



Co-Occurring Food Addiction, High-Risk Substance Use and Parental History of High-Risk Alcohol Use



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INTRODUCTION

- There is ongoing debate about the phenotype Food addiction (FA), a substance-based addiction to highly processed (HP) foods high in refined carbohydrates and/or fat.¹
- Family history is a known risk factor for substance use disorders (SUDs).²
- Family history of problematic substance use is associated with increased sweet preference and reward-driven eating in offspring.³ However, associations between family history of substance use and FA have thus far not been studied.
- Existing research on the co-occurrence of food addiction and problematic substance use is mixed.⁴⁻⁶
- Past research has primarily utilized samples identifying as female and samples with obesity which do not represent the full spectrum of FA.⁴⁻⁶
- We investigated rates of co-occurrence among FA, problematic substance use (alcohol, cannabis, cigarettes, nicotine vaping), and parental history of problematic alcohol use in a sample (n=357) with a wide weight-distribution and an even sex-distribution.

METHODS

- **Participants** (n=357) were age 21-73 (m=40.7, SD=12.1), 49.7% men, 90.4% heterosexual, 77.6% white, 67.9% bachelor's or higher
- **Scoring Criteria**
 YFAS2.0 = 2+ symptoms & impairment
 AUDIT = 8+ symptoms
 CUDIT = 8+ symptoms
 FTND = 4+ symptoms
 E-Cig = 4+ symptoms
 FTQ = 1+ parent w/ possible/definite problems

RESULTS

	Unadjusted RRs			Adjusted RRs		
	RR	[99% CI]	p	RR	[99% CI]	p
Food Addiction (24.1%)						
Alcohol	3.10	[1.80, 5.33]	<.001	2.40	[1.35, 4.27]	<.001
Cannabis	3.13	[1.04, 9.46]	.008	2.46	[0.70, 8.58]	.064
Smoking	2.68	[1.34, 5.33]	<.001	2.51	[1.26, 5.04]	<.001
Vaping	6.38	[2.33, 17.47]	<.001	5.63	[2.35, 13.50]	<.001
Parent Alcohol Hx	2.03	[1.398, 2.99]	<.001	2.18	[1.47, 3.25]	<.001
Alcohol (19.6%)						
Food Addiction	2.77	[1.75, 4.40]	<.001	2.13	[1.32, 3.45]	<.001
Cannabis	13.60	[3.82, 48.44]	<.001	12.12	[3.43, 42.86]	<.001
Smoking	3.75	[1.88, 7.49]	<.001	3.58	[1.69, 7.58]	<.001
Vaping	4.40	[1.72, 11.31]	<.001	3.78	[1.45, 9.86]	<.001
Parent Alcohol Hx	1.55	[1.01, 2.39]	.009	1.60	[1.02, 2.49]	.007
Cannabis (6.3%)						
Food Addiction	2.22	[1.17, 4.18]	.001	1.66	[0.82, 3.36]	.063
Alcohol	5.00	[3.14, 7.96]	<.001	3.98	[2.34, 6.78]	<.001
Smoking	4.75	[2.38, 9.47]	<.001	4.04	[1.99, 8.21]	<.001
Vaping	3.14	[0.90, 10.94]	.018	2.20	[0.61, 7.92]	.113
Parent Alcohol Hx	1.36	[0.69, 2.70]	.247	1.45	[0.70, 2.98]	.185
Smoking (13.6%)						
Food Addiction	2.23	[1.34, 3.71]	<.001	1.86	[1.13, 3.07]	.001
Alcohol	3.11	[1.81, 5.32]	<.001	2.65	[1.48, 4.76]	<.001
Cannabis	6.67	[2.41, 18.46]	<.001	5.47	[1.97, 15.19]	<.001
Vaping	12.12	[5.91, 24.85]	<.001	11.03	[4.20, 28.92]	<.001
Parent Alcohol Hx	1.41	[0.87, 2.30]	.069	1.56	[0.96, 2.51]	.018
Vaping (7.8%)						
Food Addiction	3.39	[2.11, 5.44]	<.001	2.71	[1.75, 4.21]	<.001
Alcohol	3.15	[1.72, 5.79]	<.001	2.56	[1.38, 4.73]	<.001
Cannabis	3.34	[0.85, 13.11]	.023	2.32	[0.57, 9.41]	.122
Smoking	8.13	[4.72, 31.14]	<.001	7.79	[3.91, 15.55]	<.001
Parent Alcohol Hx	1.41	[0.78, 2.55]	.139	1.48	[0.81, 2.72]	.094
Parent Alcohol Hx (33.2%)						
Food Addiction	2.33	[1.42, 3.83]	<.001	2.35	[1.46, 3.79]	<.001
Alcohol	1.73	[0.98, 3.06]	.013	1.74	[0.99, 3.06]	.012
Cannabis	1.58	[0.53, 4.71]	.284	1.70	[0.55, 5.23]	.223
Smoking	1.60	[0.79, 3.23]	.088	1.80	[0.89, 3.65]	.032
Vaping	1.65	[0.64, 4.28]	.174	1.74	[0.68, 4.46]	.132

Table 1. Significant at p<.05; due to multiple analyses, 99% CIs are presented. Bold in 1st column indicates predictor variable, italicized indicates outcome variable. Percentages indicate the percent of participants categorized as meeting criteria Adjusted = covariates sex at birth, age, and subjective socioeconomic status

DISCUSSION

- Risk of FA was higher for participants with problematic use of alcohol, cigarettes, cannabis (unadjusted only) and nicotine vape and with parental history of problematic alcohol use.
- Parental history of problematic alcohol use was more strongly associated with FA than personal problematic substance use (including alcohol).
- Risk of FA may be transferred, in part, through the inheritance of biological vulnerabilities in reward circuitry implicated in substance use and FA and/or through indirect pathways such as environmental factors.
- Unlike with other substances, HP food consumption often begins early in development.⁷
- Children with a parental history of problematic substance use may be particularly vulnerable to developing FA, especially in combination with the current food environment where HP foods are cheap, accessible, and heavily marketed.⁸
- Results support the conceptualization of FA as a substance-based addictive disorder.

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