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Review Article

A Systematic Review of the Application And Correlates of YFAS-Diagnosed 'Food Addiction' in Humans: Are Eating-Related 'Addictions' a Cause for Concern or Empty Concepts?

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Supplemental Material

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Supplemental Table 1. Summary of experimental studies examining YFAS-diagnosed food addiction

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Children	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Boggiano et al. (2014) Appetite	249 weight-loss seeking patients and 247 undergraduate students	PEMS, YFAS, BES, BMI	Mean YFAS symptom count of 3.1 (SD 1.7)	Mean YFAS symptom count of 1.9 (SD 1.3)		The YFAS correlated significantly with BES scores in both the overweight and control samples			Large sample size and control group but predominantly females and controls not well age or gender matched Only self-report measures
Brunault, Ballon, Gaillard, Reveillere, and Courtois (2014) Canadian Journal of Psychiatry	553 French participants	YFAS (translated to French), BES, BITE, BMI		8.7% met FA diagnosis Mean YFAS symptom count was 1.9 (SD 1.4) Median number of food addiction criteria endorsed was 1		YFAS symptom count was significantly correlated with BES total and BITE symptom scores. Dichotomous FA diagnosis was significantly correlated with higher BES and BITE scores			Large sample size but did not report gender Only self-report measures
Burgess, Kuran, Lokken, Morse, and Boggiano (2014) Appetite	150 college undergraduates; 106 female, 44 male	PEMS, BES, YFAS SPSRQ				YFAS scores did contribute to some of the variance in BMI but failed to do so once BES scores were controlled		Significant associations between the PEMS subscales (social, coping, enhancement and conformity) and YFAS scores	Predominantly female sample with age and education biases Laboratory measured BMI but self-reported questionnaires

Legend: YFAS = Yale Food Addiction Scale; FA = Food Addiction; PEMS = Palatable Eating Motives Scale; BES = Binge Eating Scale; BMI = Body Mass Index; BITE = Bulimic Investigatory Test, Edinburgh; SPSRQ = Sensitivity to Punishment Sensitivity to Reward Questionnaire; WLT/S = Weight Loss Treatment/Surgery; CES-D = Centre for Epidemiological Studies Depression Scale; DEBQ = Dutch Eating Behaviour Questionnaire.

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Children	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Burmeister, Hinman, Koball, Hoffmann, and Carels (2013) Appetite	51 overweight / obese patients seeking WLT	YFAS, CES-D, BES, DEBQ	19.6% of sample met FA criteria: 3 males, 8 females (YFAS symptom count) Mean number of YFAS symptoms was 3.13 (SD 1.74)			More YFAS symptoms was associated with higher self-reports of binge eating behaviours	Individuals with higher YFAS scores lost a smaller percentage of body weight after the 7 week WLT intervention	Those who reported more YFAS symptoms also indicated experiencing greater depression	Small sample size, predominantly female Weight loss measured after only 7 weeks, before any WL manipulation had begun
Clark and Saules (2013) Eating Behaviors	67 post-WLS patients, 62% female	YFAS, BES, MAST-AD, ASSIST	53.7% met criteria for FA			Significant relationship between YFAS symptom count and emotional eating and binge eating Significant relationship between dichotomous YFAS diagnosis and emotional eating, binge eating and symptoms of eating disorders	Those meeting FA criteria has poorer total weight loss outcomes - 32% vs. 27% (not statistically significant)	Those meeting FA diagnosis were more likely to admit post-WLS problematic substance use (not statistically significant)	Small sample, predominantly female All measures (inc. BMI) were self-reported Retrospective reporting of pre-WLS answers
Davis et al. (2011) Appetite	72 obese adult women (N = 49) and men (N = 23)	YFAS, EDE-Q, BDI, WURS-25, BIS, DGT, DDT, EPQ, BEQ, PFS, DEBQ, FCQ, EBPQ	18 adults met FA diagnosis (13 female, 5 male) 25%			Significant correlation between FA and BED diagnosis Food addicts reported more binge, hedonic and emotional eating		Food addicts had a significantly higher prevalence of severe depression and were more likely to meet the criteria for childhood ADHD	Small sample, more than 2x more women than men Two computerised behavioural tests (DGT and DDT)

Legend: MAST-AD = Michigan Assessment Screening Test for Alcohol and Drugs; ASSIST = Alcohol, Smoking and Substance Involvement Screening Test; EDE-Q = Eating Disorder Examination; BDI = Beck Depression Inventory; WURS-25 = Wender Utah ADHD Rating Scale; BED; Binge Eating Disorder; DGT = Delay of Gratification Task; DDT = Delay Discounting Task; EPQ = Eysenck Personality Questionnaire

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Children	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Davis et al. (2013) Physiology and Behavior	120 overeating/ overweight women (N=82) and men (N=38)	YFAS, MLGP score, PFS, BEQ, DEBQ, FCQ, EBPQ	21 participants met food addiction diagnosis (17.5%; 16 females, 5 males)			MLGP score higher in FA group than controls The food addiction group had significantly higher scores on all five measures of eating behaviour			Over 2X more females than males Thorough biological measurement of MLGP and BMI in the lab but other measures were self-report
Davis, Levitan, Kaplan, Kennedy, and Carter (2014) Frontiers in Psychology	136 overweight/ obese women (N=92) and men (N=44)	YFAS, FCQ, appetite ratings, snack food consumption	23 met FA diagnosis (16.9%)			Food addicts reported higher food cravings and appetite ratings The FA group showed no suppression of appetite when administered methylphenidate compared to placebo			Female-biased sample Measured actual food consumption. Found significant differences in responses to snack food in FA compared to non-FA groups
Davis and Loxton (2014) Nutrients	145 adult women (N=100) and men (N=45)	Genotyping (DNA extraction), YFAS, FPQ, PFS, FCQ	25 met food addiction diagnosis (17.2%)			YFAS symptom score was positively associated with hedonic responsiveness which mediated the relationship between A118G marker and FA			Female-biased sample DNA extraction allows comparison of biological markers
Eichen, Lent, Goldbacher, and Foster (2013) Appetite	178 overweight/ obese WLT seeking females (N=133) and males (N=45)	YFAS, BDI, BMI	15.2% met FA diagnosis Average symptom count in full sample was 2.57 (SD 1.67)					Food addicts (dichotomous and symptom count) had significantly higher BDI scores	Female-biased sample Sample seeking WLT - motivated to report more severe symptoms to qualify for treatment

Legend: MLGP = Multilocus Genetic Profile; PFS = Power of Food Scale; BEQ = Binge Eating Questionnaire; FCQ = Food Craving Questionnaire; EBPQ = Eating Behaviours Patterns Questionnaire; FPQ = Food Preference Questionnaire

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Children	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Flint et al. (2014) American Journal of Clinical Nutrition	134,175 female NHS nurses aged 45-88 years	YFAS, moderated YFAS, demographic factors		5.8% met a full food addiction diagnosis The prevalence of FA measured by the mYFAS was 8.4%		Women with food addiction were more likely to be overweight		Depression was positively correlated with FA	Female-only sample Used moderated version of YFAS Measures of covariates were obtained from retrospective data
Gearhardt, Corbin, and Brownell (2009) Appetite	233 undergraduate females (64.2%) and males (35.8%)	Development of the YFAS using BES, BIS/BAS, ETM, EES, RAPI, DDQ		11.4% met FA diagnosis Median symptom count was 1		YFAS symptom count was a significant predictor of binge eating scores after controlling for EAT and EES, explaining 14.8% of unique variance In the same way, YFAS diagnostic count explained 5.8% of unique variance		A small but significant correlation was found between YFAS scores and problematic alcohol use and BIS but not BAS	Large sample but biased towards undergraduate students All self-report measures
Gearhardt et al. (2011) Archives of General Psychiatry	39 females Excluded those with eating disorders and Axis I disorders	BMI, YFAS, DEBQ, fMRI Participants split into high FA group with 3 or more symptoms (N=15) or low FA with 1 or fewer symptoms (N=11)		High FA group endorsed 3.6 symptoms on average (SD 0.63) Low FA group endorsed 1 symptom		YFAS scores correlated with emotional eating and external eating subscales of the DEBQ			Small, female only sample Measured brain reactivity using fMRI in response to anticipated and actual palatable food consumption (milkshake)

Legend: BIS = Behavioural Inhibition Scale; BAS = Behavioural Approach Scale; ETM = Eating Troubles Module; EES = Emotional Eating Scale; RAPI = Rutgers Alcohol Problem Index; DDQ = Daily Drinking Questionnaire; fMRI = Functional Magnetic Resonance Imaging

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Children	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Gearhardt et al. (2012) International Journal of Eating Disorders	81 obese women (70.1%) and men treatment seeking BED patients	EDE, YFAS, BDI, DERS, RSE, height and weight	56.8% met diagnostic FA threshold Mean number of FA symptoms met was 4.56 (SD 1.9) Of those not meeting FA diagnosis (N=35), 57.1% endorsed 3 or more symptoms but did not meet the threshold for clinical impairment			YFAS scores were significantly positively correlated with frequency of binge eating episodes and with EDE eating, shape and weight concern and global EDE score		FA was not associated with anxiety, alcohol or drug use but was significantly associated with a greater likelihood of mood disorder diagnoses, negative affect emotional dysregulation and lower self-esteem	Female-biased, small sample All self-report measures
Gearhardt, White, Masheb, and Grilo (2013) Comprehensive Psychiatry	96 obese female (N=72) and male (N=24) patients with BED	EDE, YFAS, BDI, DERS, QWERP-R, height and weight	41.5% met diagnostic FA threshold Mean number of FA symptoms met was 4.33 (SD 1.81)			YFAS scores were significantly positively correlated with frequency of binge eating episodes and with EDE eating, shape and weight concern and global EDE score YFAS scores were associated with an earlier age of first being overweight and age of dieting onset		YFAS diagnosis was not associated with mood, anxiety, alcohol or drug use disorders YFAS symptom count was significantly correlated with higher negative affect, emotion dysregulation and lower self-esteem	Female-biased sample All self-report measures

Legend: DERS = Difficulties in Emotion Regulation Scale; RSE = Rosenberg Self-Esteem Scale; QWERP-R = Questionnaire on Eating and Weight Problems – Revised.

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Children	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Gearhardt, Roberto, Seamans, Corbin, and Brownell (2013) Eating Behaviors	75 children, 42.7% female, average age 8.32 years	Development of YFAS-C using BMI, CEBQ			7.2% met FA diagnostic threshold	Elevated scores on the YFAS-C were related to higher BMI and higher levels of emotional overeating			Used moderated version of the YFAS for children – limited generalisation to adult samples Near-even male-female gender split Low prevalence of FA means limited assessment of FA in children
Gearhardt, Rizk, and Treat (2014) Appetite	89 overweight and obese women	EDE-Q, YFAS, BMI, food stimuli, hunger ratings	Mean number of YFAS symptoms endorsed was 3.06			YFAS symptom count was a moderate predictor of cravings for low processed and fat based foods Those who reported more YFAS symptoms craved more than their peers			Female only sample Craving and liking were in response to photos of food only, not actual food
Gearhardt, Boswell, and White (2014) Eating Behaviors	815 community female (N=717) and male (N= 97) participants	EDE-Q, QEWP-R, YFAS		25.7% (N=207) met the diagnostic threshold for FA Mean number of symptoms endorsed was 3.05 (SD 2)		FA was associated with higher current and lifetime BMI, earlier age of first dieting, time spent dieting and weight cycling FA was associated with binge eating behaviours, dietary restraint, shape, weight and eating concern			Female-biased sample but a large community population Self-report measures only Included comparison of eating pathology across FA/BN groups

Legend: YFAS-C = YFAS for children; CEBQ = Children's Eating Behaviour Questionnaire

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Eating Disorders	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Granero et al. (2014) European Eating Disorders Review	207 female participants 125 eating disorder patients 82 healthy controls	EDI-2, SCL-90-R, YFAS Development of YFAS-S		2.4% of healthy control sample met FA diagnostic threshold Mean symptom count was 1.7	72.8% of eating disorder patients met FA diagnostic threshold 60% of AN,81.5% of BN, 76.9% of BED and 72.2% of EDNOS Mean symptom count was 4.7	BMI and number of binges per week positively correlated with the YFAS-S score			Female only sample Control group was not age or BMI matched Uneven split of ED types Used Spanish YFAS
Imperatori et al. (2014) Comprehensive Psychiatry	112 overweight/ obese females (N=80) and males (N=32) seeking low-energy diet therapy	YFAS, BES, SCL-90-R	33.9% (N=38) met the FA diagnostic threshold			Among patients with FA, 28.9% also satisfied criteria for clinical level binge eating, compared to only 4.1% of those without FA		The relationship between FA and psychopathology was entirely mediated by binge eating severity	Female-biased sample Used Italian YFAS WLT seeking sample – motivated to report severe eating psychopathology
Innamorati et al. (2015) Eating and Weight Disorders	300 overweight/ obese females (N=246) and males (N=54) 300 healthy controls (231 females, 69 males)	YFAS, BES				YFAS score was significantly correlated with BES score Both the YFAS-16 score and BES were significantly associated with BMI, accounting for 25% of the variance in the data			Female-biased sample Control group who did not differ in mean age or gender Used Italian YFAS

Legend: EDI-2 = Eating Disorder Inventory 2; SCL-90-R = Symptom Checklist Revised; YFAS-S = Spanish YFAS

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Eating Disorders	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Karlsson et al. (2015) The Journal of Neuroscience	13 morbidly obese women 14 healthy non-obese matched controls	YFAS and other food and personality questionnaire PET scanning measured D2 and mu-opioid receptor availability	Mean YFAS score of 18 (SD 11)	Mean YFAS score of 7.86 (SD 5.95)		Morbidly obese participants scored significantly higher on the YFAS compared to controls YFAS scores were negatively associated with MOR availability in the dorsal caudate			Female only sample PET scanning allowed comparison of MOR and D2R availability
Lent, Eichen, Goldbacher, Wadden, and Foster (2014) Obesity	178 overweight or obese females (N=133) and males (N=45) seeking WLT	YFAS, height and weight, demographic information	15.2% (N=27) met FA diagnosis at baseline FA symptom count at baseline was 2.6 (SD 1.7)				No effect of dichotomous or symptom count FA on weight loss after controlling for sex and baseline weight Variance in weight change was not significantly different by baseline FA status		Adapted the YFAS to only measure FA in the past month Studied prospective weight loss and its relationship with FA over 5-6month treatment course Motivated WLT seeking sample
Mason, Flint, Field, Austin, and Rich-Edwards (2013) Obesity	57,321 female registered nurses in the Nurse's Health Study II	Measures of physical or sexual abuse in childhood or adolescence, mYFAS		8.2% met FA diagnosis		Women meeting FA diagnosis were 6units of BMI heavier than those not meeting FA criteria Almost 2/3 of women with FA were obese compared to ¼ without FA		Found dose-response associations between physical and sexual abuse severity in childhood or adolescence and the likelihood of adult food addiction	Female only sample Used modified (9 item) YFAS limiting generalisability of FA prevalence and covariates Abuse questionnaires were retrospective

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Eating Disorders	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Mason et al. (2014) JAMA Psychiatry	49,408 female registered nurses in the Nurse's Health Study II	mYFAS, PTSD questionnaire assessing trauma exposure and PTSD symptoms		8% met FA diagnosis				Dose-response association between the number of lifetime PTSD symptoms and prevalence of food addiction in middle adulthood. This was further elevated when PTSD symptoms occurred earlier in life	Female only sample Used modified (9 item) YFAS limiting generalisability of FA prevalence and covariates PTSD was measured retrospectively
Meule, Skirde, Freund, Vogele, and Kubler (2012) Appetite	56 healthy weight females (N=47) and males (N=9) High cravers (N=28) and low cravers (N=28)	FCQ, EDE-Q, YFAS, photographic food stimuli, n-back response task		FA symptom count mean was1.11 in the low cravers group (SD .50) and 2.54 in the high cravers group (SD 1.35)		High cravers reported more eating related psychopathology as measured by the YFAS			Small sample size, predominantly female Measured behavioural responses to photo stimuli of high calorie savoury and sweet food
Meule, Lutz, Vogele, and Kubler (2012) Appetite	617 participants (75.8% female)	FCQ-trait, YFAS, RS-CD, PSRS, FC12, RC16, EDEQ, MaCS, BIS, PANAS				Food addiction symptoms were positively related to FCQ-T scores			Female-biased sample Focused on the psychometrics of German YFAS
Meule, Lutz, Vogele, and Kubler (2012) Eating Behaviors	50 normal weight female students	YFAS, CES-D, BIS,-15, FCQ (state version), XY response task		Mean FA symptom count was .83 (SD .38) in low FA and 2.65 (SD .75) in high FA group		FA symptoms positively correlated with BMI		Food addiction symptoms were positively correlated with depressive symptoms	Female sample Split sample into high and low FA groups – did not compare FA to no FA Behavioural task

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Eating Disorders	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Meule and Kubler (2012) Eating Behaviors	617 participants (75.8% female)	FCQ (trait version), YFAS, BMI		7.8% met FA diagnosis (N=48)		Individuals with a FA diagnosis scored higher on the global FCQ-T and all subscales except positive reinforcement)			Female-biased sample Minimal covariate analysis
Meule, Heckel, and Kubler (2012) European Eating Disorders Reviews	96 overweight or obese females (N=63) and males (N=33) seeking WLS	YFAS	41.70% met FA diagnosis (N=40) Mean YFAS symptom count was 3.42 (SD1.74)						Female-biased, motivated sample Assessed factor structure of German YFAS, did not report covariates
Meule, Freund, Skirde, Vogele, and Kubler (2012) Applied Psychophysiology and biofeedback	56 healthy weight females (N=47) and males (N=9) High cravers (N=28) and low cravers (N=28)	FCQ-trait, EDEQ, YFAS, PSRS; ERQ, locus of control, HRV				More FA symptoms were reported in the high craving control group compared to the high craving biofeedback group and low craving group			Female-biased sample Analysed high cravers vs low cravers, not FA vs no-FA Identified HRV as a potential treatment for FA

Legend: PSRS = Perceived Self-Regulatory Success in Dieting Scale; ERQ = Emotion Regulation Questionnaire; HRV = Heart Rate Variability; PTSD = Post-Traumatic Stress Disorder; RS-CD = Restraint Scale-Subscale Concern for Dieting; PSRS = Perceived Self-Regulatory Success in Dieting; FC12 = Flexible Control of Eating Behaviour; RC-16 = Rigid Control of Eating Behaviour; MaCS = Mannheimer Craving Scale; PANAS = Positive and Negative Affect Schedule

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Eating Disorders	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Meule, Heckel, Jurowich, Vogele, and Kubler (2014) Clinical Obesity	94 overweight or obese females (N=63) and males (N=33) seeking WLS	YFAS, FCQ, EDEQ, BIS, AUDIT, CES-D	40.4% met FA diagnosis (N=38) Mean YFAS symptom count was 3.39 (SD1.75)			FA group had higher FCQ-T scores and EDE-Q subscales eating, weight and shape concern scores and total EDE-Q FA group reported more binge days		FA group scored higher on the BIS attentional impulsivity subscale and had higher CES-D scores FA had lower AUDIT scores	Female-biased, motivated sample Self-report measures and no follow up after WLS
Meule, Lutz, Vogele, and Kubler (2014) Eating Behaviors	50 normal weight female students	YFAS, BMI, BIS, FCQ-S, SST		Mean YFAS symptom count was 1.56 (SD 1.05)		YFAS symptom count was positively correlated with BMI YFAS symptoms were not associated with FCQ-S scores		YFAS scores were not correlated with BIS scores or reaction task performance	Female only sample Included a behavioural food impulsivity measure
Meule, von Rezori, and Blechert (2014) European Eating Disorders Reviews	109 female participants with either current BN (N=26), history of BN (N=20) or control group (N=63)	YFAS, EDE-Q, DEBQ, symptom inventories, CES-D		30% of remitted BN patients (N=6) received FA diagnosis Their mean FA symptom count was 3.95 (SD1.79) None of the control group met FA diagnosis (mean symptom count .86 (SD.90)	All current BN patients (N=26) received an FA diagnosis Their mean FA symptom count was 6.27 (SD1.04)	FA group had higher eating disorder psychopathology YFAS symptom count was positively correlated with all measures of eating disorders		FA group had higher general psychopathology YFAS symptom count was positively correlated with general psychopathology	Female only sample Self-report measures only Analysed FA specifically in relation to BN and not BED

Legend: AUDIT = Alcohol Use Disorders Identification Test; BN = Bulimia Nervosa; SST = Stop Signal Task

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Eating Disorders	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Meule, Hermann, and Kubler (2015) European Eating Disorders Reviews	50 overweight or obese adolescent females (N=31) and males (N=19) seeking WLT	YFAS, FCQ-T, EDE-Q, BIS, CES-D	38% (N=19) received an FA diagnosis Mean FA symptom count was 3.38 (SD 2.11)			Food addicts had higher eating, weight and shape concerns, reported more days binge eating and food craving episodes		Food addicts had more symptoms of depression and scored higher on attentional and motor impulsivity	Motivated sample to qualify for WLT Small sample, predominantly female Patients were mid-WLT but the study did not follow up post WLT
Murphy, Stojeck, and MacKillop (2014) Appetite	233 students Females N=179 Males N=54	UPPS-P, YFAS		24% met FA criteria Mean YFAS symptom count was 1.80 (SD1.39)		FA was significantly positively correlated with BMI		FA was correlated with increased scores on all subscales of the UPPS-P except sensation seeking	Female biased sample Only measured FA and impulsiveness, both by self-report
Pedram et al. (2013) PLoS ONE	652 healthy Canadian females (N=415) and males (N=237)	Body composition, YFAS, macronutrient intake	Prevalence of 7.7% in overweight or obese participants	5.4% met FA diagnosis (6.7% in women, 3.0% in men)		FA prevalence significantly increased with increasing obesity status regardless of how adiposity was defined			Female biased sample Measured body composition (not just BMI) and retrospective food intake and exercise in FA and non-FA groups Low prevalence of FA restrains comparison between FA and non-FA groups

Legend: UPPS-P = Impulsive Behaviour Scale; FCI = Food Craving Inventory

Supplemental Table 1. Continued

Investigators	Sample	Measures	Prevalence			Correlates			Critical Analysis
			Obese or Overweight	General Population	Eating Disorders	Problematic Eating	Weight Loss Outcomes	Psychological Wellbeing	
Pepino, Stein, Eagon, and Klein (2014) Obesity	44 obese females (N=39) and males (N=5) undergoing WLS	YFAS, DEBQ, FCI	FA was identified in 32% of subjects (N=14) before surgery WLS resulted in a remission of FA in 13 of the 14 FA subjects (93%)			Surgery induced weight loss decreased food cravings in both FA and non-FA groups, but the decrease was greater in the FA group			Female biased, motivated sample Measured patients at baseline and 9 month follow up Longitudinal effects of FA on weight loss
Reslan, Saules, Greenwald, and Schuh (2014) Substance Use and Misuse	141 post-WLS females (N=112) and males (N=29), at least 24 months post WLS	Preoperative and current BMI, MAST-AD, ASSIST, YFAS, NEQ, PFS, TFEQ, QEWP-R, EDE, EES	36% (N=53) met criteria for pre-surgical food addiction			Significant correlation between YFAS symptom count and NEQ		Post-RYGB patients who also endorsed substance use criteria had significantly higher scores on YFAS	Female biased, motivated sample Pre-surgical measurements were all retrospective No follow-up
Schulte, Avena, and Gearhardt (2015) PLoS ONE	Study 1: 120 students (92 female, 28 male) Study 2: 384 females (N=156) and males (N=228)	Study 1: YFAS, forced choice task Study 2: YFAS, food ratings		Study 1: Mean FA symptom count 1.85 (SD1.33) Study 2: Mean FA symptom count 2.38 (SD 1.73)		YFAS symptom count was associated with BMI Level of processing led to the most problematic, addictive-like eating behaviours Level of processing was a positive predictor of food ratings of problematic addictive eating behaviour			Female biased sample Only photos of foods were used, no real food intake or anticipated intake was measured but forced choice task measured behavioural responses to foods

Legend: NEQ = Night Eating Scale; TFEQ = Three Factor Eating Questionnaire; QEWP-R = Questionnaire on Eating and Weight Patterns – Revised