

CHALLENGES & INTERVENTIONS IN THE ERA OF INNOVATION & TECHNOLOGY

INTRODUCTION:

This territory-wide community-based pilot project has integrated Positive Psychology into the addiction recovery model adopted by aftercare services. With the application of exercise-based intervention, the project aims at enhancing drug abusers' motivation for quitting drugs and preventing relapse by arousing their awareness on health and improving their physical health.

This project provides a series of physical training, therapeutic groups, family activities, mentor supports and volunteering opportunities for drug abusers aged 40 or below.

This project consists of *three stages*.

Stage One is Assessment and Motivation Enhancement Stage, that drug abusers are engaged in motivational interviewing sessions and fitness tests for enhancing their motivation for quitting drugs.

Stage Two is Exercise-based Intervention Stage which provides comprehensive physical test, physical and fitness training, family activities, individual counselling and relapse prevention groups, in the hope of establishing a healthy living pattern and moving them to quit drugs.

Stage Three, the final stage, is Consolidation Stage with the purpose to encourage drug abusers to utilize their skills and knowledge in voluntary work.

CONTACT



CROSS FITNESS

A COMMUNITY-BASED REHABILITATION PROJECT

AN EXERCISE-BASED INTERVENTION FOR RELAPSE PREVENTION

ASSESSMENT AND
MOTIVATION ENHANCEMENT

1

EXERCISE-BASED
INTERVENTION

2

CONSOLIDATION

3



OBJECTIVE:

To study the effectiveness of the project in improving drug abusers' motivation for quitting drugs and preventing relapse.

METHODOLOGY:

143 drug abusers were recruited through outreaches and snowballing. 81 of them completed pre- and post-test questionnaires. Data were analysed by counting and comparing between pre- and post-test scores.

SIGNIFICANT FINDINGS:

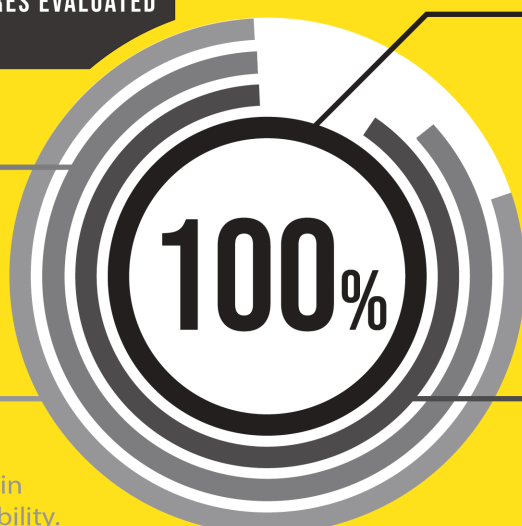
81 VALID QUESTIONNAIRES EVALUATED
(DRUG ABUSERS)

86%

86% of drug abusers reported a higher level of physical activities.

82%

82% of drug abusers showed improvement in their positive coping ability.



100%

100% of drug abusers who have completed the Exercise-based Intervention Stage were able to abstain from drugs (51 persons) or demonstrate a reduction in frequency of drug abuse (30 persons).

90%

90% of drug abusers showed improvement in their self-efficacy to avoid drug use.

X
54



X
27

AGES :

20 OR BELOW: 6 PERSONS

21-34: 58 PERSONS

35 OR ABOVE: 17 PERSONS

CONCLUSION:

The results showed that an exercised-based intervention could effectively arouse drug abusers' awareness on health and improve their physical health, which increased their motivation for quitting drugs and preventing relapse.



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CHALLENGES & INTERVENTIONS IN THE ERA OF INNOVATION & TECHNOLOGY

Internet and Illegal Gambling Among Adolescent Students in Hong Kong

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Abstract

Internet gambling and illegal betting among adolescent students are serious social and public health problems but little research on these areas has been conducted in Hong Kong. Using a survey questionnaire, this study aimed to investigate Internet and illegal gambling behavior among 510 college and 518 secondary school students. Results indicate that more online than offline gamblers met the DSM-4 criteria for pathological gambling, and more illegal than legal gamblers could be classified as pathological gamblers. The gambling motives and psychosocial characteristics of illegal gamblers were also identified. The study findings inform preventive and intervention programs.

Introduction

With the increasing affordability of modern technological devices, remote gambling has become a popular youth activity. Research evidence indicates that 2-15% of adolescent students gambled online in the past year, and a considerable proportion also engaged in illegal gambling (0.3-4% in local studies). Online gambling refers to any forms of gambling conducted on the Internet including placing wagers and betting on gambling products (Blaszczynski, Russell, Gainsbury and Hing, 2016). Illegal gambling means participating in gambling activities which are not authorized by the Hong Kong government. Research on adolescent Internet and illegal gambling has been scarce in Hong Kong. This study helps filling a research gap.

Research Objectives

The study aimed to examine Internet and illegal gambling behavior among college and secondary school students in Hong Kong. The study also aimed at detecting the gambling motives and characteristics of the illegal gamblers.

Methods

A self-administered survey questionnaire was filled by 1028 Hong Kong students recruited from nine secondary schools (50.4%), six colleges and six universities (49.6%). The secondary school students were selected by random sampling, whereas the tertiary students were selected by convenience sampling. The questionnaire included questions on demographics, Internet and illegal gambling behavior, social influences, perceived stress, life satisfaction and help seeking intention. The Lie/Bet Questionnaire (Johnson et al., 1997) was used to assess pathological gambling.

Subjects

There were 581 male (56.5%) and 447 female (43.5%) participants. The mean age of the tertiary students is 23 years, while 97% of the secondary school students aged below 18. The mean monthly incomes of the tertiary students and the secondary school students are HK\$6265.10 and HK\$1286.40 respectively.

Results

Internet and illegal gambling among college students

Almost one-fifth (18.4%) of the college students placed bets online at the Hong Kong Jockey Club in the past year. More than one-tenth (11.3%) also wagered online at offshore gambling sites. Betting at offshore gambling sites is a criminal offence in Hong Kong. More men (62.5%) than women (37.5%) gambled online in the past year. Using the DSM-4 criteria, more online gamblers (36.4%) than offline gamblers (10.3%) could be categorized as lifetime pathological gamblers. Among the lifetime pathological gamblers (n=75), 93.3% wagered at the illegal gambling providers, only 6.7% staked at the legal gambling operator. Men dominated in illegal gambling (75.7%). Football betting was the most favorite game preferred by the online and illegal gamblers (85%)

Internet and illegal gambling among secondary school students

Only 3.7% of high school students reported staking online at the Hong Kong Jockey Club in the past year. Almost one-tenth (9.0%) also bet at offshore gambling sites. Slightly more girls (51.3%) than boys (48.7%) gambled online in the previous year. More online gamblers (30.3%) than offline bettors (1.4%) were lifetime pathological gamblers. Among the secondary school lifetime pathological gamblers (n=50), 50% staked at the local legal gambling provider, while 50% wagered at offshore gambling sites. Boys dominated in illegal gambling (68.0%). Football betting (70%) was the most preferred gambling activity among the online and illegal gamblers. provider (HK\$150.65). More illegal gamblers (76.9%) than legal bettors (23.1%) reported problem gambling among their peers and family members (illegals: 69.5%; legals: 30.5%).

Characteristics of illegal gamblers

The two student samples (n = 1028) have been combined to explore the characteristics of the illegal gamblers. An overwhelming majority of the illegal gamblers were male students (83.2%). The illegal gamblers wagered twelve times more money monthly (mean = HK\$1,919.56) than the legal gamblers who only bet at the local authorized gambling. The illegal gamblers experienced a slightly higher level of perceived stress (mean stress score = 2.2) but lower life satisfaction (mean life satisfaction score = 27) than the legal gamblers (mean stress score = 2.1; mean life satisfaction score = 30). However, more illegal gamblers (58.3%) than legal bettors (41.6%) were willing to seek professional help to cope with problems.

Gambling motives and perceived harms

The male Internet gamblers wanted to win money (80%), while the female Internet gamblers wanted to socialize with friends (75%). Students were attracted to play at offshore gambling sites by offers of free play (77.8%), convenience (77.8%), 24-hour accessibility (33.3%), and the flexibility to play many games simultaneously (55.6%). The illegal gamblers who placed bets at the local unauthorized gambling operators were enticed by credit gambling (83.3%), acceptance of low wagers (83.3%), and the vigorous marketing strategies (66.6%). Some of the illegal gamblers were aware of the potential risks and harms associated with the activities such as the illegal gambling operators might refuse to pay the winners (27.2%), legal problems (18.2%), poor academic performance (36.4%), debts (18.2%) and sleeping problems (45.5%).

Discussion and Conclusion

The study confirms the popularity of Internet and illegal gambling among young students in Hong Kong. These gambling activities are more dangerous as an elevated risk for problem gambling has been found in many studies (e.g. Gainsbury, Russell, Blaszczynski and Hing, 2015; Wong and So, 2014) including this survey. Responsible gambling measures do not exist in the illegal betting markets. However, responsible gambling policy and strategies should be vigorously adopted by the Internet gambling operators. We question the effectiveness of these strategies in addressing underage gambling and problem gambling.

Consistent with local and international data, Hong Kong underage students and young adults staked at illegal outlets without difficulty. Awareness of the potential risks and harms associated with these gambling activities has been very low, it is necessary to evaluate the effectiveness of existing awareness programs. To our knowledge, school-based and public education programs rarely focus on illegal and Internet gambling, and barriers to professional help seeking have seldom been explored. We suggest that preventive programs on illegal gambling should be developed and implemented in all secondary schools and tertiary institutions. Public education also plays an important role in combating illegal gambling.

The study identified the gambling motives and characteristics of student illegal gamblers. Campus secondary prevention may target potentially at-risk students who have such demographic and psychosocial characteristics. Future research could further increase our understanding of the psychology and characteristics of these young illegal gamblers so that more effective intervention strategies could be worked out. Gender-specific intervention and preventive strategies should also be developed to address sex differences in gambling involvement and gambling motives.

To conclude, this study expands our understanding of online and illegal gambling problems among young students in Hong Kong. More research is needed as our knowledge about these important social and public health problems is hardly adequate for designing effective policy and efficacious intervention strategies.

CHALLENGES & INTERVENTIONS IN THE ERA OF INNOVATION & TECHNOLOGY

CHILDHOOD RISKS AND SMARTPHONE ADDICTION: A LIFE HISTORY APPROACH

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OBJECTIVES

- ❖ The number of smartphone users has been raising and people aged 15 to 19 owned the most smartphone applications in the user population in China;
- ❖ Smartphone addiction is highly prevalent among adolescents;
- ❖ There is a lack of theory-based empirical research;
- ❖ Based on the life history theory, smartphone addiction may be a manifestation of fast life history strategies, which are promoted by adverse environmental cues, especially higher level of childhood risks;
- ❖ This study aims to investigate the mediating effect of life history strategies on the relationship between childhood risks and smartphone addiction among high school students.

METHODS

- ❖ **Participants and Procedure-**
 - 466 Chinese high school students (M = 17 years; 62% female);
 - An anonymous paper-and-pencil questionnaire.
- ❖ **Measures-**
 - Smartphone addiction was measured by Smartphone Addiction Inventory (SPAI);
 - Life history strategies were assessed by K-SF-42;
 - Childhood harshness was measured by subjective childhood socioeconomics status (CSES);
 - Childhood unpredictability was assessed by and unstable experiences during childhood;
 - Demographic information: gender and age.
- ❖ **Data analysis-**
 - Descriptive statistics and Pearson correlations was conducted by SPSS 24;
 - Mediation analyses was tested using path analysis by AMOS 24.
- ❖ The ethics approval of this study was obtained from the research ethics committee of the Department of Psychology at the University of Macau.

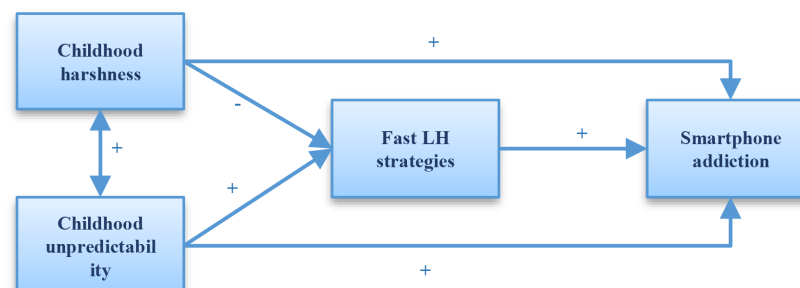


Figure 1 the hypothesized model

RESULTS

- ❖ Results showed that CSES and childhood unpredictability had a significant and positive correlation smartphone addiction ($r = .14$ and $.17$, $p < .01$).
- ❖ Fast life history strategy had a significant and positive association with smartphone addiction ($r = .18$, $p < .001$).
- ❖ The results of showed significant direct effects of CSES and childhood unpredictability on smartphone addiction;
- ❖ The mediation effect of fast life history strategies was also significant.

CONCLUSIONS

- ❖ The present study is first empirical to conduct life history perspective to understand smartphone addiction development.
- ❖ Individuals who went through more unstable childhood environments tend to be addicted to smartphone.
- ❖ The positive association between fast life history strategy and smartphone addiction indicated that such addictive behaviors could exist adaptive meanings for those living in unpredictable environment in the evolutionary perspective.

ACKNOWLEDGEMENT AND CONTACTS

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If you have any question for this study, please contact with the corresponding author: Prof. Anise WU (anisewu@um.edu.mo)

CHALLENGES & INTERVENTIONS
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Associations of gaming behaviors with internet gaming disorder in university students in Hong Kong: a cross-sectional study

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Background & objective

- Internet gaming disorder (IGD) has been recognized as a medical disease in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) ¹ and International Classification of Diseases 11th Revision (ICD-11) ².
- We examined the associations of different gaming behaviors with IGD severity in young adults in Hong Kong.

Methods

Study design and participants

- We used baseline data of a 6-month prospective cohort study aiming to examine associations of gaming and psychosocial characteristics of IGD.
- Inclusion criteria: (1) Current Chinese student in a local university (2) Age 18+ years (3) Own a smartphone with a mobile phone data plan (4) Play a smartphone game at least once a week (5) Able to read and communicate in Chinese.
- 309 eligible participants completed the baseline online survey in Sep 2019 (completion rate 70.9%).

Measurements

•9-item Internet Gaming Disorder Scale–Short-Form (IGDS9-SF) ³

- Based on the 9 proposed criteria of IGD stipulated in the DSM-5
- Response on each item ranges from 1 (Never) to 5 (Very often)
- Greater total scores (range 9–45) indicate higher severity of IGD
- Cronbach's alpha 0.85

•Gaming behavior

- The number of game genres usually played (1, 2, ≥3)
- Weekly gaming hours
- Time to first gaming of the day (<30 mins, 30–60 mins, ≥60 mins)
- Past-month expenditure on gaming (none, <HK\$100, ≥HK\$100)
- Sociodemographic factors: sex, age, and monthly household income

Statistical analysis

- Multivariable linear regression analyses were used to examine the associations adjusting for sociodemographic factors (Model 1) and with mutual adjustments of gaming behaviors (Model 2).

Results

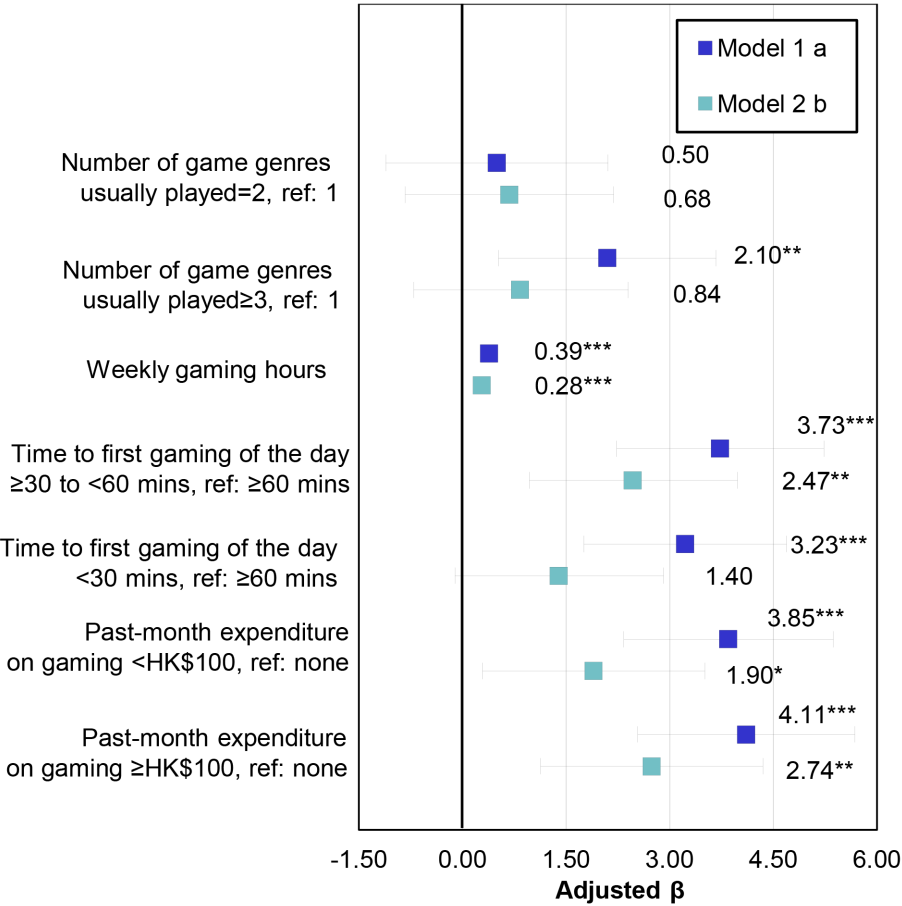
Figure 1. Associations of gaming behaviors with IGDS9-SF scores

- Participants had a mean IGDS9-SF score of 19.5 (SD 5.6).
- Higher IGD severity was associated with:
 - More weekly gaming hours (adjusted $\beta=0.28$, 95% CI 0.16, 0.39)
 - Shorter time to first gaming of the day (p for trend=0.027)
 - Higher past-month expenditure on gaming (p for trend<0.001)

Table 1. Sociodemographic characteristics and gaming behaviors of the mobile game users (N=309)

		N (%)	Mean IGDS9-SF score (SD)
Sex	Female	168 (55.6)	19.3 (5.8)
	Male	134 (44.4)	19.9 (5.3)
Age (yrs), median (IQR)		22 (20–24)	-
Monthly household income(HK\$) ^a	<25000	96 (31.7)	20.2 (5.9)
	≥25000 to <40000	114 (37.6)	20.2 (5.3)
	≥40000	93 (30.7)	17.9 (5.2)
Number of game genres 1 usually played ^b			
		92 (30.9)	18.8 (5.7)
		99 (33.2)	19.3 (5.5)
		107 (35.9)	20.6 (5.5)
Weekly gaming hours, mean (SD)		8.5 (5.6)	-
Time to first gaming of the day (mins)	≥60	167 (54.2)	17.9 (5.0)
	≥30 to <60	68 (22.1)	22.1 (5.7)
	<30	73 (23.7)	21.9 (5.5)
Past-month expenditure on gaming (HK\$) ^a	None	190 (61.5)	17.9 (5.0)
	<100	61 (19.7)	22.1 (5.7)
	≥100	58 (18.8)	21.9 (5.5)

IGDS9-SF, the 9-item Internet Gaming Disorder Scale–Short-Form, range 9–45, greater scores indicate higher severity; SD, standard deviation; IQR, interquartile range.
^aUS\$1=HK\$7.8.
^bGame genres included action, adventure, role play, simulation, strategy, and sports.



*p<0.05, **p<0.01, ***p<0.001.
^aAdjusted for sociodemographic factors.
^bAdditionally adjusted for other variables in the figure.
Error bar indicates the 95% CI.

Discussion and conclusions

- Limitations: uncertain causal relations<-cross-sectional data; recall and social desirability bias<-self-reported data; uncertain representativeness<-convenience sample.
- More weekly gaming hours, shorter time to first gaming of the day, and higher expenditure on gaming were associated with IGD severity in university students in Hong Kong.
- Our findings can help identify at-risk gaming users for targeted prevention and intervention studies.

Funding: Seed Fund for Basic Research, University of Hong Kong

Conflict of interest: None.

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Nurse-led alcohol brief intervention plus mobile personalized chat-based support on reducing alcohol use in university students: a pilot feasibility trial

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Background

- The prevalence of binge drinking in young adults doubled in a decade in Hong Kong
- Alcohol brief intervention (ABI) is effective to reduce drinking but short-lasting
- Mobile technologies can deliver real-time personalized advices on drinking reduction and abstinence for an extended period
- We conducted a pilot trial on the feasibility of mobile phone chat-based support to reduce alcohol use in university students

Methods

Participants: students from a local university, Alcohol Use Disorder Identification Test (AUDIT) score ≥ 5, were randomly assigned to:

- Intervention group: Receive chat-based support through WhatsApp for 2 weeks + face-to-face ABI at baseline (n=11)
- Control group: face-to-face ABI alone (n=11)

Primary outcome: AUDIT scores at 2 weeks after baseline

Secondary outcomes: Intention to quit, self-efficacy of quitting and perceived effectiveness of the chat-based intervention

Intention-to-treat was used for analysis (ClinicalTrials.gov: NCT03675373)

Results

- The sex (female 64%), mean age (20.2 ± 2.0 years), and drinking characteristics at baseline were similar between two groups

At 2-week follow up, intervention group:

- Had a lower AUDIT score (3.0 vs 3.4, P=0.79)
- More participants with intention to quit (82% vs 64%, P=0.64)
- Higher perceived importance (score 0-10: 6.7 vs 3.8, P=0.03), and confidence in quitting (7.6 vs 6.6, P=0.45) than the control group
- Reported the intervention helped increase knowledge on drinking consequences (8.2 ± 2.1), motivation to quit (7.3 ± 2.5), and alcohol reduction (6.6 ± 3.1)

Table 1. Participants’ socio-demographic characteristics and drinking characteristics at baseline

	Control (n=11) mean (SD)/ n(%)	Intervention (n=11) mean (SD)/ n(%)
Age, years	20.9 (2.3)	19.6 (1.5)
Sex		
Male	2 (18%)	6 (55%)
Female	9 (82%)	5 (45%)
Residence		
Dormitory	1 (9%)	3 (27%)
Own apartment	8 (73%)	7 (64%)
Refused to answer	2 (18%)	1 (9%)
No. of drinking days/month		
Monthly or less	1 (9%)	1 (9%)
2-4 times per month	8 (73%)	6 (55%)
2-3 times per week	2 (18%)	2 (18%)
4 + times per week	0 (0%)	2 (18%)
No. of drinks per drinking day		
1-2	3 (27%)	4 (37%)
3-4	2 (18%)	4 (37%)
5-6	5 (45%)	1 (8%)
7-9	1 (9%)	2 (18%)
10+	0 (0%)	0 (0%)
Intention to reduce drinking		
Yes	6 (55%)	1 (9%)
No	4 (36%)	10 (91%)
Missing	1 (9%)	0
AUDIT score ^b .	9.9 (3.8)	7.6 (2.6)

a. P-values from Fisher’s exact test and Mann-Whitney U test.
b. AUDIT stands for Alcohol Use Disorder Identification test. A score of 1 to 7 indicates low-risk consumption, 8 to 14 indicates high-risk consumption, 15-19 indicates harmful consumption, and ≥ 20 indicates alcohol dependence.

Table 2. Participants’ AUDIT score, intention to quit, self-efficacy of quitting, and perceived effectiveness of chat-based intervention at 2-week follow-up

	Control (n=11) mean (SD)/ n(%)	Intervention (n=11) mean (SD)/ n(%)	P-value ^a .
AUDIT score ^b .	3.4 (2.8)	3.0 (1.7)	0.79
Intention to quit			0.64
No	4 (36%)	2 (18%)	
Yes	7 (64%)	9 (82%)	
Quitting self-efficacy (0-10 likert scale)			
Perceived importance of quitting	3.8 (3.1)	6.7 (3.0)	0.03
Perceived confidence of quitting	6.6 (2.6)	7.6 (2.2)	0.45
Perceived effectiveness of intervention (0-10 likert scale)			
Drinking reduction		6.6 (3.1)	
Increase quitting motivation		7.3 (2.5)	
Increase knowledge on drinking consequences		8.2 (2.1)	

a. P-values from Fisher’s exact test and Mann-Whitney U test.
b. AUDIT stands for Alcohol Use Disorder Identification test. A score of 1 to 7 indicates low-risk consumption, 8 to 14 indicates high-risk consumption, 15-19 indicates harmful consumption, and ≥ 20 indicates alcohol dependence.

Discussion and conclusions

We provided initial evidence on the feasibility, acceptability, and efficacy of chat-based support for reducing alcohol use in university students

Funding: None.
Conflict of interest: None.
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Introduction

- Therapeutic alliance (TA) refers to the quality of the cooperative and working relationship between a therapist and client. Clinicians and researchers have long thought that the TA is an instrumental aspect of psychotherapy (Martin, et al., 2000; Del Re et al., 2012).
- Given the considerable overlap between behavioral and chemical expressions of addiction, and previous research focusing on TA and chemical addictions, it is important to consider how TA impacts treatment for behavioral expressions of addiction.
- The study aims to evaluate the impact of therapeutic alliance on addiction treatment outcomes at a treatment center designed to treat a variety of addiction expressions and other mental health disorders. We hypothesized that favorable TA between the client and clinician would be associated with decreased addiction severity during the course of treatment.

Methods

- The study involves data collected from treatment seekers at three clinical addiction service locations, The Integrated Centre on Addiction Prevention and Treatment (ICAPT), Even Centre (EC) and the Alcohol Abuse Prevention and Treatment (AAPT) of Tung Wah Group of Hospitals, between 22 October 2015 and 31 Dec 2019.
- There are four inclusion criteria of the research participants: (1) age between 18 and 65 years, (2) sufficient literacy and expressive capacity to participate in the study, (3) fluency in Cantonese Chinese, and (4) ability to understand the nature of the study and provide written informed consent. We excluded treatment seekers who presented with immediate suicidal risk or actively psychotic symptoms.
- Data are collected at baseline (i.e., intake), at each of the first three sessions, and then at every third session after that starting with the sixth.

Measures

Demographic and Clinical Information

Clinicians collected demographic and clinical information on treatment seeker's presenting problems and psychosocial background using a standardized semi-structured interview format.

Therapeutic Alliance

"The Scale to Assess Therapeutic Relationships in Community Mental Health Care" (STAR) has two parts, with twelve items each, for the clinician (STAR-P) and the client (STAR-C). STAR-P consists of subscales for Positive Collaboration, Clinician Input and Non-Supportive Clinician Input, while STAR-C consists of subscales for Positive Collaboration, Clinician Input and Emotional Difficulties.

Addiction Severity

"Addiction Characteristics Rating Scale" (ACRS) includes four items (1) craving for the addictive behavior, (2) feeling of loss of control over the addictive behavior, (3) continued engagement in the addictive behavior despite negative consequences, and (4) sense of subjective desirable shift when engaging the addictive behavior.

Choice of time point

We use two time points for the analyses. The first time point is at baseline. The second time point is the latest measurement before the client's date of treatment termination.

Results

- Participants: 346 treatment seekers (72.1% of eligible treatment seekers). Of these, six in the chemical group and ninety-one in the behavioral group had STAR-C, STAR-P, and ACRS scores at the two time points (completion rate: 97/346 = 28.0%).
- Welch t-tests was used for analysis. Among all scores in the STAR-P, STAR-C and ACRS at two time points, only the Emotional Difficulties sub-score on the STAR-C showed a statistically significant difference between chemical group and behavioral group ($p < 0.001$). No significant difference have been found for all other measures between two groups.
- In the regression analyses using the therapeutic alliance scores at baseline, the ACRS sub-score at baseline was a significant predictor for the corresponding ACRS sub-score near the end of treatment. In addition, higher baseline scores on the Positive Collaboration sub-score of the STAR-P was associated with a decrease in the Continued Engagement sub-score of ACRS

ACRS Score	Measure	Coeff.	SE	t-value	p-value
Craving	ACRS Score at Baseline	0.38	0.11	3.35	0.001 *
Loss of Control	ACRS Score at Baseline	0.36	0.10	3.66	0.000 *
Cont. Engagement	ACRS Score at Baseline	0.42	0.08	5.20	0.000 *
Cont. Engagement	STAR-P (Pos. Collaboration)	-0.29	0.09	-3.08	0.003 *
Desirable Shift	ACRS Score at Baseline	0.33	0.10	3.16	0.002 *

Discussion

- This study contributes important and novel findings by including a diverse group of addiction treatment-seekers and by comparing the impacts of TA for treatment seekers with behavioral expressions of addiction and chemical expressions of addiction.
- The results partially supported the hypotheses. More favorable TA from the client's point of view at intake was indeed associated with reductions of the addictive behavior despite negative consequences at termination.
- The results of this study revealed that positive TA at the beginning of treatment, from the viewpoint of the client suffering with addiction, influenced the continued engagement with the object or expression of addiction. The clinician's opinion about the TA had no significant impact on the addiction severity at termination, suggesting that what the client thinks is happening early in treatment is what matters most.
- There were no significant differences between the behavioral and chemical expression addiction groups in the relationship between TA at intake and addiction severity at termination, which support the syndrome model of addiction, which posits that addiction is one disorder with multiple opportunistic expressions (Shaffer et al., 2004).
- The unexpected difference between the behavioral and chemical expression groups on the Emotional Difficulties sub-score. It might a result of small sample size of chemical addiction treatment seekers.
- Future research should continue to explore the impact of TA for clients with a tapestry of addiction-related problems to determine how it impacts both addiction-related and other mental health outcomes over time.

Disclosure of Conflict of Interest

The authors declare no COI about the presentation.

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CHALLENGES & INTERVENTIONS IN THE ERA OF INNOVATION & TECHNOLOGY

Metacognitive Correlates of Internet Gaming Disorder



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INTRODUCTION

- According to Wells and Matthews' self-regulatory executive function (S-REF) model, metacognition is a salient risk factor for the development and persistence of mental disturbance/disorders.
- There are 5 types of metacognitive beliefs regarding worry and intrusions: positive beliefs about worry (POS), negative beliefs about worry (NEG), need for control (NC), lack of cognitive confidence (CC), and cognitive self-consciousness (CSC).
- This study aims to examine the correlations between five types of metacognition and Internet gaming disorder (IGD).

METHODS

- • **Participants :** 680 Chinese university students voluntarily completed an anonymous online questionnaire.
- • **Measures:**
 - *Metacognition:* Zhang et al.'s (2020) Chinese version of the short form of Metacognitions Questionnaire of MCQ-30, with 4-point response scale, ranging from 1 = Do not agree to 4 = Agree too much (Cronbach's $\alpha = .75$ to $.82$);
 - *IGD tendency:* The nine diagnostic criteria proposed in the DSM-5, with Yes/No response scale (KR-20=.88).

MAJOR FINDINGS*

- All five metacognitive beliefs (i.e., POS, NEG, CC, NC, and CSC) were significantly and positively correlated with IGD symptoms ($r = .30, .24, .28, .33$, and $.16$ respectively).
- After controlling for age and gender, the metacognitive variables significantly explained the variances on IGD symptoms ($F = 15.53, p < .001$).

DISCUSSION AND CONCLUSION

- This study was the first to demonstrate a positive association between metacognitive beliefs and IGD
- Our findings corroborated the existing literature that some metacognitive beliefs or practices can be maladaptive and may increase one's susceptibility to behavioral addictions including IGD. Metacognitive therapy is a potentially effective treatment for IGD.

*FOOTNOTE

The detailed findings of the study and their interpretation will be published in

Zhang, M. X., Lei, L. S.M., Wells, A., Dang, L., & Wu, A. M. S. (2020). Validation of a Chinese Version of the Short Form of Metacognitions Questionnaire (MCQ-30). *Journal of Affective Disorders*, 277, 417-424.

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Disclosure of Conflict of Interest

- The authors declare no COI about the presentation.

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CHALLENGES & INTERVENTIONS IN THE ERA OF INNOVATION & TECHNOLOGY



Adult Maladaptive Internet Use, Depression, and Self-Efficacy in Hong Kong Scarlett Mattoli, Melanie Shaw, Scott Burrus (California Southern University)

A quantitative correlational online survey study of adult maladaptive Internet use, depression, and self-efficacy in Hong Kong.

The Problem

- The Internet is relied on for many aspects of daily life. Lines are blurred between what is "adaptive" use and what is "maladaptive" use.
- Research points to problem use being an issue for youth with adult norms largely absent.
- "Internet Addiction" is being "treated" worldwide without a singular definition, diagnosis, or remedy agreed professionally.
- Adults are important models for youth. The lack of an understanding of how adults have adapted or not to Internet use is of great significance to the models provided for youth and how they are being guided for their future.
- More critically, without a unified agreement on what is adaptive and maladaptive, for all ages and presentations, there is a danger that some are not being appropriately treated, others are not receiving treatment at all, and the development of prevention measure remains an exercise in reaction and less of a planned and proactive approach.

Method

Participants

Adults aged between 18 and 65, resident on Hong Kong, and comfortable reading in English.

Recruitment

Requests to participate were sent out to key community stakeholders with a request to participate and share the request with others (snowball sampling).

Instrumentation

Online survey of 59 questions created in HIPAA compliant JotForm, composed of;

Demographics: Age, Gender, Nationality, Resident
Specific Internet Usage: Device, Platform, Site, Time
Internet Addiction Test (IAT: Young, 1998)
Depression, Anxiety, & Stress Scale (DASS-21: Lovibond & Lovibond, 1995)
General Self-Efficacy Scale (GSES: Jerusalem & Schwarzer, 1995)

Dedicated Website erected to house Study details, Informed Consent Form, and portal to access the online survey. Paper copies were offered and a PDF download available for both Consent and Survey on the website.

Confidentiality All participants were completely anonymous to the researcher and anonymized from step one. Any data entered needed to be confirmed for the entire data set to be captured and sent to a dedicated electronic holding file. Survey portal available 1st to 21st March 2019, when closed, the full dataset was downloaded to a separate computer and dedicated flashdrive for analysis

Analysis Datasets were analyzed using IBM SPSS V.24 Pearson Correlation Coefficient in addition to descriptive statistics.

Top three choices for device, platform, and website

Top Results	1 st	2 nd	3 rd
Device	Mobile: 98%	Laptop: 75%	Tablet: 54%
Platform	Browser: 95%	App: 87%	Email: 84%
Website	Bank: 87%	Social Media: 70%	Education: 67%

Table 1. Top device, platform, and website type as reported by participants.

Top website type by age group

Age	Top Site Type
20's - 30's	Social Media
40's - 50's	Banking

Table 2. Top website by age group.

Objectives

Investigating Adult Maladaptive Internet Use (MIU) through the basis of Young's "Internet Addiction", Sussman's "Behavioral Addiction", Berridge & Robinson's "Incentive Sensitization", and Bandura's "Self-Efficacy".

RQ1: What is the relationship between maladaptive Internet use (MIU) and levels of depression (DAS), and to what extent, if any, does this relationship correlate with self-efficacy, age, and gender in a convenience sample of the English-speaking adult population between the ages of 18 and 65 and who are resident in Hong Kong.

MIU	DAS	SE
↑	↑	↓

Figure 2. The relationship between Maladaptive Internet Use (MIU), depression (DAS), and Self-Efficacy (SE).

Results

N=203 complete datasets were analyzed from just over 800 website visitors, over 300 consent form downloads, and 208 datasets collected, to answer the four research questions.

Descriptive Statistics for Age

Age Range	Mean	Median	Mode
22-65	44	46	47, 50

Table 3. Descriptive Statistics for Age.

Descriptive Statistics for Gender

Gender	Numbers	Percentage
Female	137	68%
Male	66	32%

Table 4. Descriptive Statistics for Gender.

RQ1 Findings

Strong and Positive correlation ($r(201)=.339, p=.001$) between IAT (MIU measure) and DASS21 depression elevated scores: elevated IAT scores are significantly and positively correlated with reported depression in adults.

Strong and Negative correlation ($r(201)=-.315, p=.000$) between elevated IAT (MIU) + DASS21 depression scores and low SE scores: elevated IAT (MIU) + DASS21 depression scores are significantly and negatively correlated with low SE in adults.

Strong and Negative correlation ($r(201)=-.203, p=.004$) between elevated IAT (MIU) + DASS21 depression scores and lower age: elevated IAT (MIU) + DASS21 depression scores are significantly and negatively correlated with age in adults

No correlation between elevated IAT (MIU) + DASS21 depression scores and gender.
Other significant findings included preferences by age, gender, and nationality.

Top sites by Gender

Gender	No.1 Site	No. 2 Site
Female	Banking (84%)	Social Media (75%)
Male	Banking (94%)	Film (68%)

Table 5. Top two sites by gender.

Top sites by Nationality

Nationality	No.1 Site	No.2 Site
British (49%)	Banking	Music
Chinese (40%)	Banking	Social Media
American (20%)	Banking	Shopping

Table 6. Top sites by Nationality.

Maladaptive Internet Use (MIU) Theory Comparison

Step	IAT	BA	IS
1	"Saliency"- Preoccupation	"Preoccupation" Thinking	"Liking"
2	"Anticipation" Thinking about being online when not	"Appetitive Engagement" Want & Behaviour	"Wanting"
3	"Lack Of Control" Trouble managing online time	"Loss Of Control" Temporary	"Incentive Saliency"
4	"Excessive Use" Hiding usage or Angry when offline	"Satiation" Doing	"Neural Sensitization"
5	"Neglect Work & Social Life" Performance, Mood, Connections drop	Negative Consequences" (ignored)	"Negative Consequences" (repeated)

Figure 1. The Maladaptive Internet Use (MIU) Component Theory Comparison

Maladaptive Internet Use (MIU) Scores from Internet Addiction Test (IAT) Scores

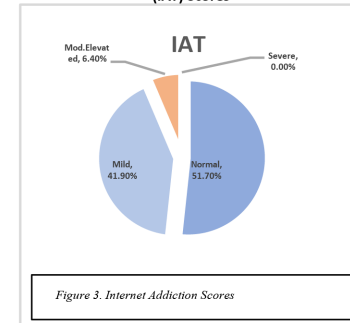


Figure 3. Internet Addiction Scores

Depression Scores (DAS) from Depression, Anxiety & Stress Scale (DASS) scores.

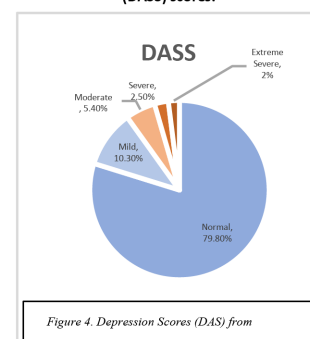


Figure 4. Depression Scores (DAS) from

Conclusions

For Practice

- Internet use is adaptive for all adults
- Depression a key factor, directionality unknown
- Measure of MIU should be assessed in Clinical Interview
- Age plays a role in adults, younger more vulnerable
- Gender less important as non-digital natives internet users age
- Type of site and time spent online less important factors than avoition for daily responsibilities and duties

For Research

- Adult MIU measures important, not only phenomenon of youth
- Expatriate populations in APAC region potentially more vulnerable and worthy of further study
- Directionality of MIU and Depression necessary avenue for research in adult populations
- Directionality of MIU, Depression, SE, and age should be further investigated

Acknowledgements

The utmost gratitude goes to Dr Melanie Shaw for her immensely patient and knowledgeable guidance through the research process. Equally humongous thanks go to Dr Scott Burrus and Dr Patrick McKiernan for their invaluable and incredibly timely feedback and guidance through the development and writing process of this research study. Thanks as always goes to my amazing family and friends for their never-ending support and care.

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The application of the Chinese Internet Gaming Disorder Checklist (C-IGDC) to identifying risk factors for gaming disorder

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Objectives: As the first *DSM-5* based, multidimensional screening tool designed specifically for Internet gaming disorder (IGD) in Chinese populations, the Chinese Internet Gaming Disorder Checklist (C-IGDC; Chen et al., 2020) has shown reasonable factor structure, acceptable reliabilities, and good criterion-related validity, but called for further exploration for its application. This study aimed to extend the application of this newly developed scale to differentiate gameplay characteristics, perception of gaming disorder, and sense of loneliness between gamers with and without disordered gaming tendencies.

Methods: A sample of 464 Chinese past-year gamers (47% men; *M*_{age} = 20 years) were recruited from the undergraduate student subject pool system at a public university in Macao, China in 2017/18. The inclusive criteria are Chinese, both sexes, and with past-year experience of Internet gaming.

Results: With the cutoff point of C-IGDC score ≥ 20, the between-group nonparametric statistics displayed significant differences between C-IGDC screened probable IGD and non-IGD past-year gamers in illness perceptions, gameplay characteristics, and sense of loneliness (see Table 1). Additionally, bivariate correlation showed a significant, positive association of the C-IGDC score with the sense of loneliness (*p* < .001).

Table 1. Comparisons between C-IGDC screened probable IGD and non-IGD gamers (*N* = 464)

	Between-group comparison	Sig. differences
1. Illness perception (binary: Yes/No)	Chi-square: <i>p</i> = 0.02	IGD < Non-IGD
2. Gameplay characteristics		
- Money expenditure (11-point)	Mann-Whitney <i>U</i> : <i>p</i> < .001	IGD > Non-IGD
- Amount of gaming peers (6-point)	Mann-Whitney <i>U</i> : <i>p</i> < .001	IGD > Non-IGD
- Receive “play less” warnings from significant others (5-point)	Mann-Whitney <i>U</i> : <i>p</i> < .001	IGD > Non-IGD
3. Sense of loneliness (5-point)	Mann-Whitney <i>U</i> : <i>p</i> < .001	IGD > Non-IGD

Discussion: Probable IGD gamers, screened by C-IGDC (≥ 20), were found not only to be less likely to consider IGD as a disorder, but also to spend more money on gaming, have more gaming peers, receive more “play less” warnings from significant others, and report a higher level of loneliness, compared to their non-IGD counterparts. Furthermore, more C-IGDC identified symptoms were corresponding to a higher level of sense of loneliness.

Conclusions: These findings further attested to the efficacy of C-IGDC in detecting risk factors in terms of gameplay variables and dissatisfactions of psychological need among Chinese gamers. Future interventive and preventive IGD studies are recommended to consider including the element of gameplay characteristics, gaming disorder perception, and sense of loneliness into tailored measures, and use C-IGDC to track the changes in symptoms of disordered gaming.

Acknowledgement: This research was funded by the University of Macau (MYRG2016-00162-FSS and MYRG2019-00014-FSS).

Key reference

Chen, J. H., Zhang, M. X., Ko, C.-H., Tong, K. K., Yu, S. M., Sou, E. K. L., & Wu, A. M. S. (2020). The Development of a Screening Tool for Chinese Disordered Gamers: The Chinese Internet Gaming Disorder Checklist (C-IGDC). *International Journal of Environmental Research and Public Health*, 17(10), 3412. <https://doi.org/10.3390/ijerph17103412>

Authors’ final message: The Chinese Internet Gaming Disorder Checklist (C-IGDC) has already been published in early 2020 and is available in <https://doi.org/10.3390/ijerph17103412> [Open Access; See appendix A]. We eagerly invite further applications and validations of this screening tools in your studies.

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《進入娛樂場法》生效後博彩從業員的博彩行為趨勢研究

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簡介

- 《進入娛樂場法》(第 17/2018 號法律)於 2019 年 12 月 27 日生效，博彩從業員除職務時間外不得進入娛樂場進行博彩，有研究顯示博彩從業員由於長期接觸博彩，故而有博彩的行為習慣。本研究旨在探討有賭博行為的博彩從業員及沒有賭博行為的博彩從業員於《進入娛樂場法》生效後其博彩行為的趨勢。
- 研究目的是探討有賭博行為和沒有賭博行為的博彩從業員在法例生效前和生效後其博彩行為的變化或差異並討論他們的相關性。

對象與抽樣方法

- 研究對象為受僱於澳門博彩股份有限公司的博彩從業員，以量性研究（問卷調查）方法於澳門博彩股份有限公司所經營的 22 間娛樂場中隨機抽選，派出 735 份問卷，經篩選不完整問卷後，是次調查研究最終有效問卷數目為 665 份。

統計方法

- 自編測量表(參與電子遊戲或電子賭博的頻率)(共 3 題，10 項量表，由 1=沒有至 10=15 小時或以上/160 分鐘或以上)；
- 參考精神障礙診斷與統計手冊第五版的賭博障礙診斷標準自編的量表(共 9 題，4 項量表，由 1 分=沒有至 4 分=經常)；

主要發現

- 年齡與賭博失調關係之分析結果顯示，「賭博失

調」在不同年齡組別在賭博失調上是有差異的($F=4.7, p<0.1$)。

- 教育程度與賭博失調關係之分析結果顯示，「賭博失調」在不同教育程度在賭博失調上是有差異的($F=3.02, p<0.1$)。
- 婚姻狀態與賭博失調關係之分析結果顯示，「賭博失調」在不同婚姻狀態在賭博失調上是有差異的($F=2.57, p<0.5$)。
- 「賭博失調」與參與電子遊戲或電子賭博的頻率有顯著的正相關。
- 年齡組別與參與電子遊戲或電子賭博的頻率有顯著的負相關。
- 年齡組別與與參與電子遊戲或電子賭博及賭博失調有顯著的負相關。

分析討論及總結

- 研究發現，《進入娛樂場法》生效前和生效後對博彩從業員的賭博失調程度沒有影響，對博彩從業員參與電子遊戲或電子賭博的狀況影響不大，但不等於他們沒有參與其他博彩，如參與投注足球和籃球或賽馬，要作進一步研究。
- 博彩從業員參與電子遊戲或電子賭博的時間越長次數越多，其賭博失調程度越高。博彩從業員的年齡越低，參與電子遊戲或電子賭博的狀況越高。博彩從業員的年齡越低，賭博失調程度越高。而博彩從業員的年齡越低，參與電子遊戲或電子賭博的狀況越高，賭博失調程度越高。

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REACHING OUT PROGRAM ON STREET GAMBLERS

Finding & Observation:

- Illegal gambling offences in 2015 is 4427 in persons.
- Street gamblers mostly aged over 60 and retired.
- Reasons for gambling: boredom or lack of interest, limited knowledge about the law related to illegal gambling



Centre Implementation:

1. Collaboration with District Council Members and Estate Management Office
2. Direct Reaching out Service and Roadshow
3. Psychoeducational Workshops

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CHALLENGES & INTERVENTIONS
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RESPONSIBLE GAMING PRACTICES AND INTERNET GAMING DISORDER
AMONG CHINESE ADULT GAMERS

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BACKGROUND

- The population of online video game users in China has reached 493.56 million, with the majority of which aged above 18 years old.
- However, previous studies on responsible gaming (RG) practices had mostly focused on minors rather than adult gamers.
- This study investigated the relationship of positive and negative RG practices with Internet gaming disorder (IGD) symptoms among Chinese adult video gamers.

METHODS

- Chinese frequent adult gamers (past-year weekly video game play ≥ 3 times)
- N=302 (Mage=24.01; range=18 to 48)
- Anonymous questionnaire survey
- Measures
 - IGD symptoms
 - DSM-5 diagnostic criteria for IGD (APA, 2013)
 - RG practices
 - 6 positive RG practices + 6 negative RG practices based on
 - i. previous studies on GD (Tong et al., 2018), and
 - ii. a pilot study among frequent gamers
 - Gaming involvement

RESULTS

- Descriptives
 - 20.9% (n=63) of the participants scored higher than 4 on the DSM-5 IGD checklist
- Correlations
 - IGD symptoms were associated with a list of positive and negative RG practices ($r_s = -.24$ to $.43$, $p_s < .05$).
- T-test
 - Probable problem gamers adopted significantly more negative and less positive RG practices ($p_s < .01$).
 - Gamers who played on daily basis were more responsible with their gaming behaviors ($p < .01$).

CONCLUSIONS

- While video gaming has become one of the world's most popular form of entertainment, a large proportion of adult gamers are at risk of IGD.
- Our data confirm that RG practices and IGD are related.
- Regulations of RG for game developers and promotion of harm-minimization strategies for adult gamers are urgently called for.

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CHALLENGES & INTERVENTIONS IN THE ERA OF INNOVATION & TECHNOLOGY



Nicotine dependence in adolescent exclusive cigarette users and concurrent users of new tobacco products

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Funding: The Food and Health Bureau, the Government of Hong Kong Special Administrative Region

Abstract

Background: New tobacco products are claimed to aid smoking cessation but evidence is scarce. We compared the level of nicotine dependence in Hong Kong adolescents who used cigarettes only and who also used e-cigarettes or heated tobacco products (HTPs).

Methods: In a school-based smoking survey in 2018-19, 34063 students (grade 7-12) from 88 secondary schools reported the number of days cigarettes, e-cigarettes and HTPs were used in the past 30 days, the frequency or amount of use in a day that they were used, and whether they smoked or wanted to smoke cigarettes first thing in the morning. We compared measures of nicotine dependence between students who used cigarettes only and those who also used e-cigarettes or HTPs in the past 30 days, using linear and ordinal logistic regression models.

Results: On average, exclusive cigarette users and dual users of e-cigarettes and HTPs had used cigarettes on 7.7, 12.2 and 13.0 days in the past 30 days with 4.1, 8.1 and 9.2 cigarettes in a day of use, respectively. Compared with exclusive cigarette users, concurrent users of e-cigarettes used cigarettes on more days (adjusted β 4.23, 95% CI 2.84-5.62) with more cigarettes per day (adjusted β 3.50, 2.58-4.42), and were more often to smoke or want to smoke first thing in the morning (adjusted odds ratio [AOR] 1.87, 1.60-2.14); concurrent users of HTPs used cigarettes on more days (adjusted β 4.91, 3.38-6.44) with more cigarettes per day (adjusted β 4.47, 3.46-5.49), and were more often to smoke or want to smoke first thing in the morning (AOR 2.39, 2.09-2.70).

Conclusions: Adolescent dual users of cigarettes and e-cigarettes or HTPs were more nicotine-dependent than exclusive cigarette users. Our results support banning these new tobacco products to protect adolescents.

Background

- New tobacco products, including e-cigarettes (ECs) and heated tobacco products (HTPs), are electronic nicotine delivery devices that claim to reduce health harm and help smoking abstinence, but the effects are controversial.
- Despite the decline in cigarette smoking, new tobacco products have become increasingly popular in youth.
- Nicotine concentration in EC products ranges from zero to over 5%, JUUL, the most popular EC brand in the US, has triggered a widespread market of high-nicotine EC products [1].
- Evidence from laboratory tests showed that HTPs delivered less than 83% of nicotine compared with cigarette smoke [2-3]. However, an animal experiment showed that serum nicotine levels were around 4.5-fold higher in rats exposed to HTP aerosol, compared with those exposed to cigarette smoke [4].
- Children's neural system is particularly sensitive to nicotine, and is more likely to become nicotine dependent than adults [5]. Smoking experimentation during adolescence predicts subsequent smoking, and most regular smokers initiate smoking at this stage [6]. However, nicotine dependence by using new tobacco products was rarely studied in adolescents.
- In Hong Kong, no HTP products (as a type of tobacco products) have been permitted to sell as dutiable commodities, and no nicotine-containing EC products have been registered under the Pharmacy and Poisons Ordinance (Cap. 138) as of Oct 2020 [7]. However, HTPs and ECs with and without nicotine are still available in online and local stores.
- We aimed to compare nicotine dependence in Hong Kong adolescents who used cigarettes only and who also used ECs or HTPs.

Methods

Sample

- The School-based Smoking Survey is a territory-wide biennial study in secondary school students (US grade 7-12) in Hong Kong. In 2018-19, 34 063 students in 88 schools completed the paper-and-pencil questionnaire, with student- and school-level response rates of 23% and 94%, respectively.

Measures

- Number of days cigarettes, e-cigarettes and HTPs were used in the past 30 days, the frequency or amount of use in a day that they were used, and whether users smoked or wanted to smoke cigarettes first thing in the morning.

Statistical Analysis

- We compared measures of nicotine dependence between students who used cigarettes only and those who also used e-cigarettes or HTPs in the past 30 days, using linear and ordinal logistic regression models.

Results

Table 1. Background characteristics and tobacco use status among secondary school students (n=33 991)

	Exclusive cig users (n=681, 2.0%)		Dual users of cig+EC (n=571, 1.7%)		Dual users of cig+HTP (n=461, 1.4%)	
	n ^a	% ^a	n ^a	% ^a	n ^a	% ^a
Sex						
Girl	235	37.4	219	43.6	176	44.0
Boy	446	62.6	352	56.4	285	56.0
Age, y (SD) ^a	15.4 (1.9)	15.5 (2.0)	15.5 (2.3)	15.6 (2.2)	15.4 (2.4)	15.5 (2.2)
Grade 1-6 (US grade 7-12)						
Perceived family affluence						
Relatively poor	66	9.8	77	10.5	76	12.4
Poor to average	139	19.8	101	17.7	74	15.9
Average	363	54.0	241	45.2	180	43.8
Average to rich	91	13.2	85	15.4	64	14.1
Relatively rich	22	3.2	62	11.2	61	13.7
Parental highest education						
Primary or below	53	7.8	65	8.6	57	8.9
Secondary	353	53.1	221	38.2	165	35.2
Tertiary or above	120	18.0	156	33.7	130	35.0
Unknown	154	21.1	121	19.5	101	20.9

Abbreviations: Cig = cigarette, EC = e-cigarette, HTP = heated tobacco product.

^aNumbers unless otherwise stated.

^bProportions were weighted by age, sex, and grade distribution of the target population provided by the Education Bureau of the Hong Kong SAR Government.

^cDifferences in socio-demographic characteristics between dual users and exclusive cigarette users. P values were from χ^2 tests for sex, and one-way analysis of variance (ANOVA) for age, grade, perceived family affluence and parental highest education (first three levels).

^dMean age and standard deviation; unweighted under the column "n" and weighted under the column "%".

Results

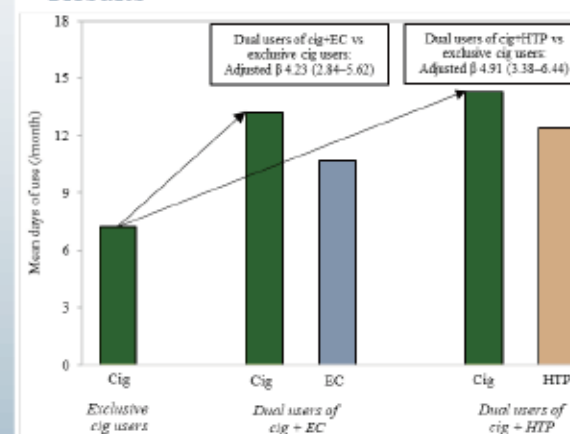


Figure 1. Number of days used cigarettes, ECs and HTPs in the past 30 days

Notes: Cig = cigarette, EC = e-cigarette, HTP = heated tobacco product, CI = confidence interval. Adjusted coefficients with 95% CI were from linear regression models, with adjustment for sex, grade, perceived family affluence and parental highest education level.

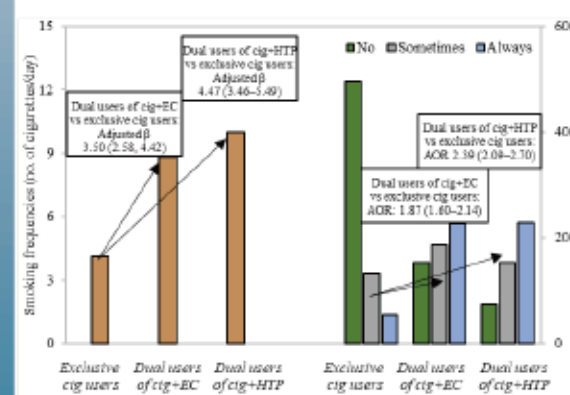


Figure 2. Daily use frequencies in the past 30 days and smoke intention in the morning

Notes: Cig = cigarette, EC = e-cigarette, HTP = heated tobacco product, OR = odds ratio, CI = confidence interval. Adjusted coefficients with 95% CI were from linear regression models, and adjusted odds ratios with 95% CI were from ordinal logistic regression models, with adjustment for sex, grade, perceived family affluence and parental highest education level.

Conclusions

- Compared with exclusive cigarette users, concurrent users of ECs or HTPs used cigarettes on more days with more cigarettes per day, and were more often to smoke or want to smoke first thing in the morning.
- Adolescent dual users of cigarettes and ECs or HTPs were more nicotine-dependent than exclusive cigarette users.
- New tobacco products may reinforce nicotine dependence rather than serving as a cessation aid in adolescents.
- Prompt actions should be taken to prevent further use of new tobacco products in adolescents, and benefits of new tobacco products without sufficient evidence should not be promoted, such as "help quit cigarette smoking" and "cut down on cravings for nicotine", especially in youth-oriented media.

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**CHALLENGES & INTERVENTIONS
IN THE ERA OF INNOVATION & TECHNOLOGY**

The second-hand harms of alcohol misuse in university dorm residents in Hong Kong

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BACKGROUND

Although second-hand alcohol harms, harms caused by the drinking of others, may contribute significantly to the public health burden of alcohol, these harms are an understudied area of public health research. This study aims to examine second-hand alcohol harms in among urban Chinese university students residing on campus who were previously identified as a high-risk group for alcohol misuse¹.

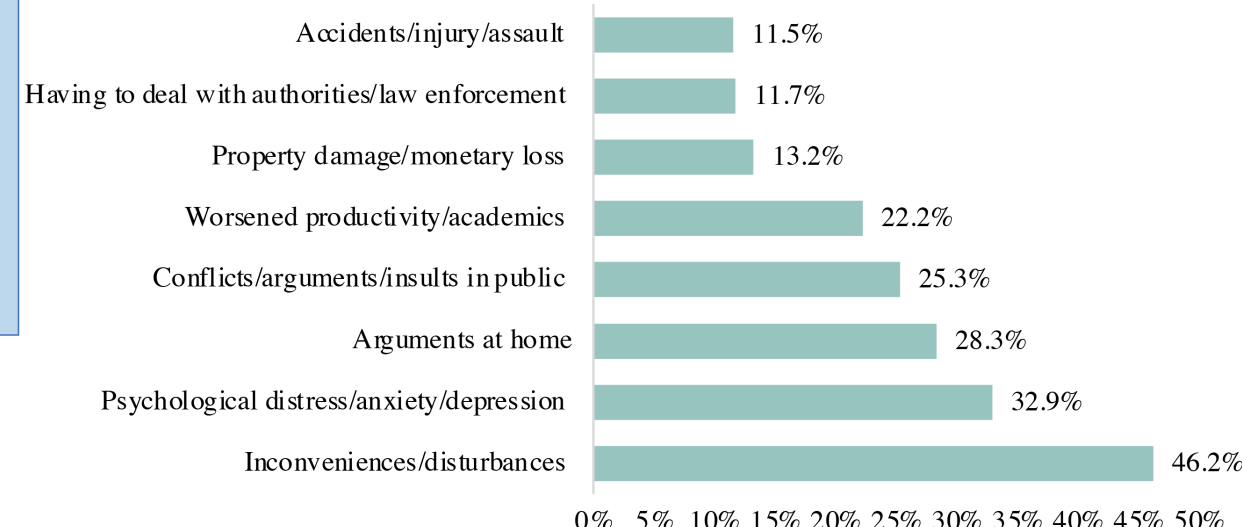
METHODS

A cross-sectional study was conducted among hostel residents in two Hong Kong universities (n=1455) using self-administered, anonymous surveys. We examined the prevalence and the factors associated with second-hand alcohol harms in this population using multivariable regression analysis.

65% reported experiencing second-hand harms in the past year ...but only 9.1% sought help or reported it



Type of second-hand drinking harms experienced



Factors associated with second-hand alcohol harms in the multivariable analysis

	Odds Ratio	95% C.I.	P-value
Having binge drank in the past month	1.75	1.24- 2.45	0.001
Having pro-drinking attitude	1.54	1.06- 2.25	0.023
Friends drank in hostel in the past 6 months	1.66	1.31- 2.11	p<0.001
Partner drank in the past 6 months	1.65	1.26- 2.16	p<0.001
Studied in the faculty of law	0.37	0.16- 0.83	0.017
Studied in the faculty of medicine	0.70	0.53- 0.94	0.016



RESULTS

CONCLUSIONS

- Although southern China is a low alcohol consumption region, there is a **high prevalence of second-hand alcohol harms** among university dorm residents.
- Universities in the region should **rectify the near absence of alcohol-related topics** in university health promotion.

MAIN MESSAGES

Harms from the drinking of others is a greatly underappreciated cause of public health burden in Asia that requires targeted interventions.

Reference

¹ Kim JH, Chan KW, Chow JK, et al. University binge drinking patterns and changes in patterns of alcohol consumption among Chinese undergraduates in a Hong Kong university. *J Am Coll Health*. 2009;58(3):255-265. doi:10.1080/07448480903295318



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