MEDICAL UNIVERSITY OF VIENNA

VOLKSANWALTSCHAFT

Chair: OPCAT Commission 3
Austrian Ombudsmen Board -
NPM: National Prevention Mechanism

Gender specific treatment approaches

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July 2nd, 2019

Definition of sex and gender

Sex   **The biological sex**

Gender   **Includes psychosocial aspects**

Gender mainstreaming – consideration in all areas

Putting gender on the agenda

(Editorial)

" Medicine as it is

currently applied

to ♀ is less

evidence-based than

that being applied

to ♂ ."

Substance use disorders (SUD) frequently co-occur with other psychiatric disorders → a phenomenon also named "**dual diagnosis**"
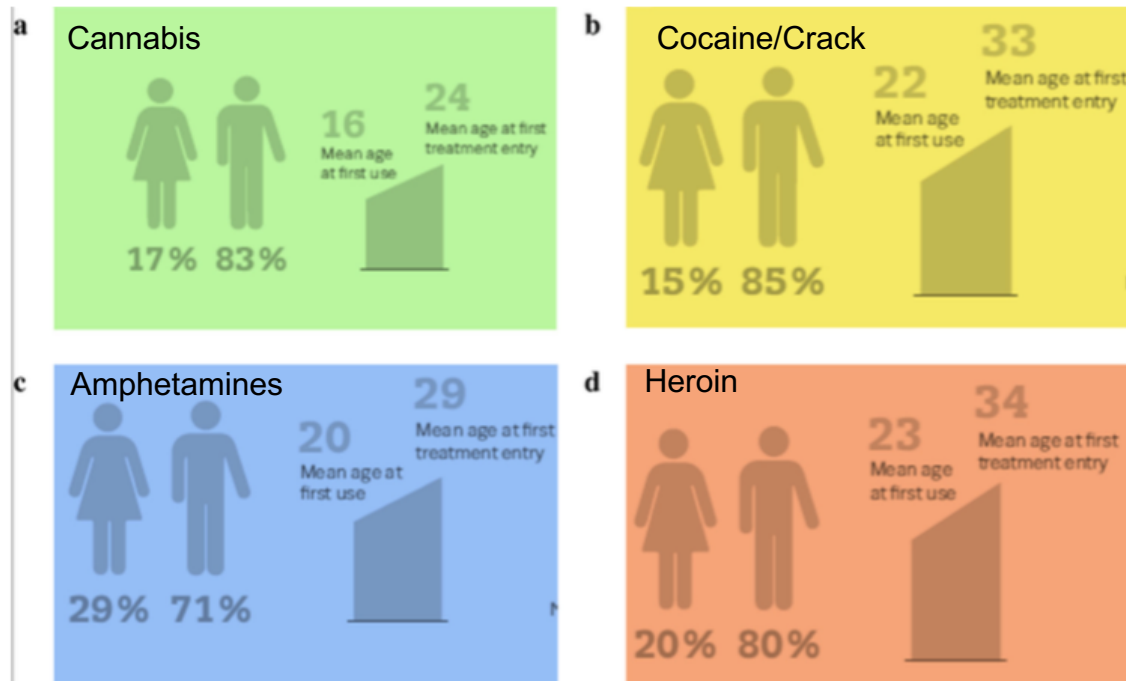
– At least 50% of SUD patients suffer from at least one additional psychiatric disorder (EMCDDA, 2015) - <u>significant sex & gender differences</u>

– However, psychiatric comorbidities in SUD patients remain largely undiagnosed and untreated

  → this can lead to many complications in the treatment process, as well as to a high incidence of relapses (Bradizza, et al., 2006; Drake, Mueser & Brunette, 2007) & in continuation to criminal activities
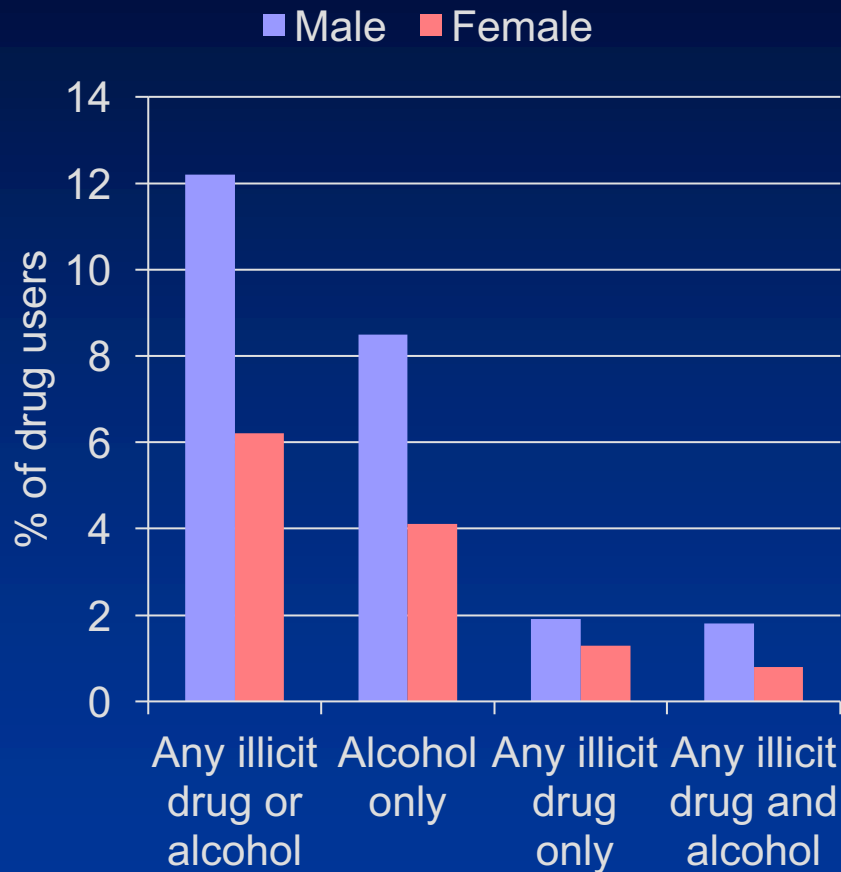
Gender differences & SUD – Treatment entry

C. Buccelli et al. / Forensic Science International 265 (2016) 89–95   91

a Cannabis
16 Mean age at first use
24 Mean age at first treatment entry
17% 83%

b Cocaine/Crack
22 Mean age at first use
33 Mean age at first treatment entry
15% 85%

c Amphetamines
20 Mean age at first use
29 Mean age at first treatment entry
29% 71%

d Heroin
23 Mean age at first use
34 Mean age at first treatment entry
20% 80%

Fig. 2. Proportion of men vs. women entering treatment with cannabis (panel a), cocaine/crack (panel b), amphetamines (panel c), or heroin (panel d) as the primary drug. *Source*: European Monitoring Centre for Drugs and Drug Addiction (2015).

Sex differences in prevalence are narrowing

Male   Female

% of drug users

- Any illicit drug or alcohol
- Alcohol only
- Any illicit drug only
- Any illicit drug and alcohol

● Percentage of persons aged 12 years or under abusing alcohol or illicit drugs in 2003

lifetime prevalence of <u>substance exposure</u>

- 85.7% of the sample reported any lifetime exposure (49.2% ♀)
- Lifetime prevalence of **exposure** was significantly higher for ♂ compared to ♀ in all categories (after adjusting for sociodemographic variables, all ORs > 1)

TABLE 1. Comparison of lifetime exposure to substances among females and males in the NESARC 2001–2002

Substance	Female (% [CI])	Male (% [CI])	Unadjusted OR[†] (CI)	Adjusted OR[†,‡] (CI)
Heroin	0.2 (0.1–0.2)	0.5 (0.4–0.6)	3.23 (2.09–4.97)	3.37 (2.12–5.37)
Cocaine	4.2 (3.8–4.7)	8.3 (7.6–8.9)	2.04 (1.83–2.28)	2.06 (1.84–2.31)
Cannabis	16.6 (15.6–17.7)	24.9 (23.7–26.0)	1.66 (1.56–1.77)	1.67 (1.57–1.78)
Nicotine*	38.1 (36.7–39.6)	49.7 (48.2–51.2)	1.60 (1.53–1.68)	1.77 (1.68–1.87)
Alcohol	77.5 (75.7–79.1)	88.4 (87.4–89.4)	2.22 (2.04–2.42)	2.31 (2.12–2.52)
Hallucinogens	3.9 (3.5–4.3)	7.9 (7.3–8.6)	2.14 (1.94–2.36)	2.12 (1.91–2.35)
Inhalants	.9 (.7–1.0)	2.7 (2.4–3.0)	3.18 (2.57–3.93)	3.10 (2.50–3.84)
Sedatives	3.1 (2.8–3.4)	5.2 (4.7–5.6)	1.69 (1.51–1.89)	1.72 (1.53–1.92)
Tranquilizers	2.4 (2.2–2.7)	4.5 (4.1–5.0)	1.91 (1.66–2.18)	1.90 (1.65–2.18)
Opioids*	3.5 (3.2–3.9)	6.1 (5.5–6.7)	1.77 (1.57–2.00)	1.79 (1.57–2.03)
Amphetamines	3.4 (2.9–3.8)	6.1 (5.5–6.7)	1.87 (1.65–2.11)	1.88 (1.66–2.13)

All percentages are weighted. CI, Confidence interval; OR, Odds ratio.
*Lifetime exposure to nicotine was defined as at least 100 cigarettes smoked; [†]Female is the reference group (OR = 1.0); [‡]Adjusted for age, race, educational level, household income, marital status, urbanicity, and region.

*prescription opioids
Lev-Ran, S., Le Strat, Y., Imtiaz, S., Rehm, J., & Le Foll, B. (2013). *The American Journal on Addictions*, *22*(1), 7-13.

lifetime prevalence of <u>substance dependence</u>

- ♂ had a significantly higher prevalence for alcohol and cannabis dependence
- ♀ had a higher prevalence of amphetamine dependence

TABLE 2. Comparison of lifetime prevalence of substance dependence among females and males with lifetime exposure to substances in the NESARC 2001–2002

Substance	Female (% [CI])	Male (% [CI])	Unadjusted OR[†] (CI)	Adjusted OR[†,‡] (CI)
Heroin	25.6 (14.7–40.6)	29.1 (20.7–39.2)	1.20 (0.54–2.66)	1.24 (0.51–3.00)
Cocaine	17.8 (14.8–21.1)	15.0 (13.0–17.3)	0.82 (0.62–1.07)	0.85 (0.65–1.11)
Cannabis	5.3 (4.5–6.3)	7.0 (6.1–8.1)	1.35 (1.08–1.68)	1.37 (1.09–1.72)
Nicotine[*]	40.6 (39.1–42.1)	32.3 (36.4–39.7)	0.90 (0.83–0.97)	0.97 (0.89–1.05)
Alcohol	10.3 (9.6–11.1)	19.6 (18.6–20.8)	2.13 (1.96–2.30)	2.27 (2.09–2.47)
Hallucinogens	3.1 (2.1–4.6)	4.8 (3.4–6.6)	1.56 (0.89–2.72)	1.52 (0.87–2.66)
Inhalants	2.5 (1.0–6.0)	2.2 (1.0–4.7)	0.85 (0.25–2.88)	0.76 (3.16–3.58)
Sedatives	6.6 (4.8–8.9)	5.8 (4.2–7.9)	0.88 (0.54–1.43)	0.96 (0.60–1.55)
Tranquilizers	7.7 (5.5–10.7)	5.9 (4.0–8.4)	0.74 (0.44–1.26)	0.79 (0.47–1.33)
Opioids[*]	7.9 (6.0–10.4)	6.8 (4.9–9.2)	0.84 (0.55–1.29)	0.86 (0.55–1.32)
Amphetamines	17.6 (14.1–21.7)	10.2 (8.0–12.9)	0.53 (0.36–0.78)	0.55 (0.37–0.81)

All percentages are weighted.

CI, Confidence interval; OR, Odds ratio.

[*]Lifetime exposure to nicotine was defined as at least 100 cigarettes smoked; [†]Female is the reference group (OR = 1.0); [‡]Adjusted for age, race, educational level, household income, marital status, urbanicity, and region.

[*]prescription opioids

Lev-Ran, S., Le Strat, Y., Imtiaz, S., Rehm, J., & Le Foll, B. (2013). *The American Journal on Addictions, 22*(1), 7-13.

Sex differences in the structural connectome of the human brain

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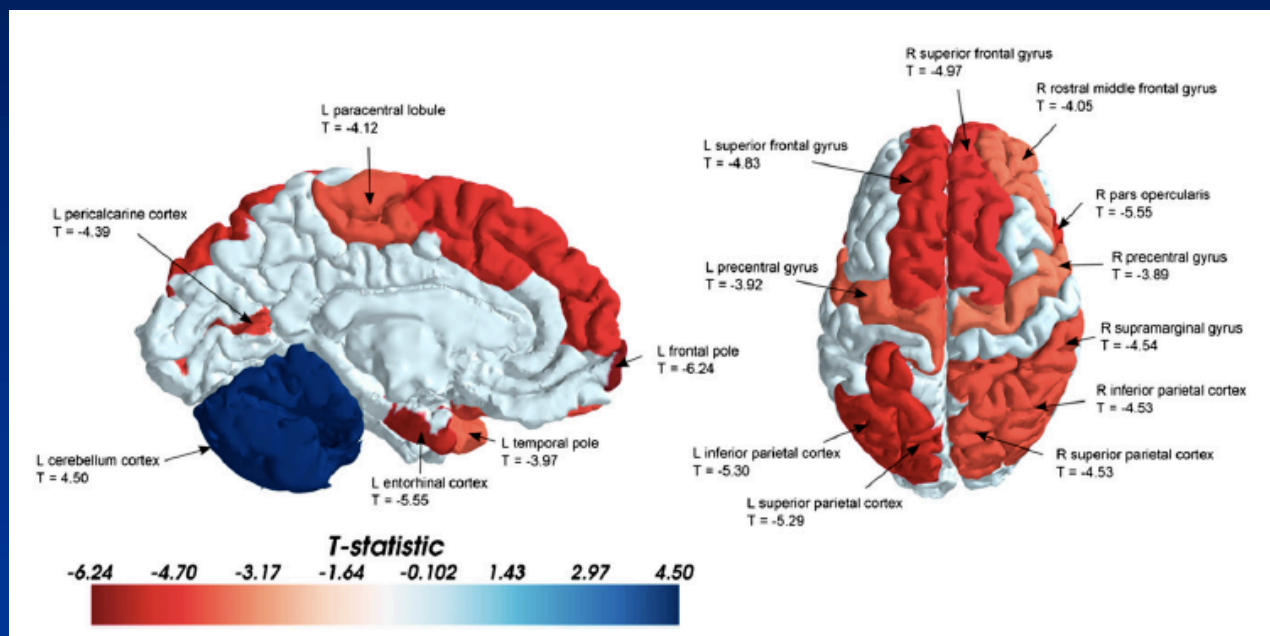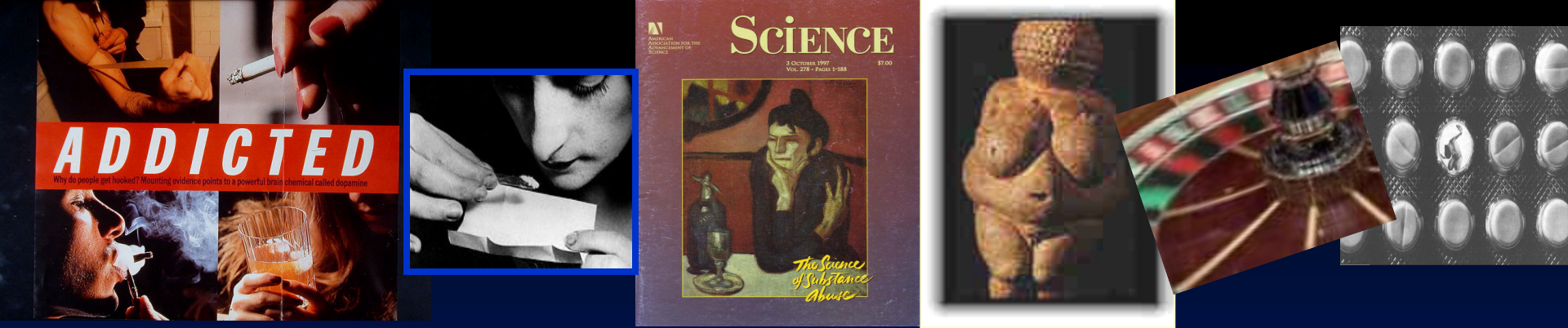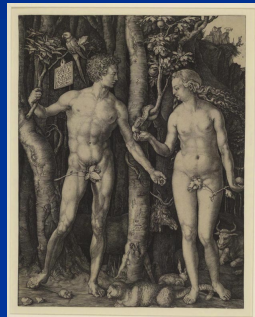
- Addiction is a chronic relapsing mental health disorder

- Stigma

- Retention is higher for ♀ in the medical field, but not in addiction

Demographic and clinical differences

♀ with SUD are more likely to

- come from families where members are addicted
- be in relationships with drug-abusing partners
- experience more affective disorders (♂: criminal behaviour)
- support their addiction through prostitution (♂ : robbery, burglary…)

Tuchman, E. (2010). Women and addiction: The importance of gender issues in substance abuse research. *Journal of addictive diseases*, *29*(2), 127-138.

Addiction is a
family disease

● Gender & sex sensitive approaches may be the first steps in the direction of *truly personalized* medicine

what, after all, is more personal than sex.
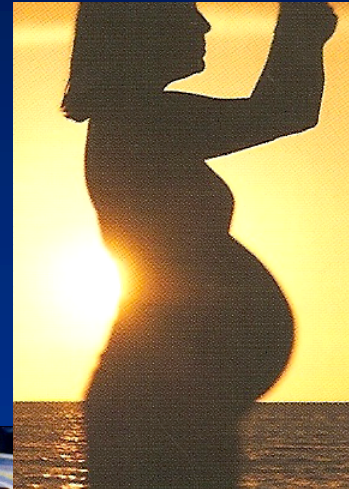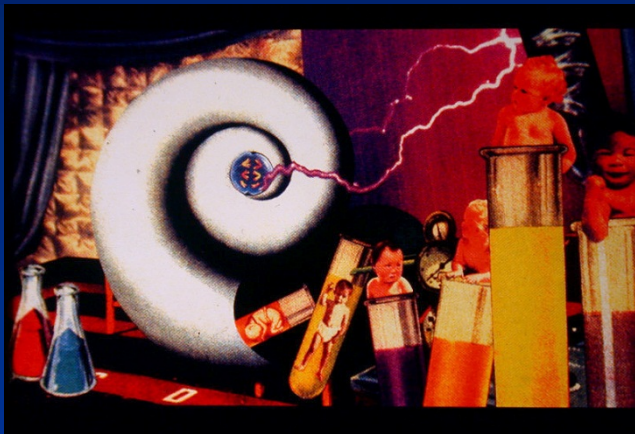
peripartum pain management in opioid maintained women

Following cesarean delivery opioid maintained ♀ received significantly less opioid analgesics (day of delivery p = 0.038; day 1: p = 0.02), NSAIDs were administered more frequently than to the comparison group during cesarean section and postpartum.

♀ / ♂
who abuse prescription opioids:

29,906 US adults entering substance abuse treatment

Gender Differences	Limitations
• ♀ more likely to use and abuse prescription opioids	• Some important risk factors not assessed; smoking, medical/psychiatric diagnoses
• ♀ prefer fast-release, ♂ prefer extended-release	• Cross-sectional design
• Strongest predictor: prescription of pain medication	• No causation can be concluded from correlations
• Need gender-specific strategies for monitoring/prevention/Rx	• Potential selection bias (treatment program attendees)
	• Large number of associations examined (type I error?)
	• Time frame used for obtaining covariates (past month)

Menopause symptoms of ♀ in MMT

- 15.6% of adults receiving treatment for opioid dependence in 2004 were >50 years old (up from 5.5% in 1994)[1]

- High rates of vasomotor symptoms

- Mood overshadows classical menopause symptoms

- Multiplicity of symptom-producing entities[2]

- Need menopause research agenda for ♀ in MMT

Menopause — Hot Flashes, Menstrual - Irregularities, Vaginal Dryness

Sweats, Insomnia, Anxiety, Depression, Poor Concentration, Decreased Libido, Fatigue, Weight Gain, Achy Joints

Opiate Withdrawal — Drug Craving, Vomiting, Diarrhea, Shaking

1) Rosen et al, 2008. 2) Tuchman, 2007.
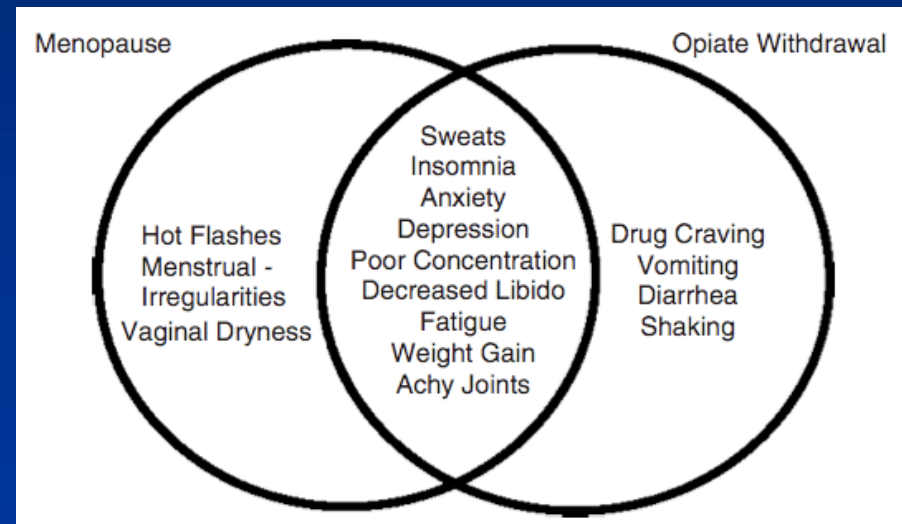
Barriers to teatment entry for women

- ♀ view SUD more negatively and are more concerned about social stigma
- *Pregnancy:* massive stigma associated with SUD in pregnant ♀, lack of services for pregnant ♀, fear of losing custody, fear of prosecution; lack of available, affordable childcare
- More frequently than ♂ : inadequate health insurance, poverty
- Relationship with drug-abusing partner
- Less likely than ♂ to have active social support
- Treatment entry is less facilitated by social institutions (employers or criminal justice system) for ♀

Tuchman, E. (2010). Women and addiction: The importance of gender issues in substance abuse research. *Journal of addictive diseases*, 29(2), 127-138.

Health-related and legal interventions: A comparison of allegedly delinquent and convicted opioid addicts in Austria

Birgit Koechl,[1] Simon M Danner,[1,2] Reinhold Jagsch,[3]
Laura Brandt[1] and Gabriele Fischer[1]

Introduction

Opioid addiction is a significant public health, policy and law problem (Nutt et al., 2010), with >4% (12-month prevalence) of the general population in the EU suffering from alcohol and drug dependence (Wittchen et al., 2011). Substance-related addiction alone is the fifth most frequent and, with €65.7 billion/year, also the fifth most expensive psychiatric disorder in the EU (following mood disorders, dementia, psychotic and anxiety disorders). Yearly costs of addiction in the EU are composed of €27.7 billion direct health care, €13.6 billion direct non-medical (expenses associated with the delivery of health care and health services, e.g. transportation) and €24.4 billion indirect costs of all resources used or lost due to illness (e.g. absenteeism from work), irrespective of paying source (Olesen et al., 2012).

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Table 2. Lifetime prevalences of psychiatric comorbidities in HRM groups

	Male	Female	Total	p	OR
Serious depression	51 (59.3%)	9 (90.0%)	60 (62.5%)	0.084	0.16
Serious anxiety or tension	47 (54.7%)	9 (90.0%)	56 (58.3%)	0.042*	0.13
Problems understanding, concentrating or remembering	31 (36.1%)	6 (60.0%)	37 (38.5%)	0.177	0.38
Serious thoughts of suicide	38 (44.2%)	6 (60.0%)	44 (45.8%)	0.505	0.53
Attempted suicide	20 (23.3%)	3 (30.0%)	23 (24.0%)	0.699	0.71
Hallucinations	12 (14.0%)	1 (10.0%)	13 (13.5%)	1.000	1.46
Problems controlling violent behaviour	41 (47.7%)	0 (0.0%)	41 (42.7%)	0.004**	–
Prescribed medication for any psychological/emotional problem	40 (46.5%)	8 (80.0%)	48 (50.0%)	0.045*	0.22

HRM: health-related measure, OR: odds ratio, *p < 0.05, **p < 0.01 of Fischer's exact test between gender and lifetime prevalence.

SUD & ADHD

- Recently, <u>the co-occurrence of ADHD</u> (attention-deficit hyperactivity disorder) and SUD has received attention

  → Childhood ADHD persists during adulthood in 2/3 of cases (Lara et al., 2009)

  → Prevalence of adult ADHD in SUD patients is reported around 23% (van Emmerik-van Oortmerssen et al., 2012)

- ***SUD patients with ADHD***
  - Are younger at onset of substance abuse (Fatseas et al., 2016)
  - Have more severe forms of substance abuse (Kaye et al., 2014)
  - Engage into risk taking behavior more frequently (Young et al., 2015) compared to SUD patients without ADHD

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Comorbidity Patterns Among Patients With Opioid Use Disorder and Problem Gambling: ADHD Status Predicts Class Membership

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Results

Sample characteristics of the three groups

Table 1. Sociodemographic characteristics of problem gamblers and opioid maintenance treatment patients recruited from community and prison populations.

Characteristic	PrG ($n=80$)	OMT-P ($n=142$)	OMT-P prison ($n=133$)	p	η^2/Cramer's V[a]
Female gender, n (%)	16 (20.0)	55 (38.7)	29 (21.8)	.001	0.19
Age in years, M (SD)	43.11 (12.43)	35.86 (8.88)	35.71 (7.64)	<.001	0.10
In a relationship/married, n (%)	27 (33.8)	28 (19.7)	21 (15.9)	.007	0.17
Austrian citizenship, n (%)	52 (65.0)	137 (96.5)	100 (75.2)	<.001	0.33
Compulsory education or lower, n (%)	15 (18.8)	61 (43.0)	71 (54.1)	<.001	0.27
Full- or part-time employment, n (%)[b]	33 (41.3)	39 (27.4)	73 (54.9)	<.000	0.26

[a]In case of continuous outcome variables (age), η^2 is reported. Effect sizes of $\eta^2 \geq 0.02$ signified small, $\eta^2 \geq 0.06$ medium, and $\eta^2 \geq 0.14$ large effects. In case of categorical variables Cramer V is reported. Effect sizes of <0.3 indicate small, 0.3–0.4 medium, and >0.4 large effects.
[b]In case of OMT-P in prison, this refers to the usual employment pattern in the three years prior to imprisonment.

Results

Adult ADHD

Prevalence of ADHD persistent into adulthood

PrG:	12.5%
OMT patients from the community:	14.8%
OMT patients from prisons:	17.3%

For comparison:

Adult ADHD in the general population has a globally estimated prevalence of 2.5% (Simon et al., 2009)

Results con`t

Psychiatric comorbidities according to group of patients (prevalence in %)

Figure 1. Psychiatric comorbidities by group: Problem gamblers (PrG, $N = 80$), opioid-maintenance treatment patients recruited from the community (OMT-P, $N = 142$), and OMT-P in prison (OMT-P prison, $N = 133$)

	Major Depression (c)	Major Depression (r)	Dysthymia (c)	Suicide Risk	Manic Episode (l)	Hypomanic Episode (l)	GAD (c)	Panic Disorder (l)	Panic Disorder (c)	Agoraphobia (c)	Social Phobia (c)	OCD (c)	PTSD (c)	AUD (c)	Alcohol Abuse (c)	ASPD (l)	Psychotic Episode (c)	Psychotic Episode (r)
PrG	32.5	22.5	13.8	47.5	20	15	37.5	18.8	5	3.8	3.8	3.8	5	18.8	5	6.3	0	0
OMT-P	26.8	11.3	10.6	37.3	7	8.5	11.3	7	2.8	12	7	6.3	5.6	12	5.6	47.9	4.2	13.4
OMT-P prison	26.3	15	3	39.1	15.8	16.5	15.8	17.3	5.3	7.5	3	3.8	7.5	3.8	3	56.8	3.1	4.6

■ PrG ■ OMT-P ■ OMT-P prison

(c): current; (r): recurrent; (l): lifetime; GAD: Generalized Anxiety Disorder; OCD: Obsessive Compulsive Disorder; PTSD: Posttraumatic Stress Disorder; AUD: Alcohol Use Disorder; ASPD: Antisocial Personality Disorder

Gender differences & gambling disorder

Individuals with gambling disorder have an <u>increased mortality</u>:

→ 1.8-fold (age group 20-74 years) compared to the general population

→Gender differences: ♂ (1.5 fold increase) vs. ♀ (2.1-fold increase)

→<u>In younger patients (20-49 years)</u> the mortality risk increases even further to a 6.2-fold compared to the general population

- Also the "gender gap" increases:

4.6- fold for ♂ vs. 10.5- fold for ♀

(Karlsson & Hakansson, 2018)

CRPD and Optional Protocol Signatures and Ratifications
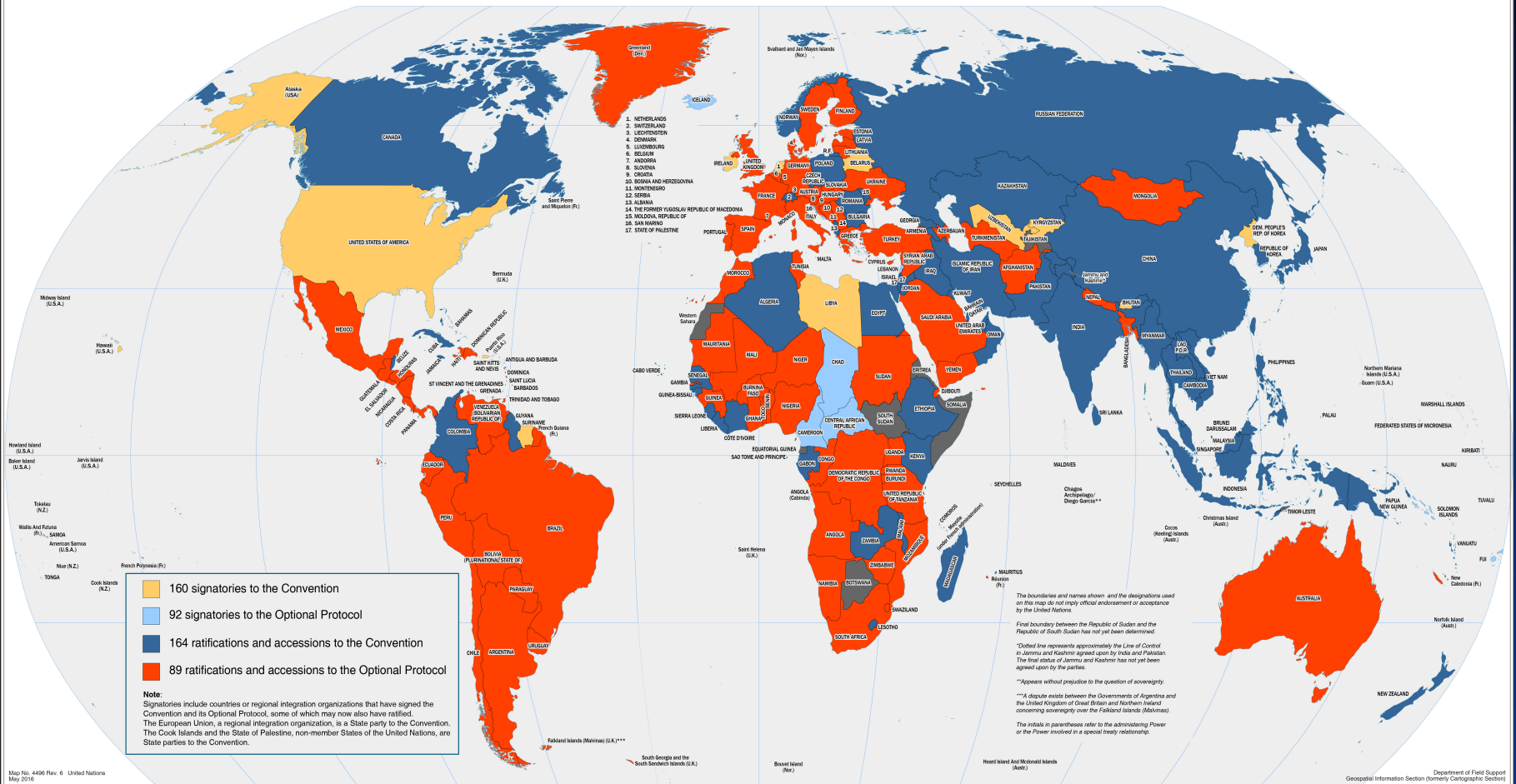
Legend:
- Not Signed
- Signed Convention
- Signed Convention & Protocol
- Ratified Convention
- Ratified Convention & Protocol

As of 11 May 2016

1. NETHERLANDS
2. SWITZERLAND
3. LIECHTENSTEIN
4. DENMARK
5. LUXEMBOURG
6. BELGIUM
7. ANDORRA
8. SLOVENIA
9. CROATIA
10. BOSNIA AND HERZEGOVINA
11. MONTENEGRO
12. SERBIA
13. ALBANIA
14. THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA
15. MOLDOVA, REPUBLIC OF
16. SAN MARINO
17. STATE OF PALESTINE

160 signatories to the Convention
92 signatories to the Optional Protocol
164 ratifications and accessions to the Convention
89 ratifications and accessions to the Optional Protocol

Note:
Signatories include countries or regional integration organizations that have signed the Convention and its Optional Protocol, some of which may now also have ratified. The European Union, a regional integration organization, is a State party to the Convention. The Cook Islands and the State of Palestine, non-member States of the United Nations, are State parties to the Convention.

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

*Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

**Appears without prejudice to the question of sovereignty.

***A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

The initials in parentheses refer to the administering Power or the Power involved in a special treaty relationship.

Map No. 4406 Rev. 6   United Nations
May 2016

Department of Field Support
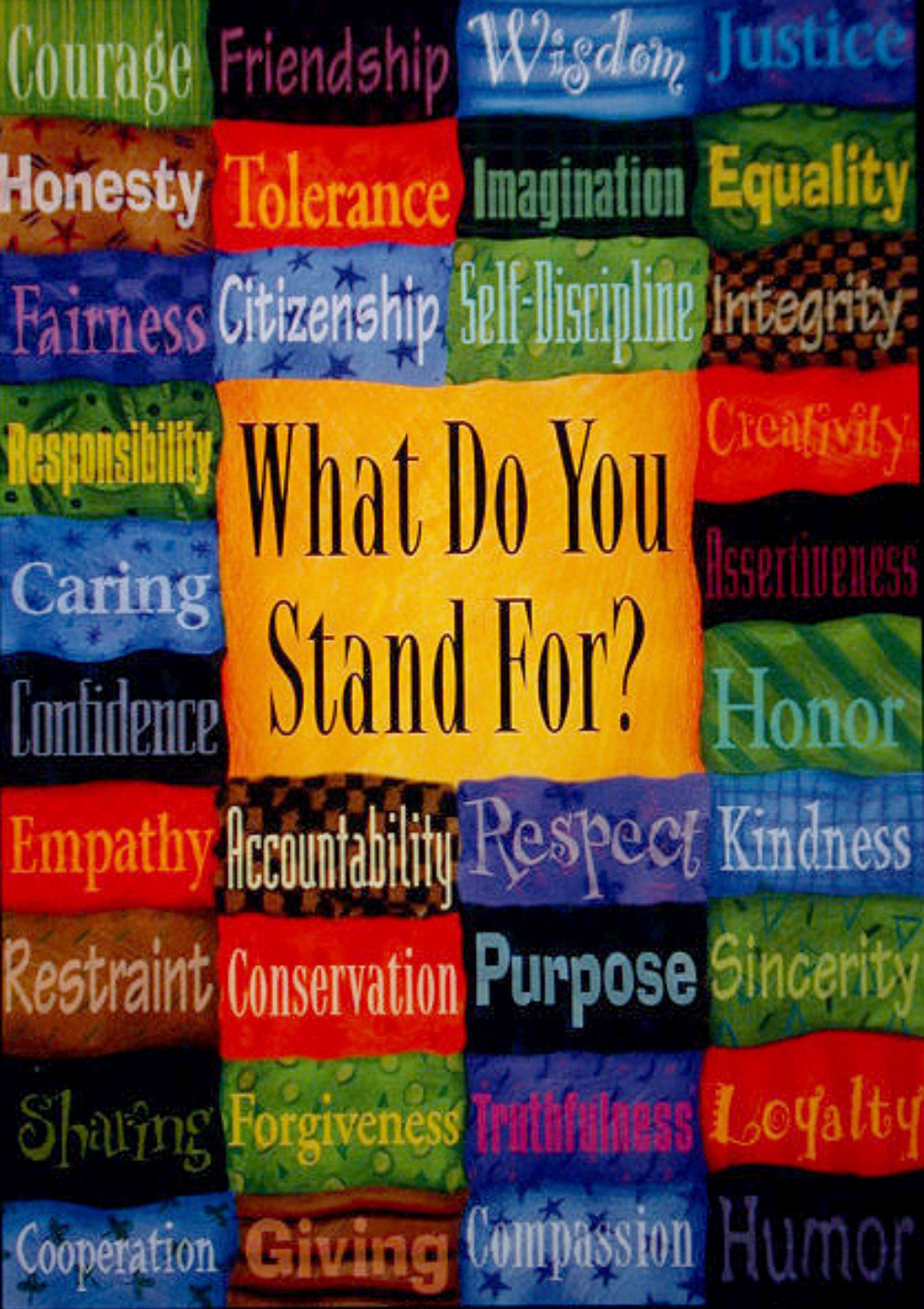Geospatial Information Section (formerly Cartographic Section)

Convention on the Rights of Persons with Disabilities (CRPD)

Quelle: United Nations. Abgerufen von https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html am 13.3.2017 um 18:00.

Accordingly, article 1 CRPD states:

Persons with disabilities include

those who have long-term physical, *mental*, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others (emphasis added).

...and evidence-based medicine