GAMBLING ON COLLEGE CAMPUSES

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Adolescents at risk for gambling addiction
ADOLESCENTS CAN BE AT HIGHER RISK FOR ADDICTION

- Brain still maturing during adolescent years
  - Especially pre-frontal cortex → regulates impulses, brain’s decision-making center
  - Can lead to →
    - Risky decision-making
    - Novelty and sensation seeking
    - Lack of impulse control
- In addition, high influence of peer pressure

ADOLESCENTS CAN BE AT HIGHER RISK FOR ADDICTION

• Gambling addiction
  • Emerging gambling opportunities (daily fantasy sports, legalized sports betting)
  • Emerging methods to gamble (mobile, online)
  • Less disposable income, easy access to credit cards → can have a higher risk for gambling-related financial consequences
Prevalence of gambling and gambling activities
• Review of studies (N = 44) conducted since 2000 among those aged 10-24

• **Most popular gambling activities overall**
  • Lotteries, scratch tickets, card games, slot machines

• **Most popular activities for problem gamblers**
  • Card games, slot machines, sports betting

According to the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders), what is the term for a clinical gambling addiction diagnosis?

- Gambling Disorder
- Problem Gambling
- Pathological Gambling
- Compulsive Gambling
Prevalence of problem gambling
1. Gambling **tolerance**
2. Gambling **withdrawal**
3. Unsuccessful efforts to control, cut back, or stop gambling
4. **Preoccupied** with gambling
5. Gambling when feeling distressed
6. “Chasing” losses
7. **Lying** about gambling
8. Jeopardizing or losing a relationship/opportunity due to gambling
9. Financial bailout due to gambling

• Review of college student studies (N = 72) using the SOGS between 1987 and 2016
  • **Gambling disorder:** 6.1%
  • **Sub-clinical gambling disorder (problem gambling):** 10.2%

Review of college student studies (N = 18) using the SOGS between 2005 and 2013

- **Gambling disorder**: 10.2%
- Rate higher than past syntheses
  - Shaffer et al. (1999): 5.1%
  - Blinn-Pike et al. (2007): 7.9%


Problem gambling: co-morbidity, correlates, and risk factors
PREVALENCE OF PSYCHIATRIC DISORDERS AMONG A SAMPLE OF COLLEGE STUDENTS (N = 1,430)

PROBLEM GAMBLING CO-MORBIDITY AMONG A SAMPLE OF COLLEGE STUDENTS (N = 1,430)

EARLY RISK FACTORS FOR SUBSEQUENT GAMBLING PROBLEMS

• Synthesis of longitudinal studies (15 studies in 23 articles):
  • Examining risk and protective factors for subsequent gambling problems
  • Measured during childhood, adolescence, and young adulthood

EARLY RISK FACTORS FOR SUBSEQUENT GAMBLING PROBLEMS

- **Strong mean effect size**
  - Problem gambling severity

- **Small to medium mean effect size**
  - Number of gambling activities in past 12 months
  - Impulsivity
  - Uncontrolled temperament
  - Poor academic performance
  - Male gender

EARLY RISK FACTORS FOR SUBSEQUENT GAMBLING PROBLEMS

- Small mean effect size
  - Alcohol use frequency
  - Tobacco use
  - Cannabis use
  - Other illicit drug use
  - Antisocial behaviors/Peer antisocial behaviors
  - Sensation seeking
  - Depressive symptoms

EARLY PROTECTIVE FACTORS FOR SUBSEQUENT GAMBLING PROBLEMS

- **Protective factors**
  - Higher parental supervision
  - Experiencing social problems
  - Higher socio-economic status

A study among college students (N=4,640) found higher rates of problem gambling among participants who misused stimulants (11.1% vs. 3.8%).

Gambling and fantasy sports
Participating in *season-long fantasy sports leagues with a league entry fee* was associated with experiencing gambling-related problems among:

- College student samples
- Adolescent samples


Participating in **daily fantasy sports (DFS)** was associated with experiencing gambling-related problems among:

- A sample of college students (N=941)
- A sample of 10-19-year-olds (N=6,818)


Fantasy sports studies among adolescents/college students limited by the use of community samples

- Future research using more representative samples will increase generalizability
College athlete gambling
COLLEGE ATHLETE GAMBLING

• Tables taken from the NCAA Study on Collegiate Wagering, available at: http://www.ncaa.org/about/resources/research/ncaa-national-study-collegiate-wagering
PERCENTAGE OF STUDENT-ATHLETES GAMBLING FOR MONEY DURING THE PREVIOUS 12 MONTHS

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>2008 Study</th>
<th>2012 Study</th>
<th>2016 Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>66%</td>
<td>57%</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>Div. I</td>
<td>58%</td>
<td>50%</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>Div. II</td>
<td>67%</td>
<td>56%</td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td>Div. III</td>
<td>73%</td>
<td>65%</td>
<td>61%</td>
<td></td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>39%</td>
<td>39%</td>
<td>38%</td>
<td></td>
</tr>
<tr>
<td>Div. I</td>
<td>31%</td>
<td>30%</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Div. II</td>
<td>40%</td>
<td>41%</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>Div. III</td>
<td>45%</td>
<td>46%</td>
<td>44%</td>
<td></td>
</tr>
</tbody>
</table>
## Gambling Severity (DSM Classification) among NCAA Athletes

<table>
<thead>
<tr>
<th></th>
<th>2004 Study</th>
<th>2008 Study</th>
<th>2012 Study</th>
<th>2016 Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-gambler</td>
<td>29.3%</td>
<td>33.7%</td>
<td>42.3%</td>
<td>45.3%</td>
</tr>
<tr>
<td>Social gambler</td>
<td>66.7%</td>
<td>62.5%</td>
<td>55.8%</td>
<td>52.8%</td>
</tr>
<tr>
<td>At-risk gambler</td>
<td>2.9%</td>
<td>1.8%</td>
<td>1.2%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Probable pathological gambler</td>
<td>1.1%</td>
<td>2.0%</td>
<td>0.7%</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-gambler</td>
<td>51.1%</td>
<td>61.4%</td>
<td>61.3%</td>
<td>62.4%</td>
</tr>
<tr>
<td>Social gambler</td>
<td>48.6%</td>
<td>38.2%</td>
<td>38.6%</td>
<td>37.5%</td>
</tr>
<tr>
<td>At-risk gambler</td>
<td>0.3%</td>
<td>0.2%</td>
<td>&lt; 0.1%</td>
<td>&lt; 0.1%</td>
</tr>
<tr>
<td>Probable pathological gambler</td>
<td>&lt; 0.1%</td>
<td>0.2%</td>
<td>&lt; 0.1%</td>
<td>&lt; 0.1%</td>
</tr>
</tbody>
</table>
Among male athletes, which sport's athletes have the highest rates of gambling in a one month period?

- Track (A)
- Football (B)
- Soccer (C)
- Golf (D)
- Basketball (E)
PERCENTAGE OF NCAA MEN REPORTING THAT THEY WAGER ON SPORTS AT LEAST MONTHLY

<table>
<thead>
<tr>
<th>Men’s Sports</th>
<th>2004 Study</th>
<th>2008 Study</th>
<th>2012 Study</th>
<th>2016 Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>12.3%</td>
<td>12.7%</td>
<td>9.5%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Basketball</td>
<td>9.9%</td>
<td>10.0%</td>
<td>8.4%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Football</td>
<td>8.6%</td>
<td>9.0%</td>
<td>8.3%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Golf</td>
<td>14.2%</td>
<td>19.6%</td>
<td>20.2%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Ice Hockey</td>
<td>12.1%</td>
<td>7.6%</td>
<td>8.9%</td>
<td>14.2%</td>
</tr>
<tr>
<td>Lacrosse</td>
<td>13.9%</td>
<td>10.1%</td>
<td>5.6%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Soccer</td>
<td>10.9%</td>
<td>10.6%</td>
<td>9.7%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Swimming</td>
<td>5.7%</td>
<td>4.3%</td>
<td>3.5%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Tennis</td>
<td>8.8%</td>
<td>8.4%</td>
<td>7.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Track / Cross Country</td>
<td>4.9%</td>
<td>5.4%</td>
<td>4.4%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Wrestling</td>
<td>12.4%</td>
<td>6.2%</td>
<td>6.0%</td>
<td>5.0%</td>
</tr>
</tbody>
</table>
College and university gambling policies
COLLEGE GAMBLING POLICIES

• 2003 study
  • Out of 119 universities, 26 (22%) had a documented gambling policy

• Revisited 2017 study
  • Out of 117 universities, 82 (70%) had a documented gambling policy


• Recommendations of the Task Force on College Gambling Policies

1. **Campus-wide committee** to develop and monitor a comprehensive policy on gambling

2. College gambling policies consistent with applicable local, state, and federal laws

3. Consistency with prohibitions and restrictions on gambling and alcohol use **at special events**

4. **Campus-community collaborations** that focus on reducing problems with student drinking and gambling

5. Encourage adjustments (**leniency**) in disciplinary actions applied to violators of gambling rules if the student seeks assistance from health or counseling services

6. Make **reasonable accommodations** for students focused on recovery from a problem with gambling or alcohol

7. Measure student attitudes, behaviors, and problems with gambling through **campus surveys** or by incorporating such measures into existing campus health-related surveys

8. Promote **campus-wide awareness** of gambling disorder as a mental health disorder that has a high rate of comorbidity

9. Employ evidence-based strategies to identify (e.g., screening) and help students with gambling and alcohol problems

10. **Strengthen the capacity of counseling services to identify and treat gambling disorders**

Gambling education and interventions
YOUTH GAMBLING INTERVENTIONS

- Systematic review of school-based gambling education programs (19 studies)

YOUTH GAMBLING INTERVENTIONS

- Recommendations
  - Focus on prevention of gambling-related problems
  - Ground in behavioral theory (e.g., Theory of Planned Behavior) instead of trial and error
  - Teach mathematical principles concerning long-term unprofitability of gambling
    - Randomness and expected value

• **Recommendations**

  • Programs should be implemented as early as possible (age 10 and older) to prevent gambling misconceptions

  • Deliver in a way that is relevant to youths (e.g., multimedia programs)

COLLEGE STUDENT PROBLEM GAMBLING INTERVENTION

• Study among at-risk college student problem gamblers
  • Computer-delivered brief intervention with personalized normative feedback
    • Correct misperceptions, behavior atypical

### Brief Biosocial Gambling Screen (BBGS)

A “yes” answer to any of the questions means the person is at risk for developing a gambling problem.

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. During the past 12 months, have you become restless, irritable or anxious when trying to stop/cut down on gambling?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. During the past 12 months did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends or welfare?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legalized sports gambling and potential concerns
POTENTIAL CONCERNS

- Increased legalized sports gambling
  - Mobile betting
  - Game betting vs. live (or in-play) betting
What are the items in video games that contain randomized contents of various values that can be purchased with "real" money?

- Coin Boxes
- Mystery Boxes
- Slot Boxes
- Loot Boxes
**POTENTIAL CONCERNS**

- **Loot boxes:** Items in video games that contain randomized contents of various values that can be purchased with “real” money
- Researchers have found that gamers who indicate gambling problems spend more on loot boxes than players without gambling problems
- **Possible gateway to future gambling problems?**


Simulated gambling games: A digitally simulated interactive activity that does not directly involve monetary gain but is structurally identical to the standard format of a gambling activity due to its wagering features and chance-determined outcomes of play.

Researchers have found that simulated gambling games were a precursor to subsequent online gambling for some individuals.

Possible gateway to future gambling problems?


POTENTIAL CONCERNS

• **Gaming addiction:** Studies have generally **not supported** gaming addiction as a precursor to subsequent gambling addiction.

• **Gaming defined by:** (1) interactivity, (2) skill-based play, and (3) contextual indicators of progression and success.

• **Gambling defined by:** (1) betting and wagering mechanisms, (2) predominately chance-determined outcomes, and (3) monetization features that involve risk and payout to the player.


LEGALIZED SPORTS GAMBLING: A NEW GAMBLING OPPORTUNITY

• Exposure and adaptation

• Exposure: When a new gambling opportunity is introduced to a population → expect and prepare for an initial increase in participation and an associated increase in gambling-related problems

• Adaptation: Over time, populations typically adapt and the rates of problems revert back to those prior to the new opportunity

Conclusion & Future Directions
CONCLUSION/FUTURE DIRECTIONS

• Youths/adolescents, and especially college students, are at risk for gambling problems

• There are numerous activities and co-morbid behaviors associated with gambling problems

• More research should be conducted on emerging gambling opportunities (legal sports gambling, daily fantasy sports) in the youth/adolescent/college student population