

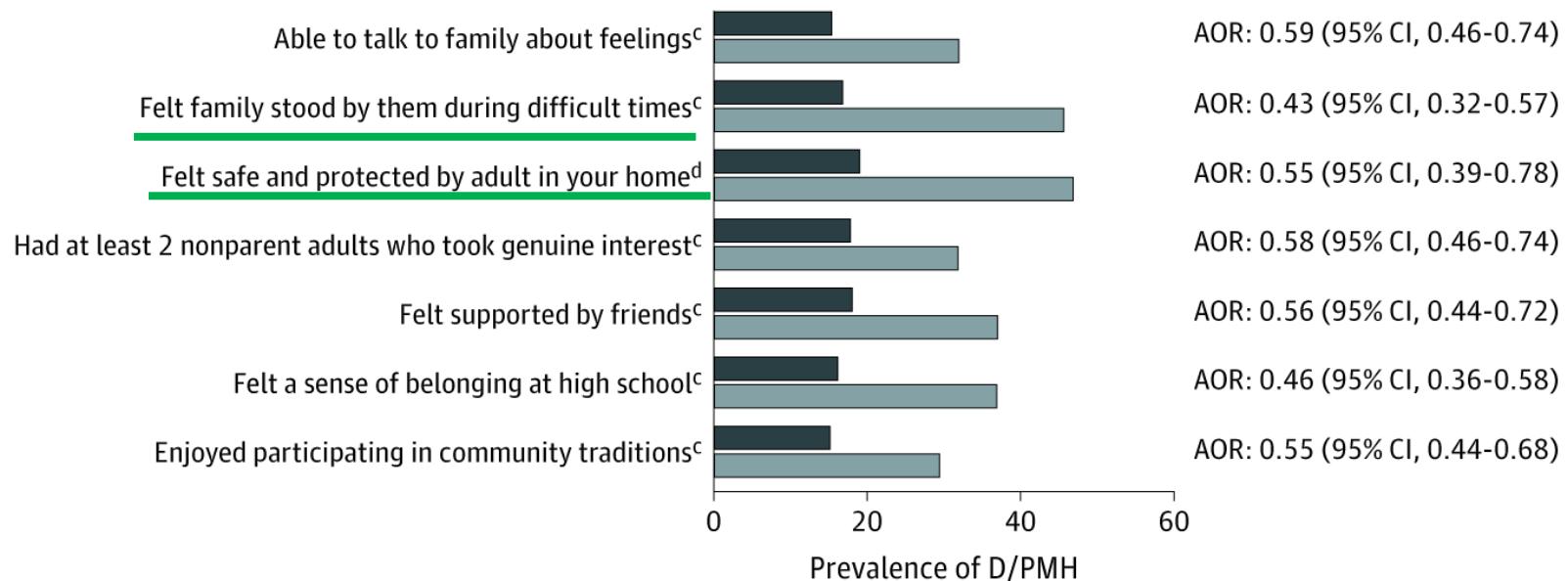
CONCLUSIONS AND RELEVANCE Positive childhood experiences show dose-response

9. Sept 2019

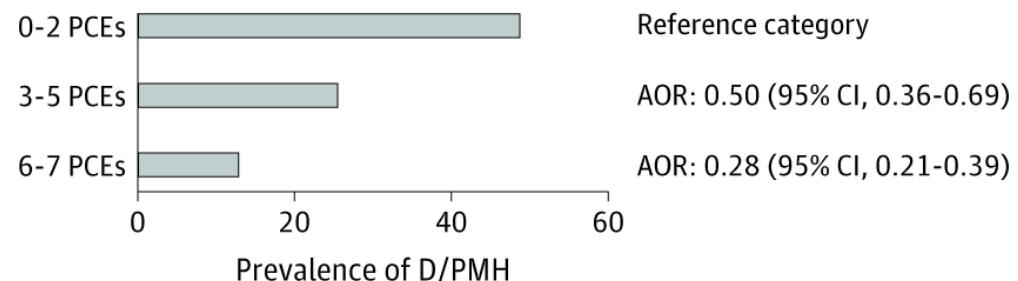
En dose-respons sammenheng mellom inkluderende og trygghetsskapende opplevelser i barndom og god (psykisk) helse, uavhengig av, og til tross for, negative livserfaringer



A PCEs, single items^{a,b}



B Cumulative score^{a,b}



GLOSSARY

Embodiment: a conceptual glossary for epidemiology

Nancy Krieger

J Epidemiol Community Health 2005;59:350–355. doi: 10.1136/jech.2004.024562

Embodiment. This construct and process are central to ecosocial theory and epidemiological inquiry. Recognising that we, as humans, are simultaneously social beings and biological organisms, the notion of "embodiment" advances three critical claims: (1) bodies tell stories about—and cannot be studied divorced from—the conditions of our existence; (2) bodies tell stories that often—but not always—match people's stated accounts; and (3) bodies tell stories that people cannot or will not tell, either because they are unable, forbidden, or choose not to tell. Just as the proverbial "dead man's bones" do in fact tell tales, via forensic pathology and historical anthropometry, so too do our living bodies tell stories about our lives, whether or not these are ever consciously expressed. This glossary sketches some key concepts, definitions, and hypotheses relevant for using the construct of "embodiment" in epidemiological research, so as to promote not only rigorous science but also social equity in health.

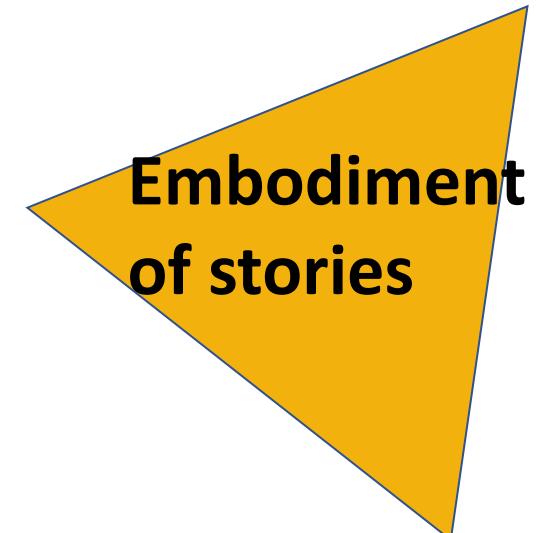
support for childcare; universal sanitation and sustainable development; safe workplaces and healthy cities; universal health care and immunisations; and the protection and promotion of human rights—economic, social, political, civil, and cultural. As has long been argued, although not always widely appreciated, it is no accident that from population patterns of health, disease, and wellbeing it is possible to discern the contours and distribution of power, property, and technology within and across nations, over time.^{1–14} Or, more pointedly, from the conditions of our bodies—and those of the animals and plants whose environs we now shape—you can gain deep insight into the workings of the body politic.

Embodiment, in other words, is literal.^{1–4} The ecosocial premise is that clues to current and changing population patterns of health, including social disparities in health, are to be found chiefly in the dynamic social, material, and ecological contexts into which we are born, develop, interact, and endeavour to live meaningful lives. The contrast is to pervasive aetiological hypotheses concerned mainly with decontextualised and disembodied "behaviours" and "exposures" interacting with equally decontextualised and disembodied "genes." The distinction is more than simply between "determinants" and "mechanisms." Consider, for example, contending—and longstanding—claims about racism compared with "race" as causes of racial/ethnic disparities in health.^{1–3 15–22} An embodied approach promotes testing hypotheses to ascertain if the observed disparities are a biological expression of racial discrimination, past and present; by contrast, a disembodied and decontextualised approach promulgates research focused on detrimental genes and/or "lifestyles."^{15–22} The vastly different implications of these approaches for generating epidemiological knowledge and informing policy underscore the utility of clarifying the significance of "embodiment" for epidemiological inquiry.

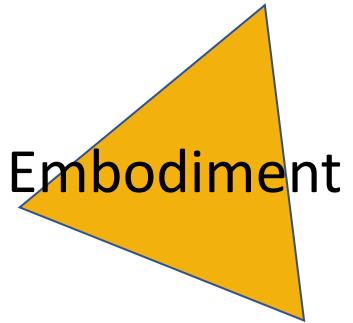
In this glossary, I accordingly sketch some key concepts, definitions, and hypotheses relevant

Embodiment. This construct and process are central to ecosocial theory (table 1) and, I would argue, epidemiological inquiry.^{1–4} Recognising that we, as humans, are simultaneously social beings and biological organisms, the notion of "embodiment" advances three critical claims:

- (1) bodies tell stories about—and cannot be studied divorced from—the conditions of our existence;
- (2) bodies tell stories that often—but not always—match people's stated accounts; and
- (3) bodies tell stories that people cannot or will not tell, either because they are unable, forbidden, or choose not to tell.



Embodiment
of stories



Et annet begrep Krieger anvender, er «stories» (norsk: historier). Hun sier (2005, vår oversettelse):

Begrepet 'embodiment' forutsetter at vi på samme tid er sosiale vesener og biologiske organismer. Det fører til tre avgjørende viktige påstander:

1. kropper forteller historier om – og kan ikke bli studert isolert fra – våre livsbetingelser
2. kropper forteller historier som ofte – men ikke alltid – samsvarer med det folk selv forteller
3. kropper forteller historier som mennesker ikke kan eller vil fortelle – enten fordi de ikke evner det, fordi noen har forbudt dem å snakke om det, eller fordi de velger å ikke fortelle.

Biolog og antropolog Gregory Bateson, 1979

Mind and Nature. A Necessary Unity

«But I come with stories – not just a supply of stories to deliver to the analyst but stories built into my very being».



