Published in final edited form as:

Int J Eat Disord. 2015 September ; 48(6): 663–669. doi:10.1002/eat.22359.

The Association Between Internet and Television Access and Disordered Eating in a Chinese Sample

Christine M. Peat, PhD¹, Ann Von Holle, MS¹, Hunna Watson, PhD, MPsych^{1,2,3,4}, Lu Huang, MS⁵, Laura M. Thornton, PhD¹, Bing Zhang, MD, PhD⁶, Shufa Du, PhD⁷, Susan C. Kleiman, BSFS⁷, and Cynthia M. Bulik, PhD^{1,7,8}

¹Department of Psychiatry, University of North Carolina, Chapel Hill, North Carolina, USA

²Eating Disorders Program, Child and Adolescent Health Service, Department of Health in Western Australia, Perth, Australia

³School of Paediatrics and Child Health, The University of Western Australia, Perth, Australia

⁴School of Psychology and Speech Pathology, Curtin University, Perth, Australia

⁵Department of Biostatistics, St. Jude Children's Research Hospital, Memphis, Tennessee, USA

⁶Institute of Nutrition and Food Safety, Chinese Center for Disease Control and Prevention, Beijing, China

⁷Department of Nutrition, University of North Carolina, Chapel Hill, North Carolina, USA

⁸Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden

Abstract

Objective—China has historically reported a low prevalence of eating disorders. However, the rapid social and economic development of this country as well as Western ideals widely disseminated by television and the Internet have led to distinct patterns of behavioral choices that could affect eating disorder risk. Thus, the current study explored the relation between disordered eating and media use.

Method—Participants were females from the 2009 wave of the China Health and Nutrition Survey (N = 1,053). Descriptive statistics were obtained and logistic regression models, stratified by age (adolescents ages 12-17 and adults ages 18-35), were used to evaluate the association of media use with disordered eating.

Results—In adolescents, 46.8% had access to the Internet and those with access averaged one hour per day each of Internet and television use. In adults, 41.4% had access to the Internet, and those with access averaged one hour per day of Internet use and two hours per day of television use. Internet access was significantly associated with a subjective belief of fatness (OR = 2.8, 95% CI: 1.6, 4.9) and worry over losing control over eating (OR = 4.8, 95% CI: 2.3, 9.8) only in adults.

*Correspondence to: Christine M. Peat, PhD, Department of Psychiatry, University of North Carolina at Chapel Hill, CB #7160, 101 Manning Drive, Chapel Hill, NC 27599-7160, USA. Voice: (919) 966-7662; Fax: (919) 843-3950, christine_peat@med.unc.edu.

Discussion—These findings help characterize the overall pattern of media use and report of eating disorder symptoms in a large sample of female Chinese adolescents and adults. That Internet access in adults was significantly associated with disordered eating cognitions might suggest that media access negatively influences these domains; however, more granular investigations are warranted.

Keywords

Risk factors; media use; China; disordered eating

China has historically reported a low prevalence of eating disorders.^{1; 2} However, the rapid social and economic development of this country over the last decade has led to distinct patterns of behavioral choices that might conceivably affect eating disorder risk, and a recent study suggests an increased prevalence.³ China has seen a rise in smoking, drinking, consumption of high-fat/high-sugar diets, and a more sedentary lifestyle.⁴⁻⁶ In fact, some have estimated that 50% of the Chinese population is predicted to be obese by 2028.⁷ In addition to the ongoing economic changes, Western ideals, particularly those regarding standards of beauty, are widely disseminated by television and the Internet with over 420 million Internet users (~31% of the population).⁸ The limited research on eating disorders in China suggests that social and economic transformations of this nature can influence eating disorders, body mass index (BMI), body shape concerns, and lifestyle choices.⁹⁻¹⁴

Because media access might exert a powerful effect on eating pathology, we explored the relation between disordered eating and access to and time spent using or viewing the Internet and/or television. We hypothesized that both greater media and Internet use would be associated with higher prevalence on measures of disordered eating.

Methods

Participants

The current study used data from the 2009 wave of the China Health and Nutrition Survey (CHNS), which was initiated in 1989 as an ongoing open cohort study designed to examine how socioeconomic changes affect eating behaviors and nutritional status of the Chinese population. The analyses included two populations within the CHNS dataset: girls ages 12-17 (adolescents) and women ages 18-35 (adults). Detailed information regarding the CHNS and its methodology have been previously described elsewhere;¹⁵ however, in brief, the CHNS surveys nine provinces in China that vary in geography, urbanicity, and health indicators. A multi-stage, random cluster sampling method was utilized to draw a sample that varied markedly in terms of income, economic development, and public resources.

A total of 19,010 participants were surveyed in the 2009 wave of the CHNS; however only a subset were administered the eating disorder section. Only participants from this subset who also provided information on age, media use (e.g., Internet access and use, television use), eating disorder symptoms, and who had height and weight objectively measured at the time of interview to calculate BMI and BMI percentile (according to World Health Organization percentiles) were included in the analyses. Thus, the study included two samples: 233

adolescent girls and 820 women. A subsample of the women, comprised of women who had access to the Internet (n=339), was also used in some analyses. CHNS was approved by the Chinese Center for Disease Control. The current study was approved by the Biomedical Institutional Review Board at the University of North Carolina at Chapel Hill.

Measures

A separate CHNS questionnaire is completed for children and adolescents (<18 years) and for adults (≥ 18 years). The child questionnaire is available at http://www.cpc.unc.edu/projects/china/data/questionnaires/C09child_Fin20090710.pdf and the adult questionnaire at http://www.cpc.unc.edu/projects/china/data/questionnaires/C09adult_Fin20090715.pdf/view. Both questionnaires collect detailed information on age, marital status, education, occupation, physical measurements, health, nutrition, physical activity, smoking, alcohol consumption, and media access and usage.

Disordered eating—The primary outcome variables for the current study were eating disorder symptoms. Eating disorder screening items were asked of both adolescents and women ages 12-35 years with separate questionnaires administered to adolescents and adults. These screening items were taken from a Chinese translation of the SCOFF¹⁶ and included: 1) Do you make yourself sick because you feel uncomfortably full? 2) Do you worry that you have lost control over how much you eat? 3) Have you recently lost more than 6.35 kg (one stone) in a three-month period? 4) Do you believe yourself to be fat when others say you are too thin? 5) Would you say that food dominates your life? Response options for each item were 'yes' and 'no.' Translation of the SCOFF to Chinese originated with the version presented in Leung et al. (2009),¹⁷ which was then back translated to English and retranslated to Chinese by three mainland Chinese speakers. We chose to analyze separate items on the SCOFF (versus its composite score) in an effort to allow us to identify which specific eating disorder symptoms (if any) might be associated with media use.

Media use—The primary independent variables of interest concerned media use, which included television use and Internet access and use. As part of the larger questionnaire administered to participants in the CHNS, respondents were asked for information on: 1) how many hours they spent watching television on a typical day, 2) whether they could access the Internet, 3) where they could access the Internet, and 4) how many hours they typically spent surfing the Internet, participating in chat rooms, and playing games. Access to the Internet was used as a primary independent variable in the regression analyses conducted on the entire sample, and hours spent on the Internet as an independent variable with analyses restricted to only those individuals with access to the Internet.

Covariates—In an effort to capture the urbanicity of a given region, an urbanization index using a continuous scale of measurement was used.¹⁸ This urbanization index was specifically developed and validated for the CHNS dataset and was derived from 12 components commonly thought to define urbanicity including: population density, economic activity, housing, education, and health infrastructure. The index demonstrated good reliability and validity and is thought to be useful in studying health outcomes in the CHNS dataset.¹⁸ The urbanization index was used as a covariate in the current analyses.

Derived Variables—Participants' height (meters) and weight (kg) were measured at the time of interview and BMI (kg/m^2) was then calculated. BMI was entered as a covariate in the current analyses. Because BMI percentiles are the preferred anthropometric measure for adolescents, World Health Organization (WHO) percentiles¹⁹ were also derived; however, no significant differences were observed in the regression parameter estimates, thus BMI was retained in the analyses.

Statistical Analysis

All analyses were performed using SAS/STAT software, Version 9.2 of the SAS System for Windows.²⁰ Analyses were stratified by age with ages 12-17 comprising the adolescent sample and ages 18-35 comprising the adult sample. Percent frequencies with respective standard deviations were calculated for sample descriptive statistics. Logistic regression models estimated odds ratios of disordered eating across media use status. For each model, an eating disorder symptom was evaluated as an outcome with media use as a predictor and BMI and the urbanization index as covariates. To control type I error inflation, all p-values were corrected for multiple comparisons using the false discovery rate procedure.²¹ All p-values < .05 were considered statistically significant.

Results

Descriptive Statistics

Descriptive statistics for the adolescent and adult samples are reported in Table 1. Among the adolescent participants, mean age was 14.4 (SD = 1.6) years and mean BMI was 19.0 (SD = 3.0) kg/m^2 (Mean BMI percentile was 0.38, SD = 0.30). Approximately 47% of adolescents reported having access to the Internet. Of those with Internet access, over half reported access in the home (55.6%). Other places of access outside the home included an Internet café (35.5%), a friend or relative's home (35.5%), or in school (27.1%). Adolescents in this sample also reported watching television for approximately 1.5 hours on a typical day, and the median number of television viewing hours appeared higher on the weekends (median = 2.0, IQR = 2.0). The mean age of adult participants was 28.4 (SD = 5.1) years and mean BMI was 21.8 (SD = 3.1) kg/m^2 . Approximately 41% of adults reported having access to the Internet, and the majority had access in the home (71.7%). Among those adults with Internet access, most reported using the Internet for approximately 1 hour per day on both weekdays (median = 1.0, IQR = 0.5) and weekends (median = 1.0, IQR = 1.2). Adult participants reported watching approximately 2.0 (IQR = 1.3) hours of television on a typical day, and this pattern of usage appeared to be consistent across weekdays and weekends (see Table 1).

The Association of Media Use and Eating Disorder Symptoms

Table 2 presents the association between media use (both Internet access and television use in hours) and eating disorder symptoms. In the current sample, there were no statistically significant associations between media use and eating disorder symptoms among adolescents after adjusting for confounders. In adults, however, there was a significant positive association between Internet access and a subjective belief of fatness (OR = 2.8, 95% CI: 1.6, 4.9, $n=795$), such that women who accessed the Internet were 2.8 times more

likely to report a subjective belief of fatness than those who did not access the Internet. There was also a statistically significant association between Internet access and worry about loss of control over eating, such that women who accessed the Internet were 4.8 times more likely to worry about loss of control over eating (OR = 4.8, 95% CI: 2.3, 9.8, n=795). No statistically significant associations among women in television use and eating disorder symptoms were observed.

When only adults with Internet access were included in the analyses of non-missing disordered eating variables (n=218), number of hours spent on the Internet was not significantly associated with eating disorder symptoms, suggesting that access to the Internet rather than the actual time involved is associated with eating disorder symptoms. The corresponding analyses for adolescents could not be conducted due to sample size limitations.

Discussion

Data from the 2009 wave of the CHNS study indicate that although Chinese adolescent and adult women are frequently accessing media sources (e.g., television, Internet), there is a greater emphasis on television use as over 40% of the current sample did not report having access to the Internet. With regard to television viewing, Chinese adolescents reported more television viewing hours during the weekends than on weekdays. Chinese adult women in this sample reported watching slightly more television per day than adolescents with weekday and weekend usage roughly equal. Although these numbers are still lower than those reported among American adolescents and adults,²² they nonetheless reflect an increase from previous years,^{8; 23} which is consistent with global patterns of media use.²⁴ Throughout the world, there has been a significant increase in the amount and type of media use,²⁴ as consumers are demanding continuous access to video sources, social media outlets, and online services. As such, media use has become an expected part of the cultural landscape throughout most of the world, particularly in industrialized nations in which there is a heavy emphasis on globalization.

Among adults in this sample, there was a significant positive association between Internet access and subjective belief of fatness and worry about loss of control over eating. The pattern of results might suggest that access to the Internet has a negative impact on these domains in adult women, irrespective of the number of hours actually spent on the Internet. Though the current analyses do not lend themselves to causal inference and were not sufficiently detailed to explore the content of a participant's Internet use, the current findings lend themselves to several potential explanations. One factor could be the influence of continuously available advertising and media images that perpetuate a single, narrowly defined standard of beauty in China. Unfortunately, the thin ideal is not unique to Western cultures²⁵ and perceived pressures to be thin have been shown to contribute to body image concerns²⁶ and eating disorder symptoms²⁷ in Chinese women. Our understanding of the extent to which the Internet might drive some of these perceived pressures for thinness in China remains limited and merits further investigation. The absence of significant results in adolescents could reflect their lower exposure to media, that their media consumption could

be under greater parental control, or that a causal relationship between disordered eating and media use in adolescents does not exist.

Relatedly, the internalization of a societal thin ideal increases risk for eating disorder behaviors, including dietary restriction and binge eating,²⁸ the hallmark characteristic of which is a sense of loss of control. Women in the current sample who reported access to the Internet were at greater risk for both a subjective belief of fatness and worrying about a loss of control over eating. Taken collectively, this pattern might suggest that a concern about one's appearance could lead to dieting/restriction and potentially a fear of loss of control. Such associations have been reported in Western samples,^{29; 30} and body dissatisfaction has been demonstrated to influence dieting³¹ and body change behaviors³² in Asian populations; however, additional study is needed to further elucidate these hypothesized relationships in non-Westernized cultures, particularly as these cultures are demonstrate increasing rates of eating pathology and body dissatisfaction.

Three eating disorder symptoms were not significantly related to Internet access in adults including: making yourself sick after being uncomfortably full, losing more than 6.35kg in a 3 month period, and feeling as though food dominates your life. It is likely that we were underpowered to detect any significant association with regard to the first two symptoms (see Table 1). The fact we did not observe a significant association between Internet access and feeling as though food dominates your life, which was a more frequently endorsed item, may also reflect a lack of power, particularly as the odds ratio was only significant without the FDR correction. Furthermore, even in the adjusted model, the odds ratio was low, suggesting a limited association that might not render much clinical or diagnostic relevance.

Although the current study is an important step in understanding the impact of media use on eating disorder symptoms in China, limitations should be acknowledged. First, the cross-sectional nature of the current study methodology limits our ability to examine how the relationship between media use and eating disorder symptoms might change over time and, therefore, causal inferences cannot be drawn from these findings. Although there was a significant association between Internet access and two core eating disorder symptoms, directionality of this relationship cannot be determined from the current results. It is possible, for example, that disordered eating might drive media use and/or that media use might act as a maintenance mechanism for disordered eating after it has already been established. Thus, longitudinal analyses are a necessary step in understanding these complex relationships, especially during the transition from adolescence to adulthood when the risk for disordered eating is high. Second, there was a significant portion of our sample that did not report access to the Internet (over 40%); however, the CHNS includes a geographically diverse catchment area resulting in varying degrees of urbanicity that might account for this lower report of Internet use. Third, only girls and women were asked to respond to the eating disorder questions in the CHNS which does not allow us to draw conclusions about the potential association between media use and eating disorder symptoms in boys and men. Furthermore, the age range sampled in the current study was limited and did not include women in their mid-life and beyond. Fourth, we were limited in our ability to examine the content of television programs and Internet use and were therefore only able to speculate about potential explanations for the increased risk for eating disorder symptoms in Chinese

women. A more granular exploration of media content could provide necessary insights into sociocultural influences that might serve as risk or protective factors.

Our results contribute to the understanding of eating disorder symptoms in China and the role that media use might play in their occurrence. Although historically it was thought that China and other non-Westernized cultures might be insulated from disordered eating and eating disorders risk as seen in other Western countries, the rapidly changing economic and social landscape in China has necessitated a shift in focus. We aimed to characterize the experiences of Chinese girls and women in light of some of these changes representing an important first step in ascertaining the prevalence of disordered eating, eating disorders, and risk factors in this population, which might, in turn, inform prevention and treatment efforts. The results of this study suggest that Internet use may be a critical contributor to disordered eating risk in Chinese women thus providing potential targets for further investigation and intervention. The increasingly interdependent nature of the world's economy and society makes this a particularly poignant time in history to be examining how global sources of media might influence health outcomes, including eating and weight pathology. Thus, contextualizing our results within other significant sociopolitical and socioeconomic changes in China will moves us closer to a more comprehensive understanding of patterns of emergence of disordered eating and eating disorders in that country.

Acknowledgments

We thank the National Institute of Nutrition and Food Safety, China Center for Disease Control and Prevention, Carolina Population Center (5 R24 HD050924), the University of North Carolina at Chapel Hill, the NIH (R01-HD30880, DK056350, R24 HD050924, and R01-HD38700) and the Fogarty NIH grant 5 D43 TW009077 for financial support for the CHNS data collection and analysis files from 1989 to 2011 and future surveys, and the China-Japan Friendship Hospital, Ministry of Health for support for CHNS 2009. We also thank Xiaofei Mo, MD, MPH, RD, Jin Szatkiewicz, PhD, and Guanhua Chen, PhD for assisting with the Chinese translation of the SCOFF. We thank all participants for their time and efforts.

Funding: This work was funded by a supplement to R34MH080750 (PI: Bulik). Dr. Peat was supported by the National Institute of Mental Health grant T32MH076694 (PI: Bulik).

References

1. Makino M, Tsuboi K, Dennerstein L. Prevalence of eating disorders: a comparison of Western and non-Western countries. *Med Gen Med*. 2004; 6:49.
2. Tsai G. Eating disorders in the Far East. *Eat Weight Disord*. 2000; 5:183–197. [PubMed: 11216126]
3. Tong J, Miao S, Wang J, Yang F, Lai H, Zhang C, et al. A two-stage epidemiologic study on prevalence of eating disorders in female university students in Wuhan, China. *Soc Psych Psych Epid*. 2013; 49:499–505.
4. Du S, Lu B, Zhai F, Popkin BM. A new stage of the nutrition transition in China. *Public Health Nutr*. 2002; 5:169–174. [PubMed: 12027281]
5. Kim S, Symons M, Popkin BM. Contrasting socioeconomic profiles related to healthier lifestyles in China and the United States. *Am J Epidemiol*. 2004; 159:184–191. [PubMed: 14718221]
6. Popkin BM. The nutrition transition and its health implications in lower-income countries. *Public Health Nutr*. 1998; 1:5–21. [PubMed: 10555527]
7. Popkin B. Will China's nutrition overwhelm its health care system and slow economic growth? *Health Affair*. 2008; 27:1064–1076.
8. Center CINI. The 26th Statistical Report on Internet Development in China. 2010

9. Fan Y, Li Y, Liu A, Hu X, Ma G, Xu G. Associations between body mass index, weight control concerns and behaviors, and eating disorder symptoms among non-clinical Chinese adolescents. *BMC Public Health*. 2010; 10:314. [PubMed: 20525394]
10. Huon GF, Mingyi Q, Oliver K, Xiao G. A large scale survey of eating disorder symptomatology among female adolescents in the People's Republic of China. *Int J Eat Disorder*. 2002; 32:192–205.
11. Jackson T, Chen H. Predicting changes in eating disorder symptoms among adolescents in China: an 18-month prospective study. *J Clin Child Adolesc*. 2008; 37:874–885.
12. Liao Y, Knoesen NP, Castle DJ, Tang J, Deng Y, Bookun R, et al. Symptoms of disordered eating, body shape, and mood concerns in male and female Chinese medical students. *Compr Psychiat*. 2010; 51:516–523. [PubMed: 20728010]
13. Lee S, Lee AM. Disordered eating in three communities of China: a comparative study of female high school students in Hong Kong, Shenzhen, and rural Hunan. *Int J Eat Disorder*. 2000; 27:317–327.
14. Tao Z. Epidemiological risk factor study concerning abnormal attitudes toward eating and adverse dieting behaviours among 12 to 25 yearold Chinese students. *Eur Eat Disord Rev*. 2010; 18:507–514. [PubMed: 20593481]
15. Popkin BM, Du S, Zhai F, Zhang B. Cohort Profile: The China Health and Nutrition Survey--monitoring and understanding socio-economic and health change in China, 1989-2011. *Int J Epidemiol*. 2010; 39:1435–1440. [PubMed: 19887509]
16. Morgan JF, Reid F, Lacey JH. The SCOFF questionnaire: assessment of a new screening tool for eating disorders. *Brit Med J*. 1999; 319:1467–1468. [PubMed: 10582927]
17. Leung SF, Lee KL, Lee SM, Leung SC, Hung WS, Lee WL, et al. Psychometric properties of the SCOFF questionnaire (Chinese version) for screening eating disorders in Hong Kong secondary school students: A cross-sectional study. *Int J Nurs Stud*. 2009; 46:239–247. [PubMed: 18945428]
18. Jones-Smith JC, Popkin BM. Understanding community context and adult health changes in China: development of an urbanicity scale. *Soc Sci Med*. 2010; 71:1436–1446. [PubMed: 20810197]
19. de Onis M, Onyango AW, Borghi E, Siyam A, Nishida C, Siekmann J. Development of a WHO growth reference for school-aged children and adolescents. *Bull World Health Organ*. 2007; 85:660–667. [PubMed: 18026621]
20. SAS Inc. SAS/STAT® Software: Version 9. Cary, NC: SAS Institute, Inc.; 2004.
21. Benjamini Y, Hochberg Y. Controlling the false discovery rate: a practical and powerful approach to multiple testing. *J Roy Stat Soc B Met*. 1995:289–300.
22. Rideout VJ, Foehr UG, Roberts DF. Generation M²: Media in the Lives of 8-to 18-Year-Olds. Henry J Kaiser Family Foundation. 2010
23. CCCTV.com. [accessed 2014] 2009 TV Viewing Summary in China. Feb 4. 2010 <http://english.cctv.com/20100204/104329.shtml>
24. Nielsen. How people watch: A global Nielsen consumer report. Aug.2010
25. Leung F, Lam S, Sze S. Cultural expectations of thinness in Chinese women. *Eat Disord*. 2001; 9:339–350. [PubMed: 16864394]
26. Xu X, Mellor D, Kiehne M, Ricciardelli LA, McCabe MP, Xu Y. Body dissatisfaction, engagement in body change behaviors and sociocultural influences on body image among Chinese adolescents. *Body Image*. 2010; 7:156–164. [PubMed: 20089467]
27. Jackson T, Chen H. Identifying the eating disorder symptomatic in China: the role of sociocultural factors and culturally defined appearance concerns. *J Psychosom Res*. 2007; 62:241–249. [PubMed: 17270583]
28. Juarascio AS, Forman EM, Timko CA, Herbert JD, Butryn M, Lowe M. Implicit internalization of the thin ideal as a predictor of increases in weight, body dissatisfaction, and disordered eating. *Eat Behav*. 2011; 12:207–213. [PubMed: 21741019]
29. Johnson F, Wardle J. Dietary restraint, body dissatisfaction, and psychological distress: a prospective analysis. *J Abnorm Psychol*. 2005; 114:119. [PubMed: 15709818]
30. Stice E, Shaw HE. Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *J Psychosom Res*. 2002; 53:985–993. [PubMed: 12445588]

31. Lam TH, Lee SW, Fung S, Ho SY, Lee PW, Stewart SM. Sociocultural influences on body dissatisfaction and dieting in Hong Kong girls. *Eur Eat Disord Rev.* 2009; 17:152–160. [PubMed: 18792894]
32. Mellor D, McCabe M, Ricciardelli L, Yeow J, Daliza N. Sociocultural influences on body dissatisfaction and body change behaviors among Malaysian adolescents. *Body Image.* 2009; 6:121–128. [PubMed: 19195942]

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 1

Media and disordered eating descriptive statistics stratified by age.

Variable	Adult status	
	Child 12 age<18)	Adult (18 age)
Descriptive	Mean (SD)	
2009 Urbanization Index	66.7 (19.6)	66.1 (18.6)
Age (years)	14.4 (1.6)	28.4 (5.1)
BMI, 2009	19.0 (3.0)	21.8 (3.1)
Eating disorder variable	N (%)	
Do you believe you are fat when others think you are too thin? (response=yes)	26 (11.2)	79 (9.9)
Do you make yourself sick because you feel uncomfortably full? (response=yes)	3 (1.3)	5 (0.6)
Have you recently lost > 6.35kg in a 3-month period? (response=yes)	0 (0.0)	12 (1.5)
Do you worry you lost control over how much you eat? (response=yes)	20 (8.6)	52 (6.5)
Would you say that food dominates your life? (response=yes)	25 (10.7)	59 (7.4)
Sedentary activities	N (%)	
Do you watch television? (response=yes)	223 (95.7)	790 (96.5)
Do you watch DVDs? (response=yes)	31 (13.3)	97 (11.8)
Do you surf the internet? (response=yes)	52 (22.4)	232 (28.4)
Do you use chat rooms? (response=yes)	55 (23.6)	198 (24.2)
Do you play computer games? (response=yes)	47 (20.2)	134 (16.4)
Internet access	N (%)	
Can you access the Internet? (response=yes)	108 (46.8)	339 (41.4)
Location of Internet access	N (%)	
Internet café? (response=yes)	38 (35.5)	84 (25.1)
At home? (response=yes)	60 (55.6)	241 (71.7)
At friend's or relative's home? (response=yes)	38 (35.5)	38 (11.4)
In school? (response=yes)	29 (27.1)	76 (22.8)
Time spent, media	Median (IQR)	
Average number of hours spent surfing the Internet in <i>atypical day</i>	N/A *	1.0 (1.0) n=228
How many hours/day do you spend surfing the Internet <i>Monday-Friday</i> ?	N/A *	1.0 (0.5) n=231
How many hours/day do you spend surfing the Internet <i>Saturday and Sunday</i> ?	N/A *	1.0 (1.2) n=228
Average number of hours spent watching television in a <i>typical day</i>	1.5 (1.3) n=213	2.0 (1.3) n=785
How many hours/day do you spend watching television <i>Monday-Friday</i> ?	1.0 (1.0) n=213	2.0 (1.5) n=787
How many hours/day do you spend watching television <i>Saturday and Sunday</i> ?	2.0 (2.0) n=213	2.0 (1.5) n=785

* Information not available for age <18 years.

Table 2

Odds ratio (95% CI) of eating disorder variable by media use characteristic.

	Eating Disorder Variable					
	RECENTLY LOST > 6.35KG IN A 3-MONTH PERIOD?		WORRY YOU LOST CONTROL OVER HOW MUCH YOU EAT?		WOULD YOU SAY THAT FOOD DOMINATES YOUR LIFE?	
	Unadjusted	Adjusted*	Unadjusted	Adjusted*	Unadjusted	Adjusted*
Media use characteristic						
Child (12 age<18)						
Access to Internet? +(yes)	1.5 (0.7, 3.5)	1.1 (0.4, 2.9)			2.1 (0.8, 5.5)	1.6 (0.5, 5.1)
Average hours television/day	1.1 (0.8, 1.5)	1.2 (0.8, 1.6)			1.0 (0.6, 1.5)	0.9 (0.6, 1.4)
Adult (18 age)						
Access to Internet? (yes)	1.9 (1.2, 3.1)	2.8 (1.6, 4.9)	1.0 (0.2, 5.7)		3.2 (1.7, 5.7)	4.8 (2.3, 9.8)
Average hours television/day	0.9 (0.8, 1.1)	0.9 (0.8, 1.1)	1.3 (0.9, 1.9)		1.1 (0.9, 1.3)	1.1 (0.9, 1.3)
Adults with Internet access						
Internet (in hrs)	1.1 (0.8, 1.5)	1.1 (0.8, 1.6)			1.2 (0.8, 1.7)	1.2 (0.9 - 1.8)
					0.9 (0.6, 1.4)	0.9 (0.6, 1.4)

Note: All p-values adjusted with the method of false discovery rate (fdr). Bold formatting indicates $p\text{fdr} < 0.05$.

* Confounders include age of participant, BMI and urbanization index in 2009

Note(2): Missing cells indicate absence of analysis due to low frequency of response for eating disorder variable