Internet-based CBT intervention for gamblers in Finland

Socio-demographic characteristics of the participants and experiences from the field

THL

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Peli Poikki - Program

- Based on the Spelinstitutet's program (Sweden).
- Started in the autumn 2007.
- Participation via Gamblers Helpline website (Peluuri).
- **Components of the 8-week program**
- Weekly online modules with assigned homework, 30 minutes of weekly telephone support (one hour phone calls: first and last calls), online discussion group.
- **Ingredients of the program:** psycho education, MI – enhancing participants motivation for change, cognitive part (gambling related erroneous thoughts and consequences) and relapse prevention.

Aims of the Studies I and II

- **Study I :**
- A) to describe the socio-demographic characteristics of the participants.
- B) to define the predictors of gambling related problems (NODS).
- **Study II:**
- A) to explore the impacts on the Peli Poikki – Program's efficacy in treating gamblers.
- B) to share practical experience from the field.

Measures of the studies

- Socio-demographics (age, onset age of gambling, gender, educational level, employment status).
- Gambling measure (NODS 2 months).
- Depression (MARDS-S).
- Alcohol consumption (AUDIT-C).
- Gambling related erroneous thoughts (14 questions).
- Gambling urge (1 question).
- Impaired control of gambling (1 question).
- Social consequences of gambling (14 questions).
- Type of games gambled (9 options).

Data collection and participants (N= 471)

- Data was collected between September 2007 and May 2011.
- Gender: 325 males and 146 females.
- Age: (M = 35, SD = 11.8).
- Onset age of gambling: (M = 23 years, SD = 12.2). Males 23 years, females 31 years.
- Males had gambled longer than females ($t = -9.344$, $df = 462$, $p<.001$).

Educational status

- **Education:**
- 41.6% high school diploma.
- 15.5% bachelor’s degree.
- 14.4% middle school degree.
- 12.1% vocational college degree.
- 11.9% master’s or higher level university degree.
- 3.1% elementary school diploma.

Employment status

- **Employment:**
- 64.9% employed.
- 9.8% unemployed.
- 8.6% students.
- 1.9% retired, sick-leave, parental leave or other.

Gambling measure (baseline)

Total sample

- 6.7%: no gambling problems.
- 10.0%: at-risk level of gambling problems.
- 14.8%: problem gambling.
- 64.0%: pathological gambling.

Gender differences in gambling measure

	NODS - score	N	%
NODS (males)	0	29	9.3
	1-2	31	10
	3-4	43	13.8
	5-10	208	66.9
Sum		311	
NODS (females)	0	2	1.4
	1-2	17	12.0
	3-4	26	18.3
	5-10	97	68.3
Sum		142	

Gender differences in depression and alcohol consumption

Gender	MARDS-S	AUDIT-C
Males	M = 14.7	M = 8.92*
	SD = 8.81	SD = 2.09
Females	M=16.6*	M=7.39
	SD = 8.71	SD = 8.71

MARDS-S: ANOVA F(1,434)05.08, p<0.025

AUDIT-C: ANOVA F(1.406)=44.34, p<0.001.

Gender differences in gambling related erroneous thoughts, gambling urge and impaired control in gambling

Gender	Gambling related erroneous thoughts	Gambling urge	Impaired control in gambling
Males	M = 5.21*	M = 8.86	M = 2.28
	SD = 2.87	SD = 1.29	SD = 1.02
Females	M = 4.61	M = 8.86	M = 2.45
	SD = 2.56	SD = 1.27	SD = 1.12

Gambling related erroneous thoughts. ANOVA $F(1, 417)=3.45$, $p<0.064$.

Type of gambling

Type of gambling	%	Gender difference
Slot machine	57	Males
Betting and Lotto (Veikkaus)	34.3	Males
Internet gambling	30.1	
Internet poker (RAY)	19.7	Males
Miscellaneous games	14.4	
Casino	11.3	
Internet poker (PAF) and foreign internet poker sites	5.6	
Horse track (Fintoto)	4.2	

Note: one person can gamble several type of games.

Predictors of gambling related problems

Variable	Model1 β	Model 2 β	Model 3 β
Constant Gender	7.765 0.066	3.821 0.014	-1.498 -0.009
Time of gambling in years	0.012	-0.03	0.002
Gambl .related erron. thoughts	0.097*	0.053	-0.002
Social conseq.	-0.241**	-0.077	-0.005
MARDS-S		0.416**	0.312**
AUDIT-C		0.037	0.028
Urge			0.184**
Impaired control			0.254**
R^2	0.082	0.216	0.319
F	9.117**	16.944**	21.274**

*p<.05.**p<.001.

Summary of the Study I

- Males start gambling earlier compared to females.
- Slot machines most gambled type of game.
- Males consumed alcohol more than females and females scored higher in depression measure.
- Males appeared to have more gambling related erroneous thoughts compared to females.
- Males gambled significantly more slot machines, sports betting and gambled in the internet gambling sites compared to females.
- Best predictors of gambling related problems (NODS) were depression, gambling urge and impaired control of gambling. These factors explained 3.1% of gambling related problems.

Study II: Intervention and follow up

- **Aims:**
- to explore the impacts of the Peli Poikki- Program, using the same measures as in study I (baseline, post-treatment, 6-month and 12-month follow up.
- to share practical experience from the field.

- **Retention rates:**
- 8-week program: 48% (224 participants).
- 6-month follow up: 16.2%.
- 12-month follow up 8.8.%.

Odds ratios and confidence intervals for NODS, gambling urge and impaired control in gambling

Logistic regression table

Variable	NODS		Gambling urge		Impaired control in gambling	
	OR	95% CI	OR	95% CI	OR	95% CI
Baseline – Post Treatment	0.041***	0.024-0.067	0.036***	0.018-0.069	0.088***	0.049-0.157
Post treatment – 6 months	0.69	0.22-2.15	0.53*	0.31-090	0.96	0.30-3.08
Female	1.09	0.70-1.68	1.13	0.65-1.70	1.31	0.87-1.99
Onset age	1.00	0.98-1.01	0.99	0.97-1.01	1.00	0.98-1.01

*p<0.5, **p<.01, ***p<.001. Generalized Estimating Equations (GEE) were used to estimate the regression parameters.

Estimates (B) and standard deviations (SD) for AUDIT-C, social consequences, gambling related erroneous thoughts and MARDS-S

Linear regression table

Variables	AUDIT-C		Social conseg.		Gamb. related erroneous thoughts		MARDS-S	
	B	SD	B	SD	B	SD	B	SD
Baseline – Post Treatment	-0.66***	0.13	-0.25***	0.05	-1.96***	0.19	-7.8***	0.53
Post treatment – 6 months	-0.33	0.32	-0.63***	0.11	0.48	0.3	-0.34	1.09
Female	-1.32***	0.25	0.07	0.07	0.06	0.25	0.95	0.80
Onset age	-0.032***	0.009	-0.002	0.002	-0.038***	0.01	-0.013	0.03

*p<0.5, **p<.01, ***p<.001. Generalized Estimating Equations (GEE) were used to estimate the regression parameters.

Summary of Study II

- **Baseline – Post treatment**
- ***Decline in:***
- Gambling related problems (NODS), gambling urge and gambling related erroneous thoughts.
- ***Improvements in:***
- Control of gambling.
- Alcohol consumption (AUDIT- C), depression (MARDS-S) and social consequences.
- **6-month follow up**
- Gambling urge and social consequences remained unchanged.
- **Specific association**: onset age with alcohol consumption and gambling related erroneous thoughts.

Limitations and future research

- **Quantitative data**
- Low retention rate, especially 6-month and 12-month follow up phases. – Insufficient recording of the questionnaires online and technical problems with the program.
- **Qualitative data**
- Interviews with the therapists
- 6-month follow up by phone call (retention rate 20%)
- Positive feedback from the participants
- **Limitations**
- Comparison group
- **Future research**
- To whom exactly internet-based interventions are suited for.

Thank You

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