GENDER DIFFERENCES IN GAMBLING PREFERENCES & PROBLEM GAMBLING: A NETWORK-LEVEL ANALYSIS

Stéphanie Baggio, Sally M. Gainsbury, Vladan Starcevic, Jean-Baptiste Richard, François Beck, Joël Billieux
GENDER & GAMBLING: THE RISK OF A GENDER-BLIND APPROACH

- Gambling has long been considered as a male problem
- Accumulating evidence that problem gambling is also prevalent among females
- Gender should be considered as an important variable in gambling research
- Need for gender-sensitive research to improve prevention and intervention
GENDER & GAMBLING: WHAT IS KNOWN

- Problem gambling more prevalent
- Develops earlier
- Lasts longer

- Higher rates of substance use
- Higher impulsivity

- Similar prevalence rates of treatment seeking
- Higher rates of psychological distress
GENDER & GAMBLING: WHAT IS KNOWN

- Preference for skill-based games (sports betting, poker)
- Preference for chance-based games (gambling machines)

Different associations of gambling preferences with problem gambling:
- Increased prevalence rate of problem gambling for chance-based games
- Strong addictive power of gambling machines
- Gambling machines and sports betting associated with frequent dropout from treatment programs
OBJECTIVES

- To explore the relationships between gambling preferences and problem gambling separately for males and females
- Using an innovative data-analytic approach: the network analysis
- In addition: take into account substance use and mental health
METHODS

- **Data:** 2014 Health Barometer, n=8’805 French adult gamblers, representative from the whole French population

- **Measures:**
  - Gambling problem: Problem Gambling Severity Index, 9 questions
  - Gambling preferences: lotteries, scratch off games, horse racing betting, sports betting, poker, gambling machines, casino table games, and other skill games with bets
  - Substance use: alcohol, tobacco, cannabis, and other illicit substances
  - Mental health: subscale of the SF-36 (nervousness, discouragement, calmness/feeling relaxed, sadness, and happiness)
THE NETWORK ANALYSIS

- Graphical representation of a partial correlation matrix with small coefficients set to zero
- Items are represented as nodes
- Relationships are represented as edges
- What are the most important nodes?
Graphical representation of a partial correlation matrix with small coefficients set to zero

- Items are represented as nodes
- Relationships are represented as edges

- What are the most important nodes?
- What are the relationships between different constructs?
Graphical representation of a partial correlation matrix with small coefficients set to zero

- Items are represented as nodes
- Relationships are represented as edges

- What are the most important nodes?
- What are the relationships between different constructs?
- Is the network structure the same among different groups?
## RESULTS: GAMBLING PROBLEM

<table>
<thead>
<tr>
<th>Description</th>
<th>Females (n=4,565)</th>
<th>Males (n=4,240)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1. Bet more than could afford to lose</td>
<td>3.0</td>
<td>5.4</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>G2. Gamble larger amounts to get the same feeling</td>
<td>1.5</td>
<td>3.4</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>G3. Go back after losing to win back the money lost</td>
<td>4.2</td>
<td>7.5</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>G4. Borrowed money or sold anything to get money to gamble</td>
<td>0.1</td>
<td>0.7</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>G5. Felt as having a problem with gambling</td>
<td>1.6</td>
<td>3.6</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>G6. Gambling caused health problems</td>
<td>1.2</td>
<td>2.0</td>
<td>.003</td>
</tr>
<tr>
<td>G7. People criticized betting/spoke of problem gambling</td>
<td>1.0</td>
<td>3.2</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>G8. Gambling caused financial problems</td>
<td>0.4</td>
<td>1.3</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>G9. Felt guilty about gambling</td>
<td>2.0</td>
<td>4.5</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
# RESULTS: GAMBLING PREFERENCES

<table>
<thead>
<tr>
<th>Activity</th>
<th>Females (n=4,565)</th>
<th>Males (n=4,240)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. Lottery</td>
<td>72.5</td>
<td>75.1</td>
<td>.006</td>
</tr>
<tr>
<td>A2. Scratch games</td>
<td>65.5</td>
<td>51.6</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>A3. Horse race betting</td>
<td>6.4</td>
<td>14.9</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>A4. Sports betting</td>
<td>1.3</td>
<td>13.5</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>A5. Poker</td>
<td>1.5</td>
<td>7.7</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>A6. Gambling machines</td>
<td>10.7</td>
<td>11.1</td>
<td>.547</td>
</tr>
<tr>
<td>A7. Casino games</td>
<td>3.2</td>
<td>6.2</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>A8. Skills games</td>
<td>0.1</td>
<td>2.7</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
## RESULTS: SUBSTANCE USE & MENTAL HEALTH

<table>
<thead>
<tr>
<th></th>
<th>Females (n=4,565)</th>
<th>Males (n=4,240)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>90.6</td>
<td>93.3</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Tobacco</td>
<td>31.7</td>
<td>39.8</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Cannabis</td>
<td>6.6</td>
<td>14.6</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Other illicit substances</td>
<td>1.4</td>
<td>3.1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Nervousness</td>
<td>2.77</td>
<td>2.36</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Discouragement</td>
<td>1.95</td>
<td>1.61</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Calm/relaxation</td>
<td>3.47</td>
<td>3.70</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Sadness</td>
<td>2.17</td>
<td>1.79</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Happiness</td>
<td>3.72</td>
<td>3.81</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
RESULTS: NETWORK FOR FEMALES

A1. Lottery
A2. Scratch games
A3. Horse race betting
A4. Sports betting
A5. Poker
A6. **Gambling machines**
A7. Casino games
A8. Skills games
RESULTS: NETWORK FOR MALES

A1. Lottery
A2. Scratch games
A3. Horse race betting
A4. Sports betting
A5. Poker
A6. Gambling machines
A7. Casino games
A8. Skills games
RESULTS: NETWORK FOR FEMALES (2)

A1. Lottery
A2. Scratch games
A3. Horse race betting
A4. Sports betting
A5. Poker
A6. Gambling machines
A7. Casino games
A8. Skills games
RESULTS: NETWORK FOR MALES (2)

A1. Lottery
A2. Scratch games
A3. Horse race betting
A4. Sports betting
A5. Poker
A6. Gambling machines
A7. Casino games
A8. Skills games
RESULTS: DIFFERENCES BETWEEN MALES & FEMALES

- Sports betting and poker are related to items of problem gambling
- Stronger relationships between gambling preferences and problem gambling (p=.012)
- Relationships between gambling preferences and substance use
- Gambling machines are related to items of problem gambling
- No relationship between mental health and gambling problem
LIMITATIONS & NEED FOR FURTHER RESEARCH

- Use of self-reported measures
- Cross-sectional study
- Population-based survey
CONCLUSION

- The relationships between gambling preferences and gambling problem are different among males and females.

- These findings suggest that gender can play an indirect role in the development of gambling problems.

- Prevention and treatment of gambling problems would benefit from taking into consideration gender differences.

Thank you!