Drug Contentions

Dr Phil Dalgarno
Dept of Psychology
Glasgow Caledonian University
Psychoactive Substance Use is Abnormal

Academic Views of Psychoactive Substance Use

• Psychology:
  “Abnormal”, “Forensic”, “Criminal”, etc.

• Sociology:
  “Deviant”, “Subcultural”, etc.

• Pharmacology:
  Focus on physical/mental harms caused by drugs.

• Criminology:
  self-explanatory...
Alteration of consciousness

• **Normal** behaviour.

• One of the basic drives/needs, along with sex, food etc.

• In humans this is achieved by a number of means, e.g. fasting, dancing, meditating.

• But the quickest and most effective route is by ingestion of a substance (usually toxic).
Alteration of consciousness

• Animals appear to alter their consciousness via a range of substances as well. (see RK Siegel “Intoxication: The Universal Drive for Mind-Altering Substances”, G Samorini “Animals and Psychedelics”)

• Endogenous DMT (Dimethyltryptamine) is a very powerful “Class A” psychedelic drug, and is present in all mammals at all times. (see R Strassman “DMT: The Spirit Molecule”)

• Plus receptors for cannabis, opiates etc present in the brain.
Alteration of consciousness

• Why do people do it?
  – Enjoyment
  – Relaxation
  – Sociability
  – ‘Self-exploration’
  – ‘Pain relief’ (including psychological pain relief)
A (short) history lesson...

• **Opium**: The poppy plant was cultivated in Persia, Egypt and Mesopotamia 3500 – 5000 years ago.

• There’s (sketchy) evidence that Neanderthal man may have used the opium poppy 30,000 years ago.

• The first known written reference to the poppy appears in a Sumerian text dated from around 6,000 years ago. As an aside, the flower was known as *hul gil*, “plant of joy”.
A (short) history lesson...

• **Cannabis**: It’s not really known where or when exactly humans began cultivating cannabis.

• The first direct reference to cannabis as a psychoactive dates from around 2700 BC in Chinese pharmacopeia.

• Cannabis is mentioned as a treatment for all sorts of things. Importantly, reference was made to the **intoxicating properties** of the plant.
A (short) history lesson...

- **Coca**: is the natural raw material for cocaine.

- There’s evidence for the communal chewing of coca leaf from as far back as 6000 years ago.

- As far as I’m aware, coca was never really cultivated as such, as it just grew everywhere in the wild.
A (short) history lesson...

- **Alcohol**: There’s some (inconclusive) evidence that (intentionally) fermented drinks existed as early as 12,000 years ago.

- While there’s evidence of alcohol drinking in China from around 9000 years ago, **brewing** dates from ancient Egypt. Neither the Chinese nor the Egyptians had a problem with drunkenness per se, but warned against excessive drinking.
A (short) history lesson...

• The only culture without an indigenous psychoactive substance appears to have been the Inuit.
• Reasons for this are environmental: climate is unsuitable for survival of psychoactive plants or animals (e.g. Toads)
• However, when alcohol was introduced by explorers in the C19th, it was quickly assimilated into the culture (with questionable results...
Heroin is necessarily addictive

- “The opiates are drugs of addiction... anyone who takes an opiate for a long enough time will become addicted.” (Edwards, 1981).
Is heroin necessarily addictive?

The Rat Park Experiments (Alexander, et al.):

- These involved creating an environment in which to carry out these experiments which closely resembled as practically possible a ‘natural environment’. As described by Alexander (1994):

  “Rat Park, as it came to be known, was airy and spacious, with about 200 times the square footage of a standard laboratory cage. It was also scenic, (with a peaceful British Columbia forest painted on the plywood walls), comfortable, (with empty tins, wood scraps, and other desiderata strewn about the floor), and sociable (with 16-20 rats of both sexes in residence at once).”
Is heroin necessarily addictive?

More from The Rat Park...

• “Nothing that we tried instilled a strong appetite for [drugs] or produced anything that looked like addiction in rats that were housed in a reasonably normal environment.” [p.27].
Is heroin necessarily addictive?

- Are there heroin users (who are also drinkers and polydrug users) who don’t have social and medical “problems”?


- The project ran from 1995-1996 (pilot) and 1996-1999 (full study)
The “Non-Problematic” Heroin Use Study

• Participants were recruited via social networks and must have:
  – illicitly used opiates on at least 10 occasions in the previous 2 years.
  – Never been in treatment for any drug (including alcohol).
  – Never served a custodial sentence.
  – 126 people living in Glasgow; 75% were male, 25% were female, mean age 28.5 years.
The “Non-Problematic” Heroin Use Study

• Socioeconomic Status:
  – Occupational status (I = highest)

<table>
<thead>
<tr>
<th>SES category</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin sample</td>
<td>9%</td>
<td>29%</td>
<td>53%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>UK population</td>
<td>5%</td>
<td>23%</td>
<td>48%</td>
<td>18%</td>
<td>6%</td>
</tr>
</tbody>
</table>

• At the time of the study, levels of the population currently in higher education in Scotland, was recorded at 47% of the general population (Universities Scotland, 2001).

• There were no significant differences between the controlled heroin use sample and the general population on either of these variables – possibly the most important finding in the study.
The “Non-Problematic” Heroin Use Study

<table>
<thead>
<tr>
<th>Opiate Drug</th>
<th>Ever used</th>
<th>Average No. days used last two years</th>
<th>Mean years used</th>
<th>Mean age first use</th>
</tr>
</thead>
<tbody>
<tr>
<td>heroin</td>
<td>124 (98%)</td>
<td>Mean – 167 Median - 50 Mode - 25</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>codeine</td>
<td>101 (80%)</td>
<td>Mean - 28 Mode - 0</td>
<td>7.5</td>
<td>21</td>
</tr>
<tr>
<td>opium</td>
<td>84 (67%)</td>
<td>Mean - 7 Mode - 0</td>
<td>9</td>
<td>22</td>
</tr>
<tr>
<td>methadone</td>
<td>69 (55%)</td>
<td>Mean - 31 Mode - 0</td>
<td>5</td>
<td>24</td>
</tr>
</tbody>
</table>
The “Non-Problematic” Heroin Use Study

<table>
<thead>
<tr>
<th>Non-opiate Drug</th>
<th>$n$ ever used $\text{(percentage)}$</th>
<th>Mean age first use</th>
<th>Mean amount used $\text{per session}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>126 (100%)</td>
<td>14</td>
<td>10 units</td>
</tr>
<tr>
<td>Cannabis</td>
<td>126 (100%)</td>
<td>15</td>
<td>1.5g</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>124 (98%)</td>
<td>17</td>
<td>2g</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>124 (98%)</td>
<td>21</td>
<td>1.5 pills</td>
</tr>
<tr>
<td>Benzos</td>
<td>106 (84%)</td>
<td>19</td>
<td>3 pills</td>
</tr>
<tr>
<td>Cocaine</td>
<td>122 (97%)</td>
<td>20</td>
<td>1g</td>
</tr>
<tr>
<td>Crack</td>
<td>39 (31%)</td>
<td>25</td>
<td>1 rock</td>
</tr>
</tbody>
</table>
The “Mundane” Heroin Use Study...

Negative health and social outcomes:

• There was no association between use of drugs such as heroin and cocaine and crime.

• Another main finding was simply that levels of social and health problems among this group were low. (Shewan and Dalgarno 2005)
Substance Use & Mental Health

• Is substance use itself a mental illness?
  – Mental health problems often predate drug use
  – Is chaotic/indiscriminate drug use a symptom of mental illness?
  – Misguided attempt at self-medication?
  – What about the role of trauma?
The big question...

- Why do some people become “addicts” and others don’t?
  - Self medication hypothesis
  - Genetics
  - Social learning

- Patterns of use:
  - Stable vs. chaotic
  - Occasional vs. habitual
  - Use a little vs. use a lot
The big question...

• Social factors:
  – Little in the way of social capital
    • Education issues
    • Literacy issues
    • “Legitimate” income generation opportunities limited
  – A lot of substance misuse around them
    • Probably chaotic/problematic
    • Possibly injecting as method of use
    • Possibly generationally exposure
    • Cycles of deprivation
Why do some people become “addicts” and others don’t?

• Intent behind use (enjoyment or “self-medication”?)
• Being socially and psychologically “integrated”
  – “Drug, Set and Setting”
  – Understanding the communal/ritual aspects of use.
• Education (how to use, when to use, when not to use, risk reduction, etc)
  – “Drug, set and setting”
  – Understanding the communal/ritual aspects of use.
• Knowing when to stop
Drug, Set, and Setting

• DRUG - the pharmacological action of the substance.

• SET - underlying and learned psychological aspects of the user (also, biological factors). The “mindset” of the user.

• SETTING - situational factors, and the wider social and cultural context. The external setting.
• Many problematic drug users also have (other) mental health problems, such as depression.
• These could be underlying health problems, they could be exacerbated by problematic drug use, they may (arguably) be the result of long-term problematic drug use.
• There is strong and increasing evidence that many problematic drug users are seriously traumatised. Dalgarno & Shewan (2005) Hammersley & Dalgarno et al (in press)
What can we do?

• Treatments:
  – Chemical, e.g. Methadone, Naltrexone
  – Deep Brain Stimulation (DBS): placing electrodes in the brain at key receptor sites. Effectively “switching off” the pleasure zones.
What can we do?

• Substitution treatments and therapies:
  – Methadone (oral liquid, tablet, etc)
  – Buprenorphine/Subutex/Temgesic (tablet, patches, etc)
• Methadone arguably the more common of these.
• Has a number of different trade names, e.g. Dolophine, Amidone, Physeptone, among many others
Methadone
Methadone

NIDA (2008)
Amsterdam Heroin Trial

• Highly problematic
• Highly criminal
• Multiple health issues (physical and mental)
• Resistant to methadone treatment
• Not engaging with treatment agencies
Amsterdam Heroin Trial

- Method was to track the progress of 3 groups:
  - A group in no treatment regime, using street heroin.
  - A group in traditional methadone treatment.
  - The study group receiving heroin assisted treatment.

- Tracked them over a period of 4 years.
Table 5 Course of treatment outcome on primary outcome parameters, indicating 'absence of problems', among patients in long-term heroin-assisted treatment (HAT) for 4 years (n = 83).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Baseline</th>
<th>HAT year 1</th>
<th>HAT year 2</th>
<th>HAT year 3</th>
<th>HAT year 4</th>
<th>Linear-modelled time effect&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence physical health problems (MAP-HSS &lt; 8)</td>
<td>30.1%</td>
<td>77.1%</td>
<td>86.8%</td>
<td>78.3%</td>
<td>81.5%</td>
<td>1.06 (0.87; 1.30)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absence psychiatric health problems [SCL-90 &lt; 41 (males) or &lt;60 (females)]</td>
<td>42.2%</td>
<td>77.1%</td>
<td>85.5%</td>
<td>81.9%</td>
<td>87.7%</td>
<td>1.18 (0.95; 1.46)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illegal activities &lt; 6 days/month</td>
<td>37.4%</td>
<td>96.4%</td>
<td>97.6%</td>
<td>97.6%</td>
<td>100%</td>
<td>1.75 (0.95; 3.21)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days without personal contact non-drug using individuals &lt; 25 (month) (%)</td>
<td>62.7%</td>
<td>88.0%</td>
<td>94.0%</td>
<td>92.8%</td>
<td>92.6%</td>
<td>1.24 (0.87; 1.77)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No illicit heroin use</td>
<td>0%</td>
<td>57.8%</td>
<td>79.5%</td>
<td>86.8%</td>
<td>86.4%</td>
<td>1.67 (1.31; 2.14)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>&lt; 0.0001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No alcohol (≥5 glasses) use</td>
<td>63.9%</td>
<td>71.1%</td>
<td>83.1%</td>
<td>79.5%</td>
<td>77.8%</td>
<td>1.09 (0.92; 1.30)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No cocaine use</td>
<td>21.7%</td>
<td>27.7%</td>
<td>37.4%</td>
<td>43.4%</td>
<td>53.1%</td>
<td>1.40 (1.23; 1.60)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>&lt; 0.0001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No amphetamine use</td>
<td>92.8%</td>
<td>96.4%</td>
<td>97.6%</td>
<td>97.6%</td>
<td>97.5%</td>
<td>1.20 (0.67; 2.08)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health 'recovery'</td>
<td>0%</td>
<td>59.0%</td>
<td>75.9%</td>
<td>65.1%</td>
<td>70.4%</td>
<td>1.09 (0.91; 1.32)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete 'recovery'</td>
<td>0%</td>
<td>12.1%</td>
<td>22.9%</td>
<td>24.1%</td>
<td>24.7%</td>
<td>1.24 (1.04; 1.48)</td>
</tr>
<tr>
<td>p</td>
<td>z</td>
<td>= 0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Odds ratios (ORs) [95% confidence interval (CI)] and P-values are based on a linear-interval time model, in a longitudinal logistic regression analysis (GEE). MAP-HSS: Health Symptoms Scale of the Maudsley Addiction Profile; SCL-90: Symptom Checklist 90.
“Psychedelic Medicine”

• Produce “non-ordinary” states of consciousness (NOSC).
• Can facilitate recall of forgotten or semi forgotten (or repressed) life events.
• Can facilitate a “connection” on an emotional level with others and with surroundings...
• ...meaning that – in the correct setting – the user is more likely to engage in meaningful discussion (“open up”)
“Psychedelic Medicine”

• **Psycholytic therapy**
  This involves the supervised use of *low to medium* strength doses of a psychedelic substance, usually every 1-2 weeks over a number of months. There is an element of traditional psychoanalysis involved.

• **Psychedelic therapy**
  This involves supervised use of *high strength* doses of a psychedelic substance. Psychotherapy session before and after the drug experience
“Psychedelic Medicine”

• **MDMA:**
• Treatment of PTSD
• Relationship counselling
• Possibilities for treating depression, autism, borderline personality disorder and depression currently being investigated.
• Possibilities for using MDMA as an alternative to ECT being investigated.
“Psychedelic Medicine”

- LSD:
  - Anxiety associated with end-stage cancer.
  - Alcoholism
  - Deep trauma

Note: for a number of reasons, LSD research has not been as extensive as the others.
“Psychedelic Medicine”

- **Cannabis:**
  - Potentially hundreds of applications, for both mental and physical health.
  - Known effectiveness in arthritis, MS, AIDS/HIV etc.
  - Known effectiveness as an anti-emetic (so useful e.g. nausea following chemotherapy in cancer)
  - Possible use as an antipsychotic.
  - Possible use as an antidepressant.
  - And so on...
“Psychedelic Medicine”

• The sting in the tail...
• These substances are still illegal in the UK and regarded by the law as having “no therapeutic value”
• Recently however, Sativex (a cannabis preparation) has been approved in the UK for use in the treatment of spasticity in multiple sclerosis.
References


References


• Hammersley R, Dalgarno, P et al “Trauma in the childhood stories of people who have injected drugs” *Addiction Research & Theory* (in submission)

• Hammersley, R, Dalgarno, P & Scottish Drugs Forum. (2013). *Trauma and recovery amongst people who have injected drugs: “It does kind of make you feel quite numb”*. Glasgow: Scottish Drugs Forum.
References


References


References