Social supply: a network perspective

Ego network analysis of Flemish cannabis networks

Social supply and drug distribution seminar

22 January 2014 – London South Bank University

Marieke Vlaemynck

---

Social networks in drug markets

- Social networks are a key element in drug transactions.
- Social supply definitions include references to these “social networks”
- How do these networks look like? Consequences for social supply concept?

Marieke Vlaemynck
1. The network perspective

- Relations and patterns of relations are the cornerstone of social life (Wasserman & Faust, 1994)

- Three guiding principles (Marin & Wellman, 2011):
  - Relations, not attributes
  - Networks, no groups
  - Relational context
Relations and patterns of relations are the cornerstone of social life (Wasserman & Faust, 1994)

Three guiding principles (Marin & Wellman, 2011):
- Relations, not attributes
- Networks, not groups
- Relational context

2. A networked drug market

Two views on diffusion of information and attitudes:
- ‘Pipelines’ (Mische, 2003)
- Culturally constituted (Mische & White, 1998; Khron, 1986)
2.1 Relations as “pipelines”

- Networks as conduits for cultural formations
  - Example: strength of weak ties (Granovetter, 1973)

- Drug market research?
  - “if patterns of relations structure information, they also influence substance use” (Ennet, Bailey & Federman, 1999)
  - Example: dense networks constrain substance use (Bauman & Ennett, 2006)

2.2 Relations as “constructed”

- Networks as culturally constituted (Mische & White, 1998; Khron, 1986)
  - Roles and relationships as part of a social world
  - Networks are embedded in network domains (e.g. family, school, work) which actors switch between
  - Example: multiplexity in networks (Krohn, 1986)
Drug market research?

- Dorn, Levi, King (2005):
  - One large network constructed in interaction
  - Fluid networks
  - Sum of small groups of individuals

- Cullen (2010):
  - Sharing, symbolic meaning of cannabis

3. Cannabis markets—social supply

- Networked cannabis market
  - Disorganised rather than organised (Dorn, Levi & King, 2005)
    - Small networks
    - Fluid
    - Constructed in interaction
Ego networks characterised by supply relationships:

- Conduits for information:
  - Exchanges of technical knowledge
  - Transaction of a good

- Interwoven with shared meanings:
  - "Responsible" user
  - "Social" supplier / “dealer”

Social supply relationship

- Supply relationship is multiplex
  - Roles
  - Types of relationship

- Network view on social supply:
  - “Non–strangers”
  - Closeness
  - Social support
  - “Non–profit”
  - Exchange
4. Mixed methods

- Why (Crossley, 2010)?
  - Complexity
  - Reduction of this complexity

- How?
  - Data collection
  - Data analysis
4.1 Data collection

- Types of data
  - Composition: attributes, types of tie, strength of tie
  - Structure: alter–alter relations

- Participatory mapping (Hogan, Carrasco, & Wellman, 2007):
  - Structured interview
  - Semi–structured interview

4.2 Data analysis

- Quantitative
  - Statistical analysis of attributes (ego + alters)
  - Structural analysis

- Qualitative
  - Thematical analysis

- Visualisation of graph
  - Shape of graph
5. Example: social network

- Four test interviews

- Example: Ego 1
  - Composition of network
  - Structure of network
  - Visualisation

5.1 Composition

- Composition of the network
  - Ego attributes
    - Socio-demographics
    - Substance use
  - Alter attributes
    - Socio-demographics
    - Substance use

  - Network characteristics
  - Type and content of relations between alter and ego
### Substance use

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly alcohol</td>
<td>once or more per week</td>
</tr>
<tr>
<td>Tobacco use (plain)</td>
<td>Never</td>
</tr>
<tr>
<td>Cannabis</td>
<td></td>
</tr>
<tr>
<td>- First time</td>
<td>16 years old</td>
</tr>
<tr>
<td>- 3 m prior</td>
<td>2 times</td>
</tr>
<tr>
<td>- Where</td>
<td>a friend's house</td>
</tr>
<tr>
<td>- Supply</td>
<td>Passive</td>
</tr>
<tr>
<td>- When</td>
<td>During the week after class/ during the weekend</td>
</tr>
</tbody>
</table>

### Socio-demographics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
</tr>
<tr>
<td>Age</td>
<td>1992</td>
</tr>
<tr>
<td>Occupation</td>
<td>Full time MSc student</td>
</tr>
<tr>
<td>Living situation</td>
<td>With parents</td>
</tr>
<tr>
<td>Nationality</td>
<td>Belgian</td>
</tr>
<tr>
<td>Leisure time</td>
<td>visiting friends</td>
</tr>
</tbody>
</table>

### Ego?

### Alter?

#### Cannabis network (n=16)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>7 m, 8 f</td>
</tr>
<tr>
<td>Age</td>
<td>18 to 27</td>
</tr>
<tr>
<td>Role</td>
<td></td>
</tr>
<tr>
<td>- Household</td>
<td>2</td>
</tr>
<tr>
<td>- Family</td>
<td>7</td>
</tr>
<tr>
<td>- Friend</td>
<td>12</td>
</tr>
<tr>
<td>- Best friend</td>
<td>0</td>
</tr>
<tr>
<td>Cannabis user</td>
<td>14</td>
</tr>
<tr>
<td>Cannabis supplier</td>
<td>8</td>
</tr>
<tr>
<td>Location</td>
<td>Friend’s house</td>
</tr>
</tbody>
</table>

#### Total network (n=22)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>7 m, 15 f</td>
</tr>
<tr>
<td>Age</td>
<td>18 to 27</td>
</tr>
<tr>
<td>Role</td>
<td></td>
</tr>
<tr>
<td>- Household</td>
<td>2</td>
</tr>
<tr>
<td>- Family</td>
<td>8</td>
</tr>
<tr>
<td>- Friend</td>
<td>16</td>
</tr>
<tr>
<td>- Best friend</td>
<td>3</td>
</tr>
<tr>
<td>- Partner</td>
<td>0</td>
</tr>
</tbody>
</table>
Network?

- Size: 22 FN (ego excluded) – 16 CN
- Average age: 22.5 FN; 23 CN
- Average gender ratio: 30% male – 70% female FN; 43% male – 57% female CN
- Homophily: E–I Index = –0.364

Alter: relations?

- Types of relations
  - Roles: family, friends, ....
    - Often two at the same time
  - Supply relationship?
    - Ego as supplier: sharing – swapping – selling – gift giving
    - Alter as supplier: sharing – swapping – selling – gift giving
      - Friends + family
      - Close connection to “real drug market”
5.2 Structure of cannabis network

- Density (Hanneman & Riddle, 2005): 0.639

- Centrality
  - Structural holes (Borgatti & Halgin, 2011): low brokerage opportunities for ego
  - Closeness: ASP = 3.455
  - Betweenness centrality of ego is very low

5.3 Visualisations

- Respondent’s own graph in Vennmaker

- After applying spring embedder algorithm
Full network, respondent:

Cannabis network, respondent:
Full network in Pajek:

6. Conclusions

- Networked cannabis market

- Social supply as a type of relationship in a broader social network
  - Certain level of closeness
  - Exchange

- Data-collection: ongoing, several members of same network
Thank you for your attention

Contact details:

marieke.vlaemyck@ugent.be


References


