Neuroenhancement and its associated concepts in psychiatric clinical practice

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A brief self-introduction

- Graduated from the Univ. of Tokyo in 2008.
- Certified psychiatrist & Clinical psychologist.
- Graduate student of the Univ. of Tokyo studying neuroimaging
- Practicing cognitive behavioral therapy
- Studied philosophy (analytic trends) when I was an undergraduate student.
- Published papers on Kripke’s skepticism, radical interpretation, and delusion.
- Visit http://researchmap.jp/sakakibaraisuke/
✓ **Introduction**

✓ Continuity of treatment and enhancement
✓ Treatment, prevention, and enhancement
✓ Treatment, pain relief, and enhancement
✓ Pain relief, pleasure seeking, and enhancement
✓ Conclusion: why concepts overlap?
“Neuro”enhancement

✓ Neuroenhancement is improving mental capacities utilizing biomedical technologies beyond the purpose of treating disease. Examples include...

✓ Psychostimulants, such as methylphenidate for increasing memory.

✓ Selective serotonin reuptake inhibitors (SSRIs) for making nervous, avoidant and dysphoric people more assertive and agreeable.

Obtained from http://neuroenhancement.weebly.com/
Bioethical concerns about enhancement

**Safety/Efficacy:** Evidence for the safety and efficacy of biomedical interventions for healthy people is insufficient.

**Unfairness:** If enhancement technology is not covered by health insurance, the gap between the rich and the poor may widen because it is affordable only for rich people.

**Coercion:** One may receive direct or indirect pressures from those around her and cannot but accept enhancement.

**Complicity:** Enhancement might entrench local arbitrary, and sometimes unjust values of the time (e.g., skin whitening in countries where the discrimination against the black remains.)
Overlap of concepts

treatment

prevention

Neuro-enhancement

pain relief

pleasure seeking
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The distinction between **pathology** and **normality** is ambiguous in psychiatry.

Therefore, the distinction between **treatment** and **enhancement** is also ambiguous.

Prescription of psychostimulants and SSRIs are increasing since 1990s.

“**Bracket creep**” in psychiatry (McNally 2012)

**Medicalization:** neuroenhancement is spreading in the name of “treating illness”
Psychotropic drugs do not restore the premorbid physiological state

E.g., Antibiotics for bacterial infection

E.g., SSRIs for Depression
Treatment of inborn capacity

Level of functioning

Time of onset

Normal course

Remission

Time of onset?

Remission?
Bioethical concerns for treatment of psychiatric illness in borderline cases

In borderline cases...

**Recommending treatment** can become **coercion** for patients.

**Shifting the responsibility** of recovering from illness to identified patients may be becoming **complicit** with the local society’s values.
A case of complicity?

- The prevalence of SAD is **6.8%** in the United States, while it is **0.7%** in Japan.

**Stigma** against mental illness: the US < Japan?

**Pathologization** of social anxiety: Japan < the US?
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Treatment and prevention

✓ Applying biomedical technologies to prevent illness is generally accepted. (E.g., vaccination, water fluoridation)

✓ Hypertension, Dyslipidemia, and Osteoporosis

Are they Diseases or risk factors for disease?

✓ Interventions aimed at disease prevention is now performed within the context of treatment
Enhancement or prevention?

✓ Sub-threshold depressive symptoms is a risk factor for later development of depression. (Judd et al. 1997)

✓ Prescribing SSRIs for those with sub-threshold depressive symptoms and/or stressful environment is prevention or enhancement?

✓ The discontinuation of maintenance pharmacotherapy is postponed when patients face a stressful environment
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Interlace of pain relief and treatment in psychiatry

✓ **Depression** accompanies **Pain**

✓ **Fear of pain** aggravates **chronic pain**

✓ **ADHD** is associated with **Fibromyalgia**

✓ **Antidepressants** (SNRIs and TCAs) are used for pain relief

✓ **Relieving psychological pain** is an essential part of the **treatment** of psychiatric disorders
Pain relief and enhancement

✓ Athletes use large amount of pain killers for enduring intensive training and winning a match.

✓ Relying on psychotropic drugs to relieve distress caused by environmental hardship: Is it enhancement of endurance against psychological stress or “Aspirin for the mind”?

✓ Continuing to neglect the alarm of pain endangers long-term health of the individual.
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Opioid epidemic in the US

2015 Opioid Overdose Death Rate by State

Source: Center for Disease Control

Hedonia or Eudaimonia?

✓ University students use off-label psychostimulant for...
  exclusively academic reasons 54%
  exclusively non-academic (e.g., recreational) reasons 6%
  both academic and non-academic reasons 40%

✓ Methylphenidate induces overconfidence in one’s own performance.

✓ psychostimulant users achieve lower grade than non-users.
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Ambiguity of purposes

Biomedical technologies are accepted

- treatment
- pain relief
- prevention
- Neuro-enhancement
- pleasure seeking

Biomedical technologies are acceptable?
Drugs affecting human sensibility

The way we feel...

• sometimes constitutes a part of psychiatric illness.
  ➡ Treatment

• is often a subjective reflection of actual hardship or prosperity.
  ➡ Pain relief, Pleasure seeking

• may bring about a change in reality through affecting one’s behavior.
  ➡ Neuroenhancement