Anxiety and Depressive Symptoms in Relation to Cigarette Smoking for Weight, Shape, and Appetite Control: The Role of Distress Intolerance

Emily K. Burr[1], Bailey O'Keeffe[2], Mindy Kibbey[1], Teresa M. Leyro[1], & Samantha G. Farris[1]

[1]Rutgers, The State University of New Jersey, [2]Butler Hospital

Background

- Anxiety and depressive disorders frequently co-occur with multiple maladaptive health behaviors, including cigarette smoking and poor weight control.
- Smokers who rely on cigarettes to control aspects of weight and shape (e.g. appetite) present with more severe anxiety and depressive symptoms.
- Distress intolerance (DI), one's perceived inability to withstand distressing emotional states, is implicated in both affective symptoms and health behaviors.
- In the absence of more adaptive distress management skills, DI may contribute to elevated levels of affective distress and the tendency to rely on cigarettes for appetite and weight control among smokers.

Study Aims

- Assess the correlation between anxiety symptoms and domains of reliance on smoking to control weight/appetite.
- Assess the correlation between depressive symptoms and domains of reliance on smoking to control weight/shape.
- Evaluate the association between DI and tendency to rely on cigarettes above and beyond covariant factors, including depressive and anxiety symptoms.

Method

Participants
- Adult daily smokers (n=577) completed an online survey through Qualtrics

Measures
- Body Mass Index (BMI) derived based on self-reported height and weight
- Fagerström Test for Cigarette Dependence (FTCD, Range: 0-10)
- Patient Health Questionnaire (PHQ)
  - Severity of anxiety symptoms (Range: 0-14)
  - Severity of depressive symptoms (Range: 0-27)
  - Number of compensatory eating symptoms (Range: 0-4)
- Distress Tolerance Scale (DTS, Range: 1-5)
- Smoking and Weight Episodes Eating Test (SWEET, Range: 1-5)
- Smoking to Suppress appetite
- Smoking to Prevent overeating
- Smoking to Cope with body dissatisfaction
- Smoking to Cope with withdrawal-related appetite increases

Analyses

Hierarchical linear regression models were conducted to assess the incremental association between DTS and the four SWEET subscales, above and beyond relevant demographic, behavioral, and psychological covariates.

Participant Characteristics

Variable	Mean (SD)
Age	44.2 (13.0)
Sex	52.8% Female
BMI	27.90 (7.26)
Anxiety symptoms	4.75 (3.80)
Depressive symptoms	6.83 (6.70)
Compensatory Eating symptoms	0.61 (1.07)
SWEET - Appetite Suppression	2.40 (1.08)
SWEET - Prevention of Overeating	2.32 (1.18)
SWEET - Body Dissatisfaction	2.05 (1.26)
SWEET - Withdrawal-Appetite Symptoms	2.58 (1.30)
DTS	3.28 (1.01)

DI in Relation to Smoking for Weight/Shape Control

DV	Step	Predictors	ΔR^2	t	b	sr^2	p
Suppress Appetite	1	Depression	.253	3.637	.042	.023	<.001
		Anxiety		0.056	.001	.000	.955
	2	DI	.040	-5.655	-.269	.053	<.001
Prevent Overeating	1	Depression	.268	3.062	.038	.016	.002
		Anxiety		-0.048	-.001	.000	.962
	2	DI	.034	-5.287	-.270	.047	<.001
Body Dissatisfaction	1	Depression	.293	5.539	.071	.051	<.001
		Anxiety		-1.359	-.030	.003	.175
	2	DI	.046	-6.283	-.333	.065	<.001
Appetite- Withdrawal	1	Depression	.176	1.967	.028	.007	.050
		Anxiety		1.447	.035	.004	.148
	2	DI	.030	-4.602	-.277	.036	<.001

Note: All models include variables: age, sex, cigarette dependence, BMI, and eating symptoms; Higher DTS scores reflect lower DI

Discussion

- Depressive symptoms were significantly associated with all SWEET domains, whereas anxiety severity was not.
- Lower DTS scores (greater DI) was significantly and incrementally associated with all SWEET domains.
- DI may explain the etiology of maladaptive coping in the context of affective distress and the coupling of problematic health behaviors (e.g., smoking and poor weight control).