From the Slots to the Bottle:

A Mixed Method Study of Addiction Substitution among Recovered Gamblers

Hyoun S. (Andrew) Kim & David C. Hodgins
University of Calgary

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Outline

• Addiction substitution: Definition and concepts
• What do we know about addiction substitution?
• Mixed-method study of addiction substitution
• Implications
The 13th Step
Addiction Substitution
Addiction Substitution

- Cross addiction, switching hypothesis
- Common process in recovery? (Horvath, 2006)
Changes in Addictive Behaviors During Recovery

<table>
<thead>
<tr>
<th>Change Type</th>
<th>Count (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>31</td>
</tr>
<tr>
<td>Decrease</td>
<td>46</td>
</tr>
<tr>
<td>Both</td>
<td>25</td>
</tr>
<tr>
<td>No change</td>
<td>17</td>
</tr>
</tbody>
</table>

- **Substance Increase**
  - Alcohol: 24.4%
  - Cigarettes: 20.2%
  - Caffeine: 24.4%
  - Sleeping/Prescription Pills: 10.9%
  - Others: 5.9%

Hodgins, Kim, & Stea, 2017
Changes in Addictive Behaviors During Recovery

Proportion of Change by Recovery Method

- Increase
- Decrease
- Both
- No Change

Hodgins, Kim, & Stea, 2017
Changes in Addictive Behaviors During Recovery

SUD at Time 1
N = 6016

Remission at Time 2 n = 2741
No remission at time 2 n = 3275

New SUD - 13%
New SUD - 27%

SUD at Time 1
N = 6016

Remission at Time 2 n = 2741
No remission at time 2 n = 3275

Blanco, Okuda, Wang, Liu, & Olfson, 2014
Addiction Substitution

• Cross addiction, switching hypothesis
• Common process in recovery? (Horvath, 2006)
• Important clinical implications: Is it recovery?
  • New addiction
  • Relapse
• Harm reduction or harmful?
Addiction Substitution

Figure 1
Life Diagram of Addictive Behaviors

AGE IN YEARS

ALCOHOL

PILLS

COCAINE

GAMBLING

SHOPPING

A

B

C

D

E

F

USE OF ALCOHOL/DRUG, GAMBLING OR SHOPPING
EXCESSIVE OR PROBLEMATIC USE OF BEHAVIOR
ALCOHOL OR DRUG DEPENDENCE OR PATHOLOGICAL GAMBLING (DSM III-R CRITERIA)
LIFE EVENTS: A = LEAVING HOME
B.C.D = REHABILITATION TREATMENT
E = INPATIENT DETOX AND PSYCHIATRIC TREATMENT
F = PRESENT ADMISSION

Blume, 1994
What do we (really) know about addiction substitution?

Records identified through database searching ($N=17,239$)

$\downarrow$

Duplicates removed ($n=4,823$)

Records for screening after duplicates removed ($n=12,416$)

$\downarrow$

Records excluded based on title and abstract and some full text ($n=12,261$)

Articles assessed for eligibility based on title and abstract ($n=155$)

$\downarrow$

Records excluded based on detailed examination for full text ($n=135$)

Relevant Studies ($n=20$)

$\downarrow$

Additional studies included based on hand-searching of reference lists ($n=0$)

Total relevant Studies ($n=20$) (1 Gambling)

Kim, Hodgins, McGrath, & von Ranson, in prep
Mixed-Method Study

- Who substitutes? Why? Difference in recovery processes?
- Media recruitment
- Addiction timeline
- 3 groups; control, substitution, concurrent recovery
- **Qualitative domains:** reasons for resolution, actions taken, reasons for substitution/concurrent recovery
- **Quantitative domains:** e.g., impulsivity, emotion dysregulation, childhood adversity

Kim & Hodgins, in prep
Results

• N = 55 (9 substitution; 4 concurrent; 42 control)
• Age ($M = 36.8$, $SD = 10.3$), 23 males, 32 female
• First started gambling ($M = 25.6$, $SD = 8.9$), onset ($M = 30.6$, $SD = 8.6$)
• DSM-5 symptoms: 8
Substitution Results

The average number of substituted addictions (greatly) = 2.8

Kim & Hodgins, in prep
## Substitution Results

<table>
<thead>
<tr>
<th>Reasons for overcoming gambling</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial difficulties</td>
<td>80%</td>
</tr>
<tr>
<td>Harms</td>
<td>80%</td>
</tr>
<tr>
<td>Negative affect</td>
<td>60%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actions taken to overcome gambling</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoiding triggers</td>
<td>60%</td>
</tr>
<tr>
<td>Inner strength</td>
<td>40%</td>
</tr>
<tr>
<td>Professional help</td>
<td>40%</td>
</tr>
<tr>
<td>Self help</td>
<td>60%</td>
</tr>
</tbody>
</table>
## Substitution Results

<table>
<thead>
<tr>
<th>Mental state at time of substitution</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative affect</td>
<td>60%</td>
</tr>
<tr>
<td>Improved affect</td>
<td>20%</td>
</tr>
<tr>
<td>Using substitution to cope</td>
<td>20%</td>
</tr>
<tr>
<td>Normal</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How mental state influenced substitution</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatly affected</td>
<td>40%</td>
</tr>
<tr>
<td>It influenced</td>
<td>20%</td>
</tr>
<tr>
<td>Negative feelings perpetuated behavior</td>
<td>20%</td>
</tr>
<tr>
<td>Used to increase mood</td>
<td>20%</td>
</tr>
</tbody>
</table>

“I would just tell myself... “I’m just in a bad mood, I’m just gonna work” but I had... I only noticed it later though as “oh this is how I cope, oh shoot I’m tryna steal my time”

Kim & Hodgins, in prep
Substitution Results

<table>
<thead>
<tr>
<th>Reasons for substitution</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Distract from gambling</td>
<td>80%</td>
</tr>
<tr>
<td>Emotional</td>
<td>20%</td>
</tr>
<tr>
<td>Financial</td>
<td>20%</td>
</tr>
<tr>
<td>Source of social support</td>
<td>20%</td>
</tr>
</tbody>
</table>

“...The main thing was to keep myself distracted from thinking about gambling, that was the main [thing]...I just wanted to focus on other things, rather than that so, I was trying to keep my mind off gambling as much as I could and, you know, browsing the internet really helped me in that way I guess.”

Kim & Hodgins, in prep
## Substitution Results

**Details on Substitution**

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substitution was conscious</td>
<td>80%</td>
</tr>
<tr>
<td>Substitution caused problems socially, psychologically or physically</td>
<td>40%</td>
</tr>
<tr>
<td>Always knew there was a connection</td>
<td>60%</td>
</tr>
<tr>
<td>Didn’t see a connection before, but see one now</td>
<td>20%</td>
</tr>
</tbody>
</table>

Kim & Hodgins, in prep
Results (Impulsivity)

Kim & Hodgins, in prep
Results (Continued)

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Implications

- Symptoms
  - Underlying Issue
Implications

**Intervention possibilities**

- Motivational enhancement
- Mindfulness & acceptance-based approaches; distress tolerance
- Delay discounting, goal management, & problem solving training
- Cognitive and behavioural expectancy challenge interventions; coping skills training
- Community reinforcement approach & assertiveness
- Cue exposure, contingency management, & response prevention

**Addiction expression**

- Goal-setting
- Urgency
- Deficits in Self-Regulation
- Maladaptive expectations and motives
- Interpersonal difficulties
- Compulsivity
- Component

Kim & Hodgins, 2018
Thank You! Any Questions?