

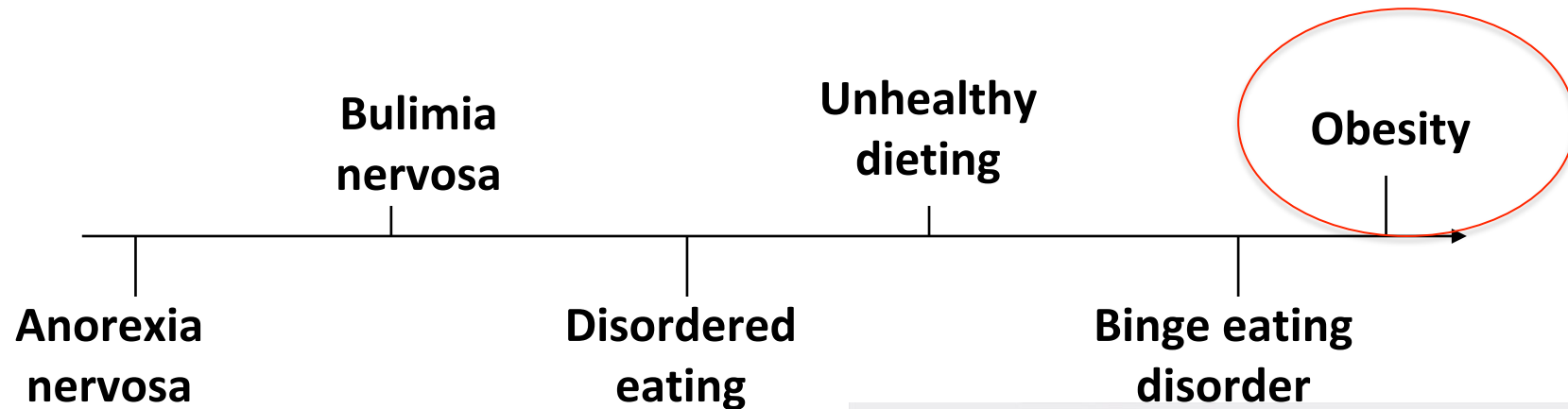
Maladaptive Schemas, Modes and Coping Strategies in Overweight and Obesity

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Spectrum of Weight-Related Disorders

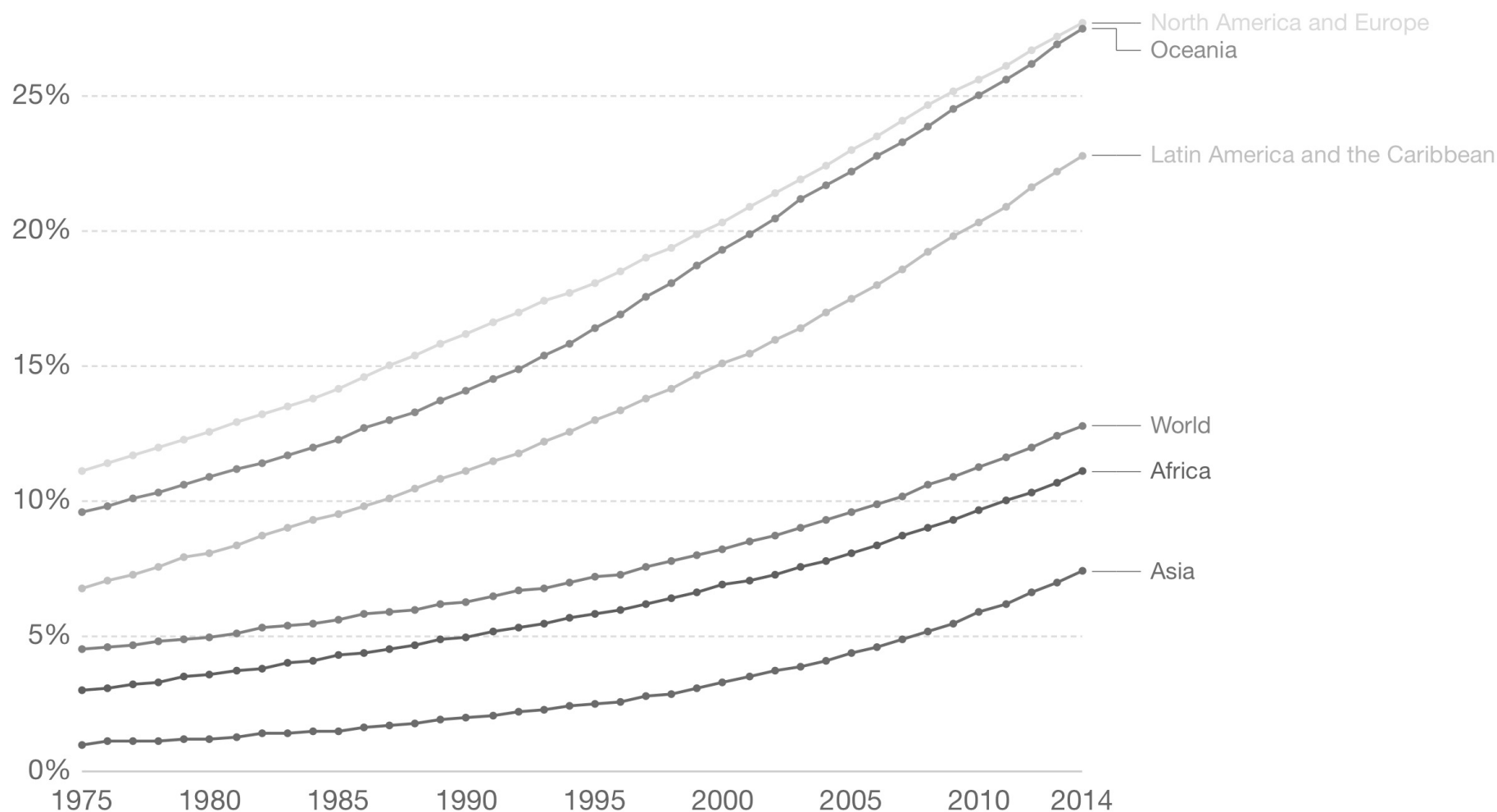


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Prevalence of obesity in adults by region

The prevalence of obesity in adults, measured as the percentage of adults aged 18 years and older (both male and female) with a body-mass index (BMI) greater than 30 kilograms per metre squared.



Source: UN Food and Agricultural Organization/WHO

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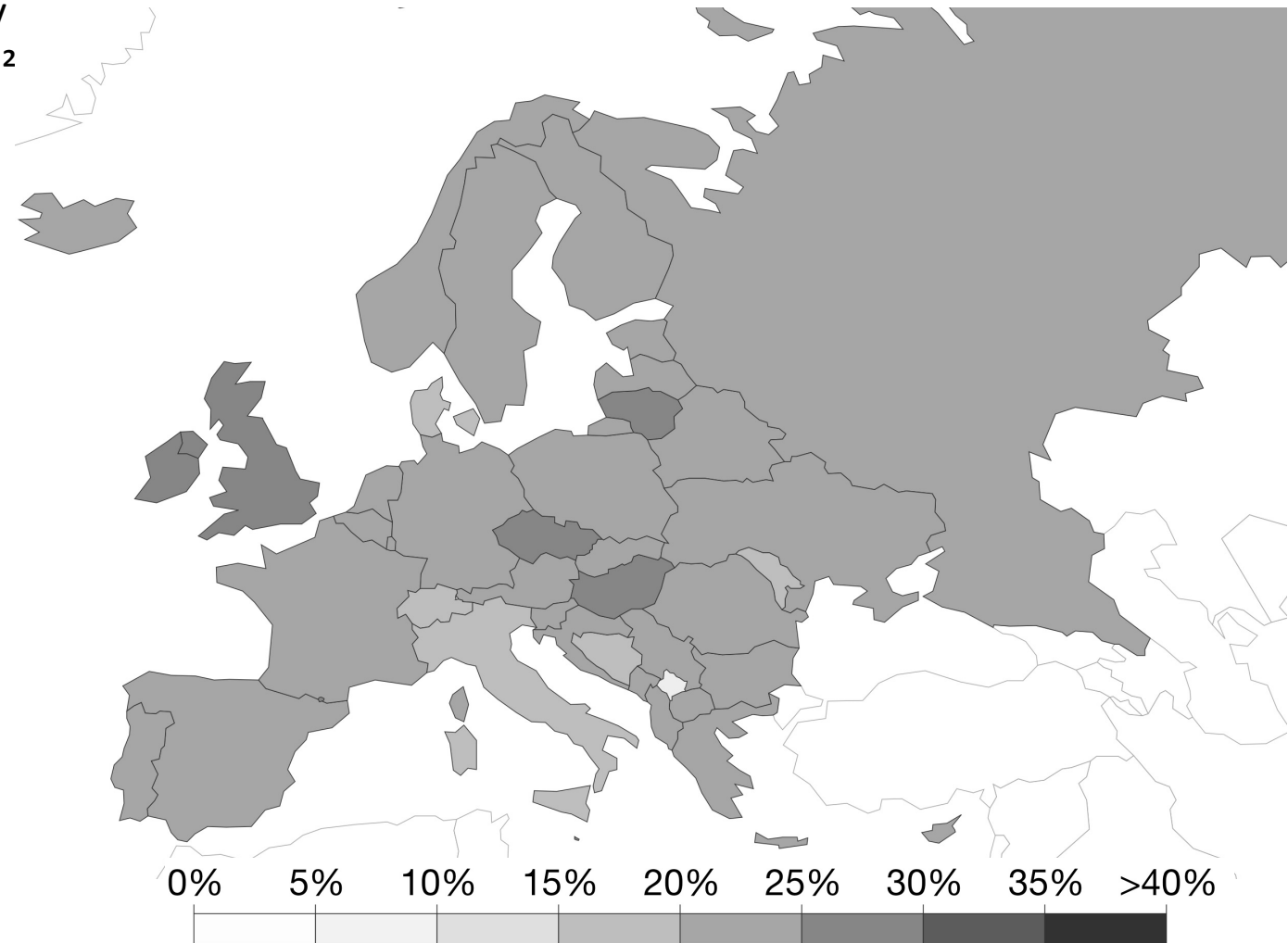


Obesity in Europe

$BMI = (\text{body mass in kg}) / (\text{height in metres})^2$

$BMI > 30 = \text{obese}$

Map refers to 2016

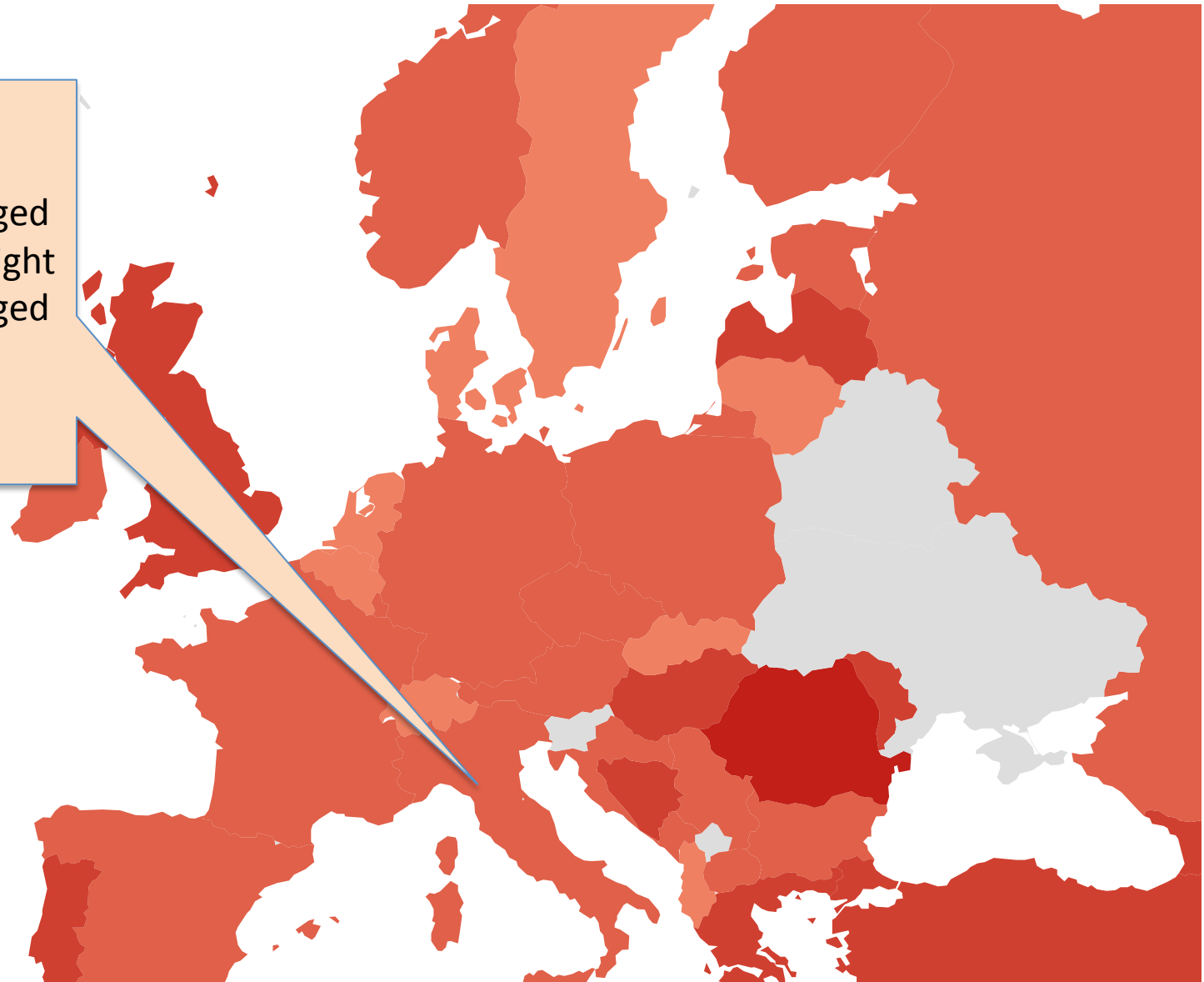




World Obesity Federation Data

In 2008-2012

- 31.8 % of women (aged 35-79) were overweight
- 24.9 % of women (aged 35-79) were obese



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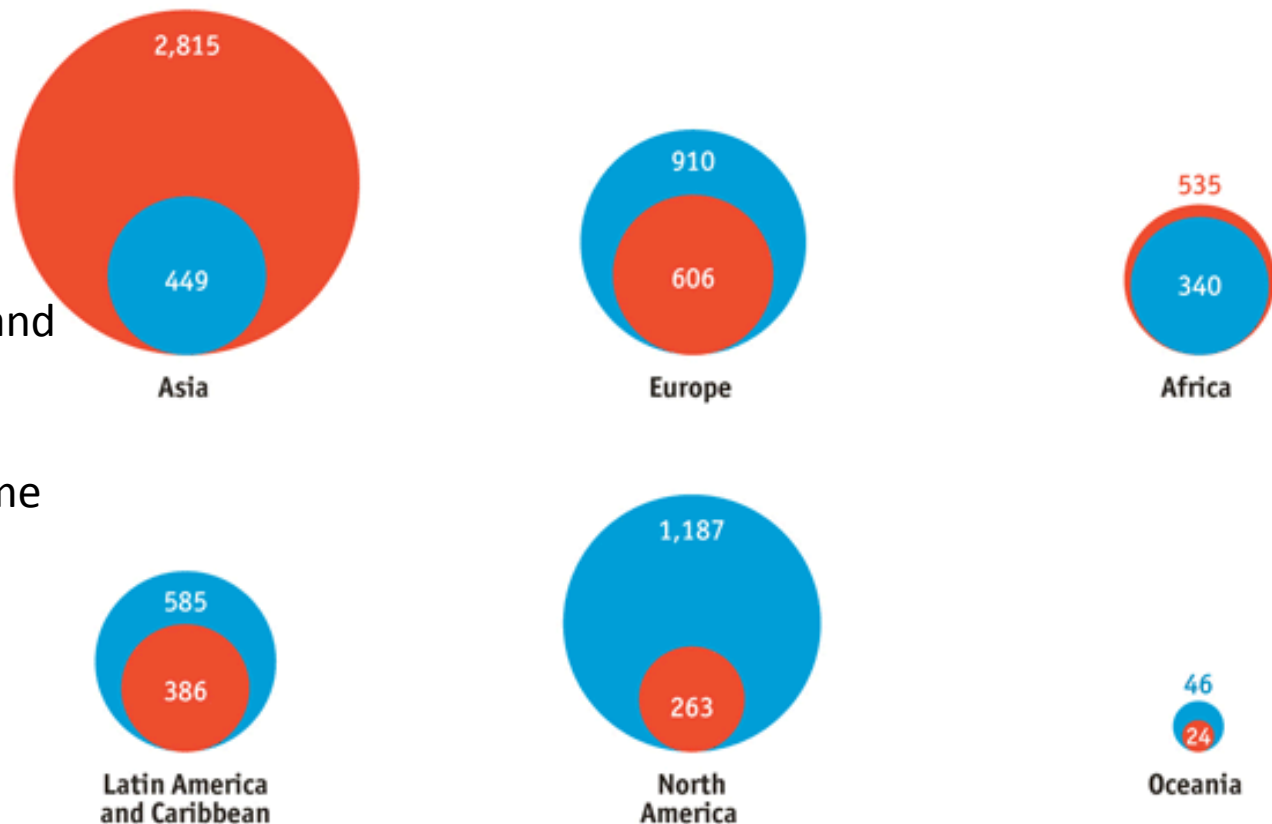
Obesity and Biomass production



In a paper published by *BMC Public Health*, Sarah Walpole and her colleagues examined the global distribution of biomass. If the whole world had the same proportion of overweight and obese people as America, its biomass would rise by 20%

Population and biomass
By region, 2005

■ Adult population, million
■ Biomass due to adult obesity*, million kg



Source: BMC Public Health

* Body-mass index of more than 30



Obesity treatment



- Surgical Treatment: gastric bypass, sleeve gastrectomy, gastric banding and biliopancreatic bypass.
- Psychological Interventions: guided self-help (Brownell 1997), behavioral therapy (Wing 1995), CBT (Cooper & Fairburn 2001, 2002)
- Most people who seek treatment (both kinds) for obesity lose weight, but they regain weight shortly (Cussler et al., 2008; Jones, Wilson, & Wadden, 2007; Turk et al., 2009)
- Effects of therapeutic support are modest and do not persist in most cases (Svetkey et al., 2008; Wing et al., 2006)



Schema Therapy & Obesity



- Most research focused on AN, BN and BED
- Early maladaptive schemas relate to dysfunctional eating behaviors
- Although obesity has become a growing burden, only few studies within the Schema Therapy context this condition
- Nevertheless, some studies found that obese, within both adult and adolescent population, show more severe dysfunctional schemas, compared against normal weight individuals (Adolescents: van Vlierberghe et al., 2007; 2009; Turner et al 2005. Adults: Anderson et al 2006; Poursharifi et al 2011; da Luz et al 2017; Imperatori et al) 2017.
- Obesity / BED comorbidity issue



Examining Binge Eating Disorder and Food Addiction in Adults with Overweight and Obesity



Valentina Ivezaj, Ph.D., Marney A. White, Ph.D., M.S., and Carlos M. Grilo, Ph.D.

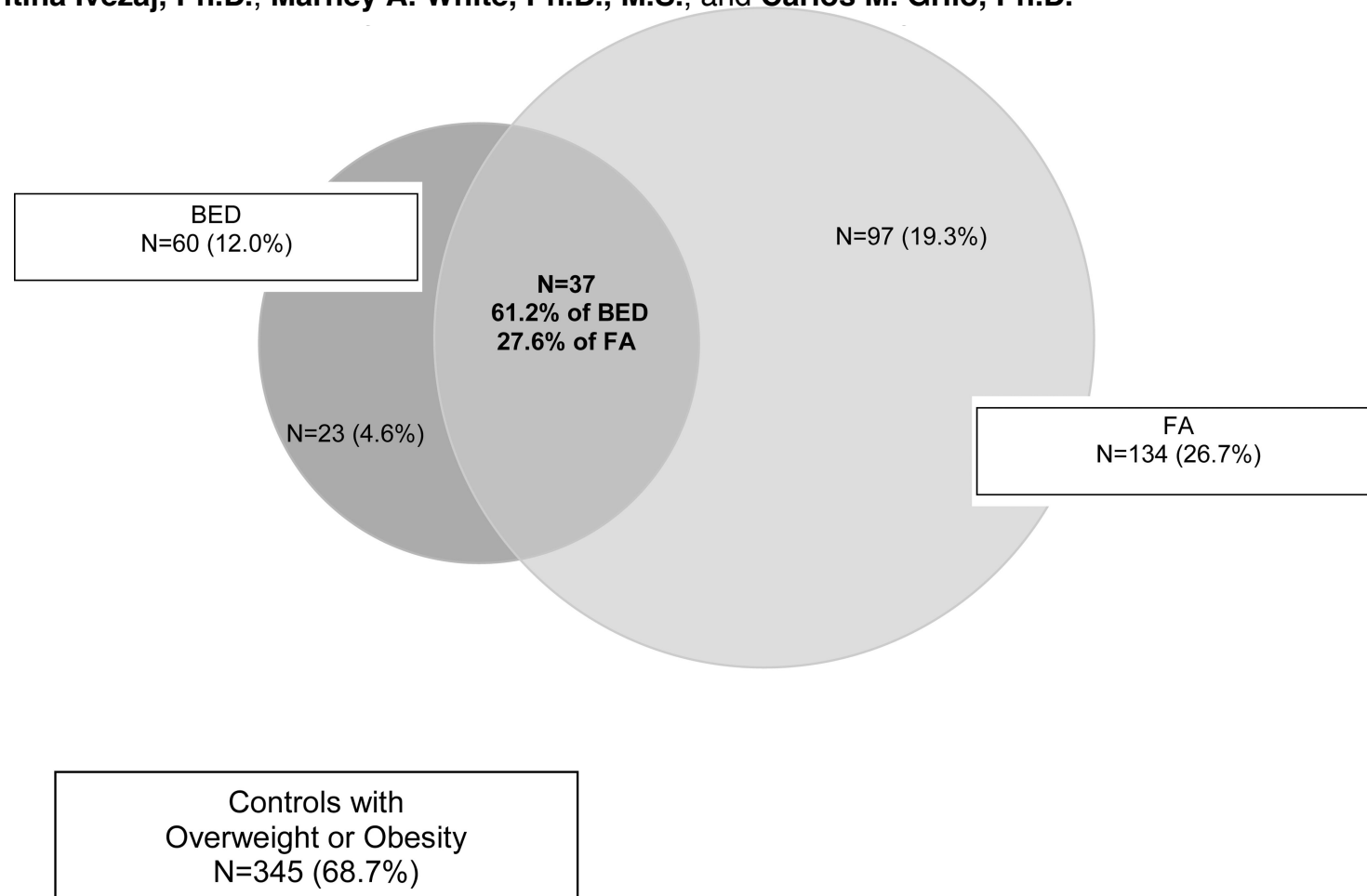


Figure 1.

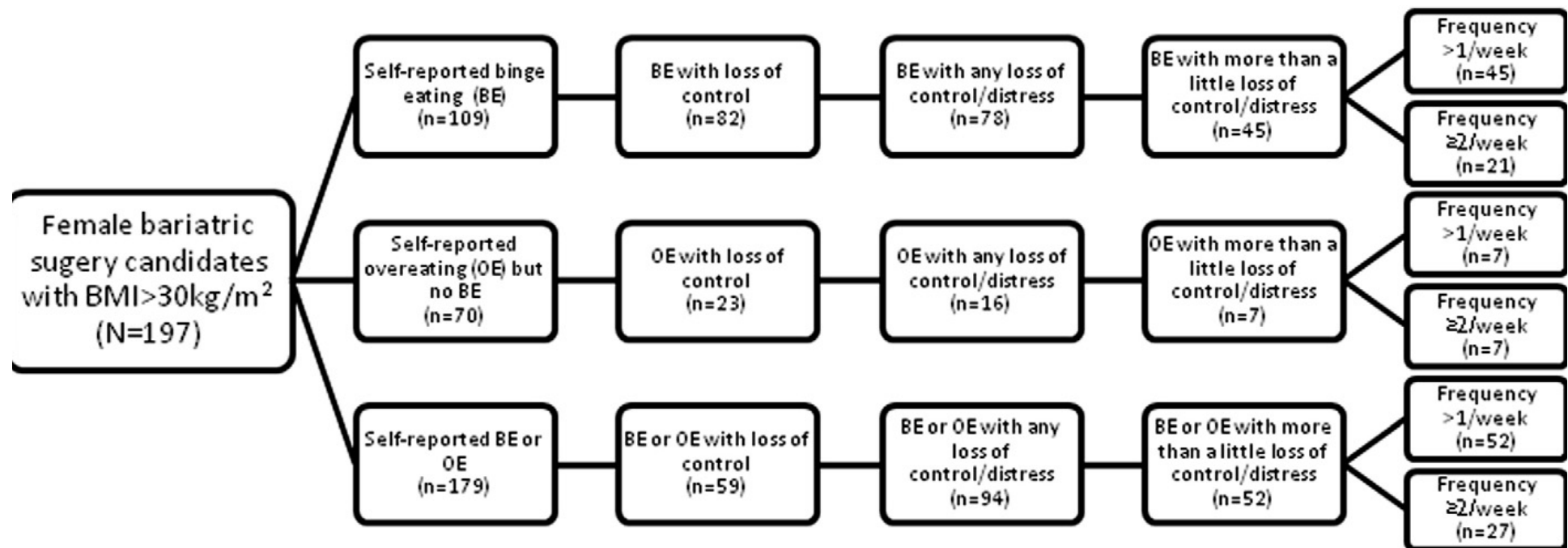
Rates of BED, FA, and Co-Occurring BED+FA in Overweight or Obesity

BED = Binge Eating Disorder; FA = Food Addiction



The difficulty in defining binge eating in obese women: How it affects prevalence levels in presurgical bariatric patients

Elise L. Coker ^{a,*}, Astrid von Lojewski ^{a,b}, Georgina M. Luscombe ^c, Suzanne F. Abraham ^a





Schemas in Adult Obese

The Relationship between Early Maladaptive Schemas and Aspects of Identity in Obesity

Hamid Poursharifi^{a*}, Maryam Bidadian^b, Hamid Bahramizadeh^b, Mohammad Ali Salehinezhad^b

Obesity and Quality of Life: The Role of Early Maladaptive Schemas

Maryam Bidadian^{*a}, Hamid Bahramizadeh^a, Hamid Poursharifi^b

Early Maladaptive Schemas and Cognitive Distortions in Adults with Morbid Obesity: Relationships with Mental Health Status

Felipe Q. da Luz^{1,2,3,*}, Amanda Sainsbury^{1,2}, Phillipa Hay⁴, Jessica A. Roekenes¹, Jessica Swinbourne¹, Dhiordan C. da Silva³ and Margareth da S. Oliveira³

Article

The Association between Food Addiction and Early Maladaptive Schemas in Overweight and Obese Women: A Preliminary Investigation

Claudio Imperatori^{1,*} , Marco Innamorati¹, David Lester² , Massimo Continisio¹, Michela Balsamo³, Aristide Saggino³ and Mariantonietta Fabbriatore¹

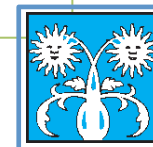
A comparison of maladaptive schemata in treatment-seeking obese adults and normal-weight control subjects

Kate Anderson^a, Elizabeth Rieger^{a,*}, Ian Caterson^b

Means and standard deviations of the 15 subscale and total scores of the YSQ-S in the obese and control groups

YSQ-S scale	Obese group (<i>n</i> = 52)		Control group (<i>n</i> = 39)	
	Mean	S.D.	Mean	S.D.
Emotional deprivation	2.97	1.43	2.25	1.24
Abandonment	2.23	1.13	1.75	0.89
Mistrust/Abuse	2.41	1.12	1.91	0.89
Social isolation	2.59	1.25	1.77	0.83
Defectiveness /Shame	2.09	1.13	1.51	0.80
Failure to achieve	2.21	1.19	1.53	0.74
Dependence/Incompetence	1.72	0.90	1.59	0.64
Vulnerability to harm	2.34	1.21	1.77	0.78
Enmeshment	1.72	0.84	1.59	0.82
Subjugation	2.26	1.07	1.71	0.93
Self-sacrifice	3.52	1.27	3.23	1.13
Emotional inhibition	2.45	1.13	2.04	1.05
Unrelenting standards	3.42	1.24	3.52	1.22
Entitlement	2.57	0.98	2.36	0.80
Insufficient self-control	2.87	1.10	2.31	0.87
Total	2.49	0.74	2.06	0.61

^a Indicates a significant result at the .01 level.





Aim

1. Identify maladaptive schemas, modes and dysfunctional coping strategies in overweight and obese individuals
2. Compare with normal weight controls
3. Explore the predictive and mediation role of schemas, modes and dysfunctional coping strategies in explaining overweight/obesity



Measures

- Eating Disorder Inventory -3 (EDI-3)
- Epidemiologic Studies Depression Scale (CES-d)
- Young Schema Questionnaire (YSQ-SF)
- Schema Mode Inventory (SMI)
- Young Avoidance Inventory (YRAI; behavioral/somatic and cognitive/emotional avoidance; Luck 2005)
- Young Compensation Inventory (YCI)
- Eating related attitudes: Frequency of Binge episodes, vomiting/purging frequency
- Other variables: familiar psychopathology, drugs, undergoing psychotherapy



Sample



	Normal weight N=37	Overweight/obese N=48	P*
BMI (SD) range	21.1[2.3] 16-24	32.8[8.1] 25-55	0.00
Mean Age [SD]	35.1[13.7]	38.3[13.5]	ns
Sex	9M/28F	11M/33F	ns
Marital status	17 single 17 married	21 single 21 married	ns
Education/ degree	15 college 7 bachelor 9 master	21 college 15 bachelor 5 master	ns

online recruitment www.mturk.com

* T test and Chi square comparisons



Comparison analyses: Eating attitudes & psychological variables

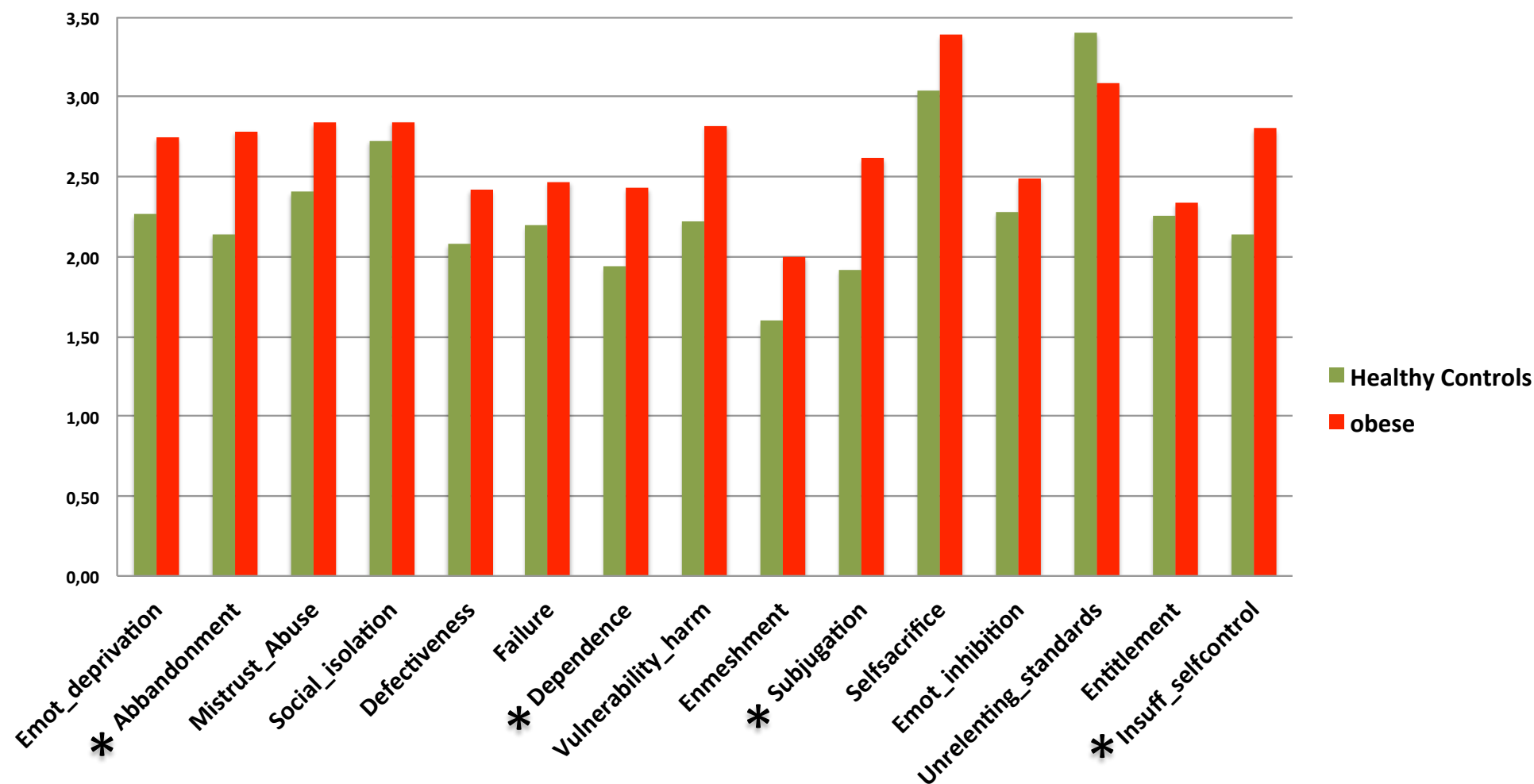
		Mean	SD
CESD	Normal	19,0	8,5
	Obese	21,2	9,1
Binge_episodes	Normal	1,4	,8
	Obese	1,9	1,5
EDI3_Drive_thiness	Normal	7,1	9,0
	Obese	12,4	9,2
EDI3_BN	Normal	3,8	6,9
	Obese	11,2	9,9
EDI3_Body_dissatisfaction	Normal	10,1	11,8
	Obese	21,4	13,4
EDI3_Low_selfesteem	Normal	4,9	6,3
	Obese	9,4	6,8
EDI3_Personal_Alienation	Normal	7,3	5,0
	Obese	10,1	5,7
EDI3_Interoceptive_deficit	Normal	5,9	8,5
	Obese	10,0	8,9
EDI3_Emotional_disregulation	Normal	9,8	4,6
	Obese	12,8	5,9
EDI3_risk_of_ED	Normal	20,9	24,5
	Obese	44,9	28,0
EDI3_Inadeg	Normal	12,2	10,7
	Obese	19,6	11,9
EDI3_Affective_Pr	Normal	15,8	12,2
	Obese	22,8	13,9
EDI3_Psychopat	Normal	79,5	34,7
	Obese	97,6	38,0

No differences
in depressive symptoms

T-test
Significant diff for $p < 0.05$



Comparison analyses: Early Maladaptive Schemas



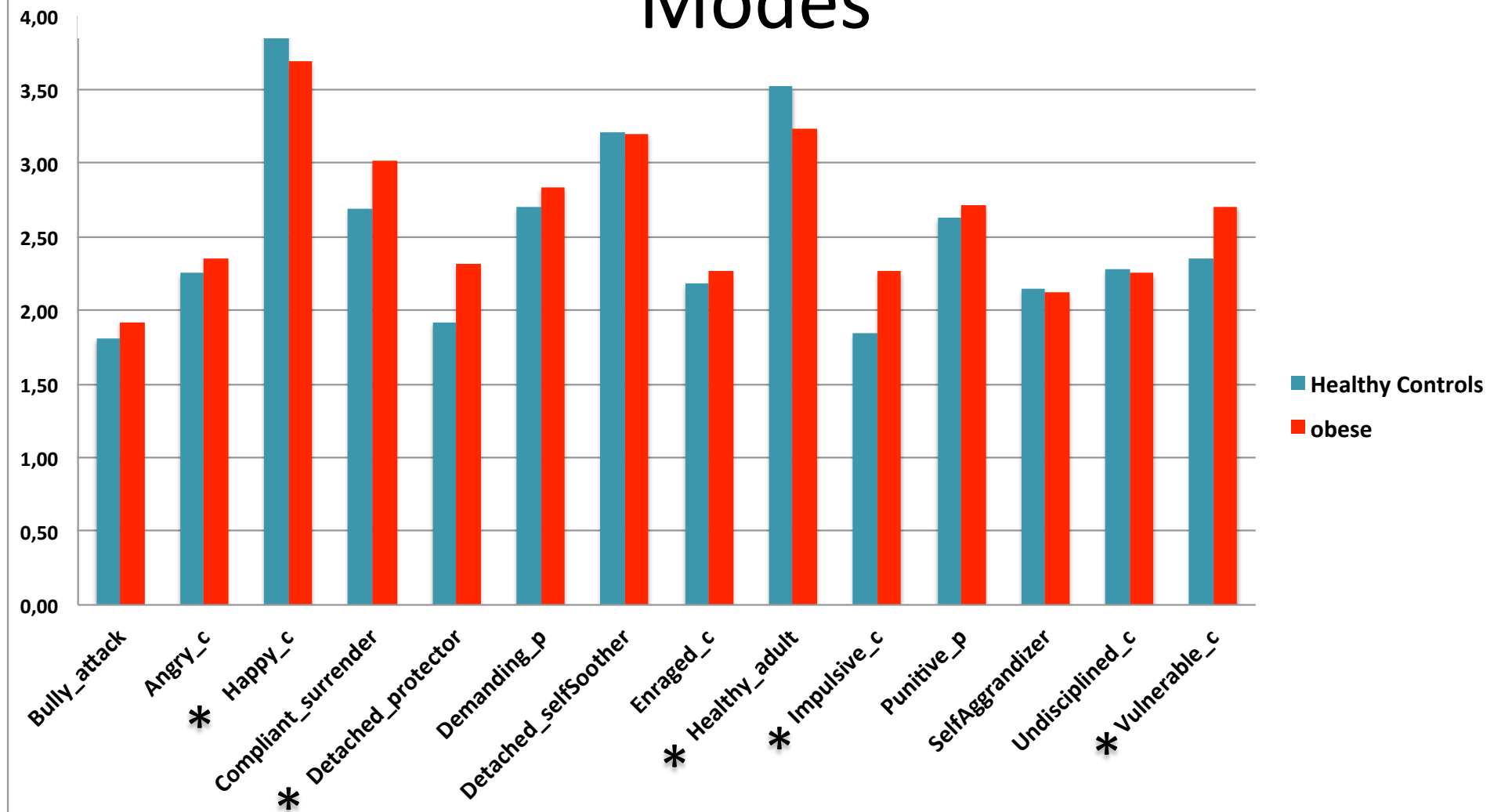
T-test

* Significant differences for $p < 0.05$

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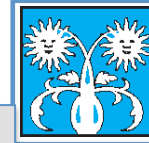
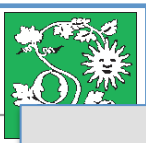
Comparison analyses: Modes



T-test

* Significant differences for $p < 0.05$

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Comparing Avoidant and Overcompensating Coping Strategies

- ✓ Substance abuse
- ✓ Withdrawal from people
- ✓ Avoidance through sleep / lack of energy
- ✓ Distraction through activity
- ✓ Self-soothing (eating, shopping, etc.)
- ✓ Avoidance of upsetting situations

- YRAI “Behavioral/Somatic Strategies”: Obese > normal weight (Luck 2005)
- No differences in Overcompensation Coping Strategies (YCI)

hy Controls

T-test

* Significant differences for $p < 0.05$

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Correlations: Dysfunctional eating and Schemas

Obese N=48	Emotional deprivation	Abandon ment	Mistrust	Social isolation	Defectiven ess	Failure	Dependency
BMI	-	-	-	-	-	-	-
Binge episodes	.44	.66	.61	.36	.62	.70	.61
Bulimic symptoms	-	.48	.49	-	.33	.50	.35
Vomit episodes	-	-	-	.30	.41	.31	.34
Risk of ED	.32	.54	.39	-	-	.36	-
	Enmeshme nt	Subjugation	Self-sacrifice	Emotion inhibition	Unrel Standards	Entitleme nt	Insufficient self-control
BMI	-	-	-	-	-	-	.44
Binge episodes	.72	.63	.31	.61	.42	.61	.70
Bulimic symptoms	.55	.52	-	.40	.34	.38	.52
Vomit episodes	-	-	-	-	-	.30	-
Risk of ED	.35	.46	-	.29	.33	-	.55



Correlations: Dysfunctional eating and Modes

Obese N=48	Bully attack coping	Angry child	Happy child	Compliant surrender coping	Detache protector coping	Demanding parent	Detached self-soother coping
BMI	-	-	-	-	-	-	-
Binge episodes	.47	.56	-.35	.48	.59	.58	-
Bulimic symptoms	.35	.42	-.29	.41	.39	.52	-
Vomit episodes	.32	.29	-.23	-	.30	.29	.29
Risk of ED	-	.23	-.41	.41	.26	.37	-
	Enraged child	Healthy Adult	Impulsive child	Punitive parent	Self—aggr coping	Undisciplined child	Vulnerable child
BMI	-	-	-	-	-	-	-
Binge episodes	.51	-	.66	.61	.58	.62	.58
Bulimic symptoms	.51	-	.51	.51	.42	.42	.35
Vomit episodes	.25	-	.34	.37	.24	-	.28
Risk of ED	-	-.22	.28	.31	-	.22	.46



Correlations: Dysfunctional eating, Avoidant Coping and Other Psychological variables

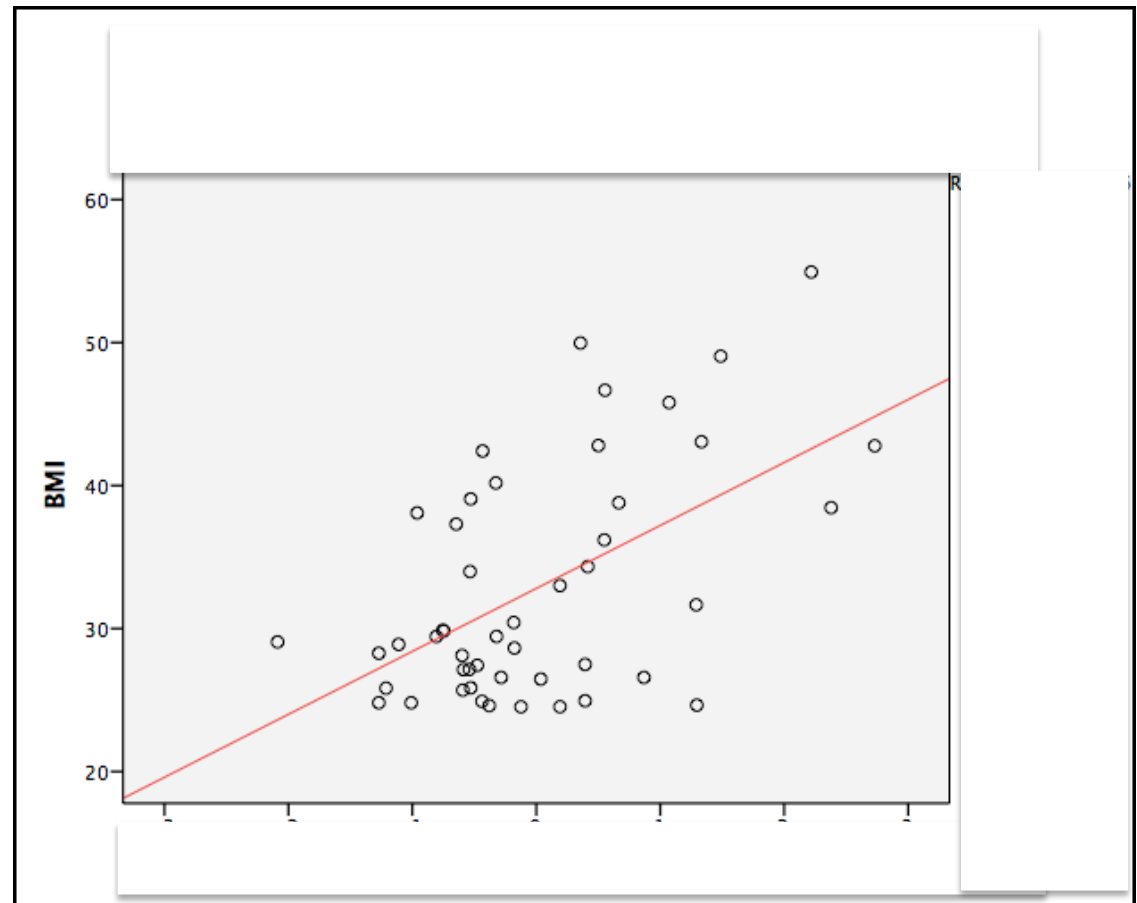
Obese N=48	YRAI		PSYCHOLOGICAL VARIABLES				
	Intra-psychic (cogn & emot) avoidance	Behavioral /somatic avoidance	Body dissatisf	Low self- esteem	Emotion dysreg	Affective problems	Depression
BMI	-	-	.41	-	-	-	-
Binge episodes	.72	.71	.29	.42	.52	.56	.54
Bulimic symptoms	.46	.56	.55	.51	.76	.76	.40
Vomit episodes	.39	-	.41	.32	.33	.37	.25
Risk of ED	.43	.49	.88	.37	.52	.54	.43



Hierarchical multiple regression: which schemas predict BMI?

- Insufficient self-control
- Entitlement /Grandiosity

Explain 29% of BMI indexes
 $F(2,45)=9.46$, $p<.000$, $R^2=.29$



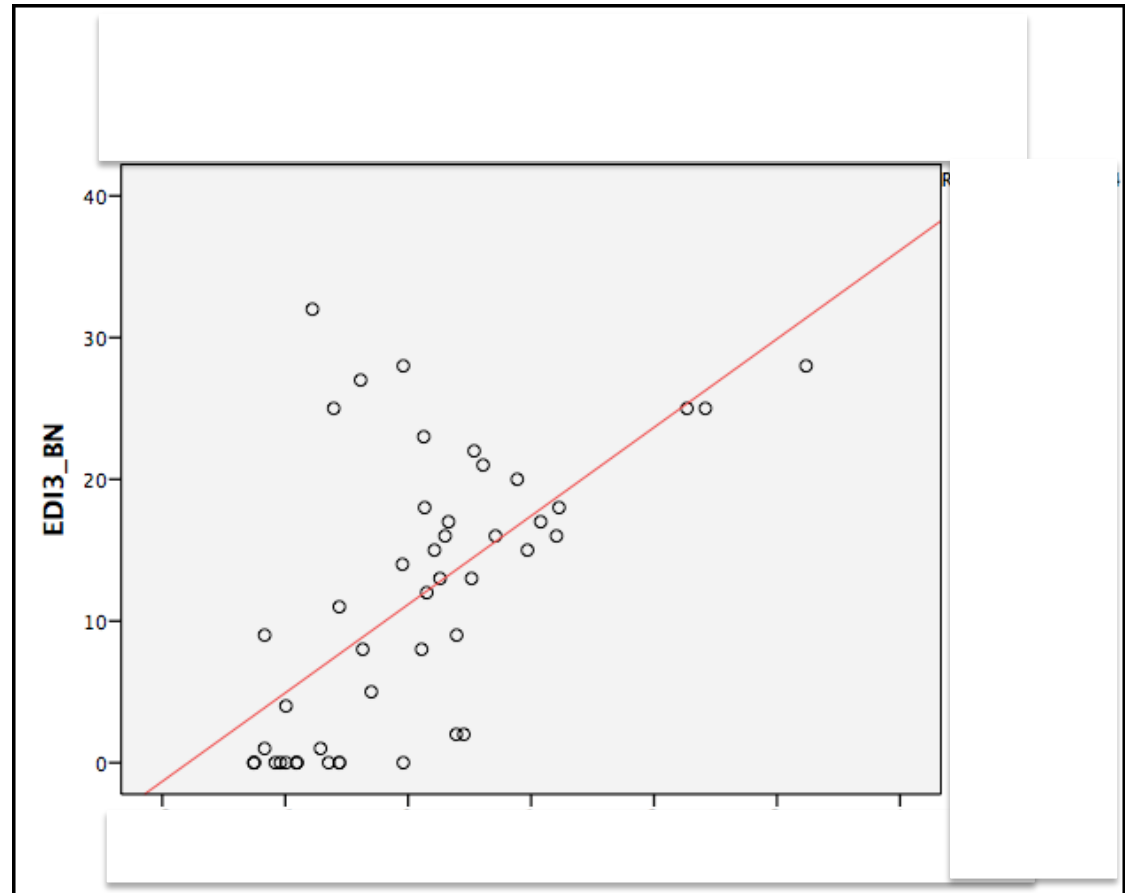


Hierarchical multiple regression: which schemas predict Bulimic symptoms?

- Insufficient self-control
- Entitlement /Grandiosity

Explain 36% of bulimic symptoms

$F(2,45)=14.65$, $p<.0,01$ $R^2=.36$

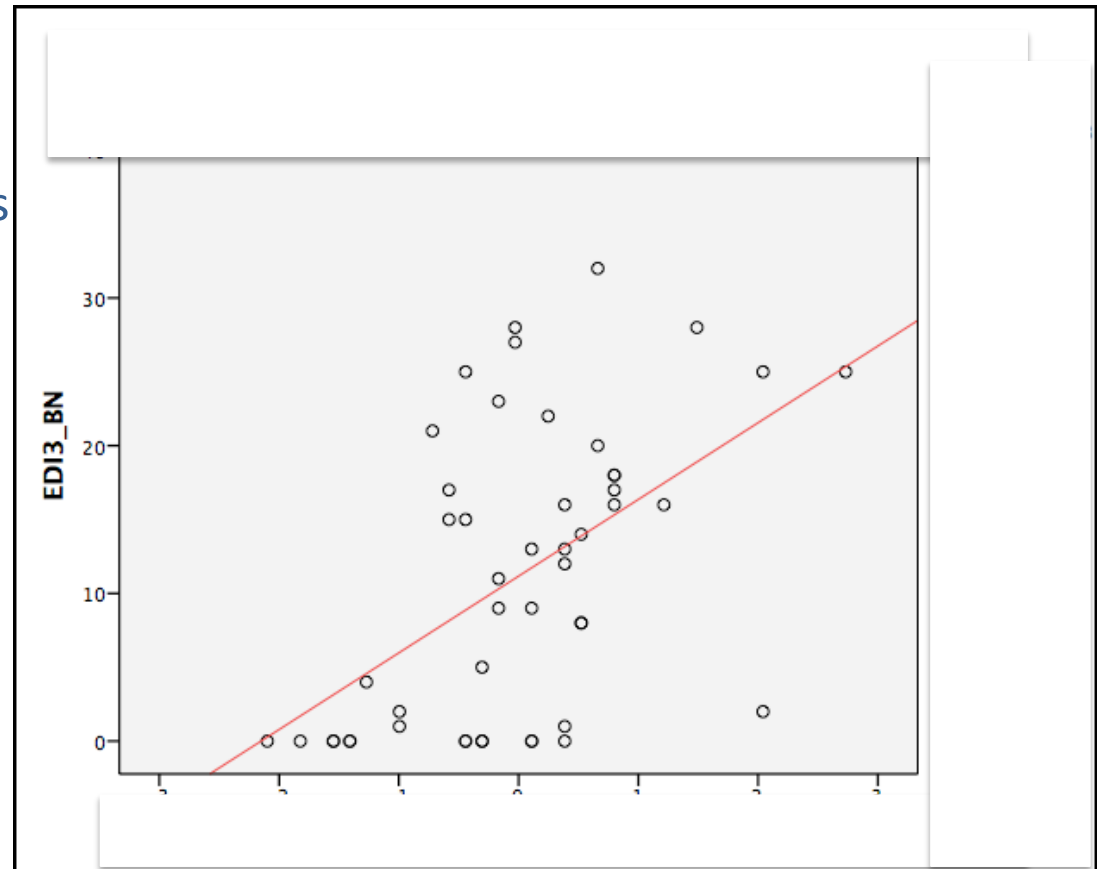




Hierarchical multiple regression: which Modes predict Bulimic symptoms?

- Demanding parent

Explains 27% of bulimic symptoms
 $F(1,46)=17.23$, $p<.000$, $R^2=.27$

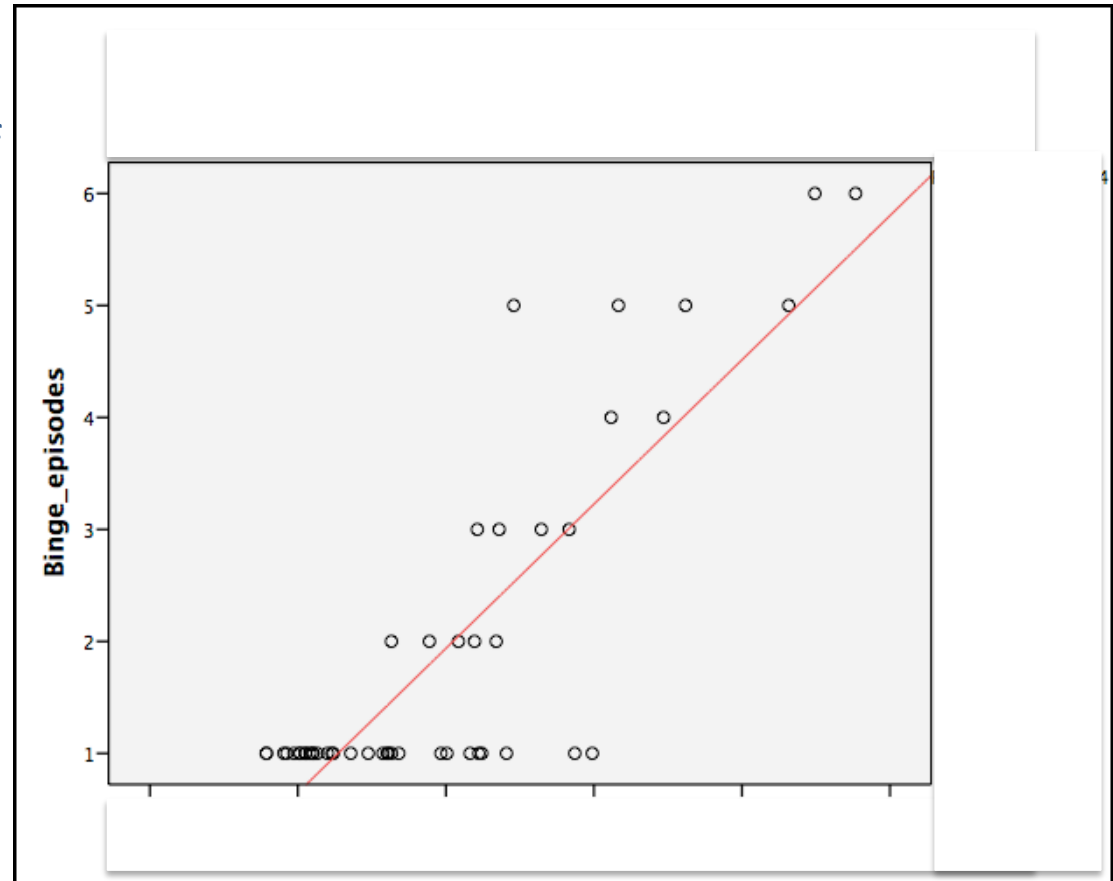




Hierarchical multiple regression: which Schemas predict frequency of Bingeing?

- Abandonment
- Enmeshment/undeveloped self
- Failure

Explain **70%** of binge episodes
 $F(3,44)=38.84$, $p<.000$, $R^2=.70$



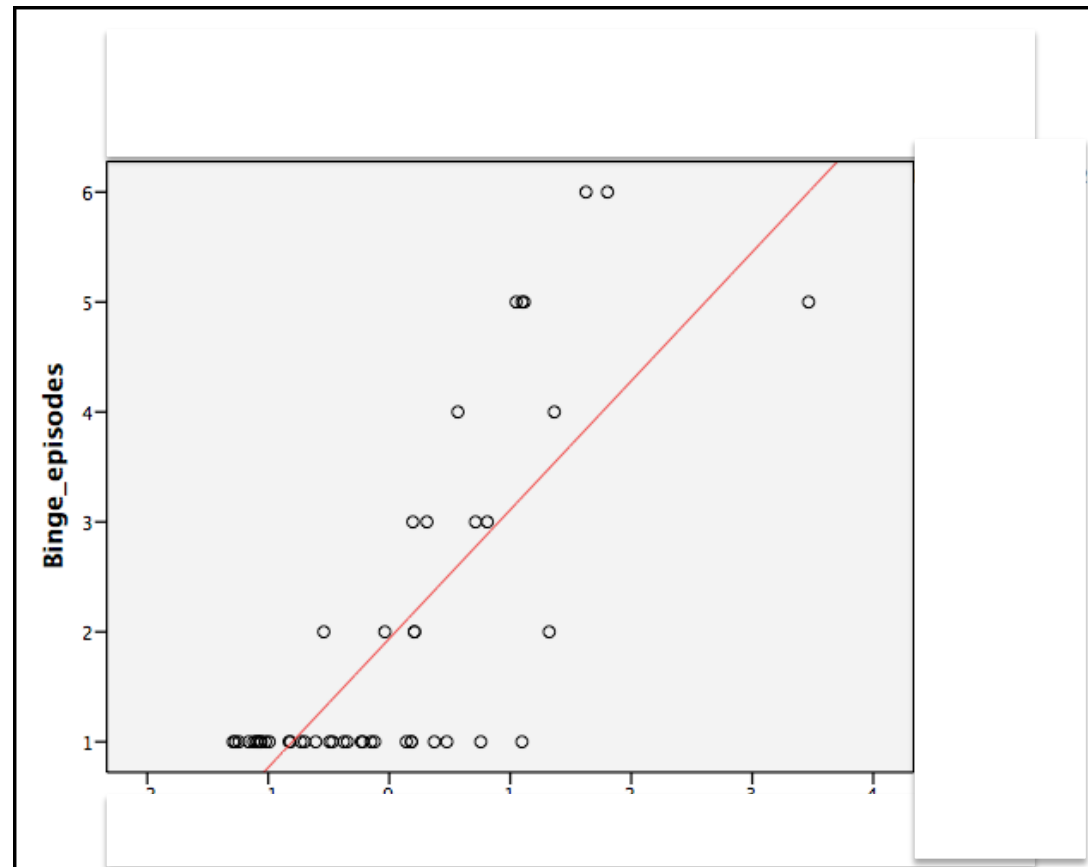


Hierarchical multiple regression: which Modes predict frequency of Bingeing?



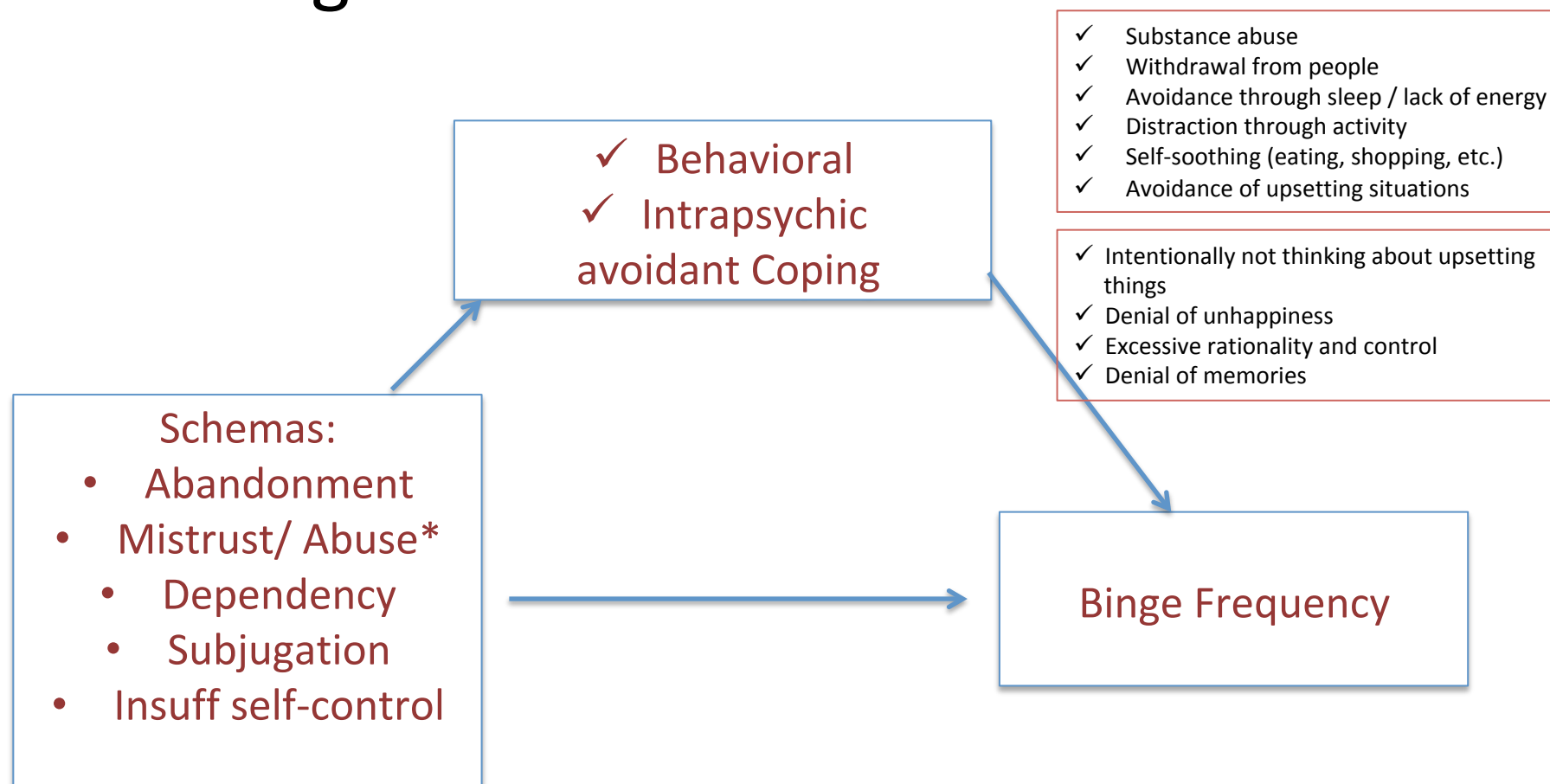
- Impulsive & Undisciplined child
- Punitive parent

Explain **58%** of binge episodes
 $F(2,45)=31.38, p<.000, R^2=.58$





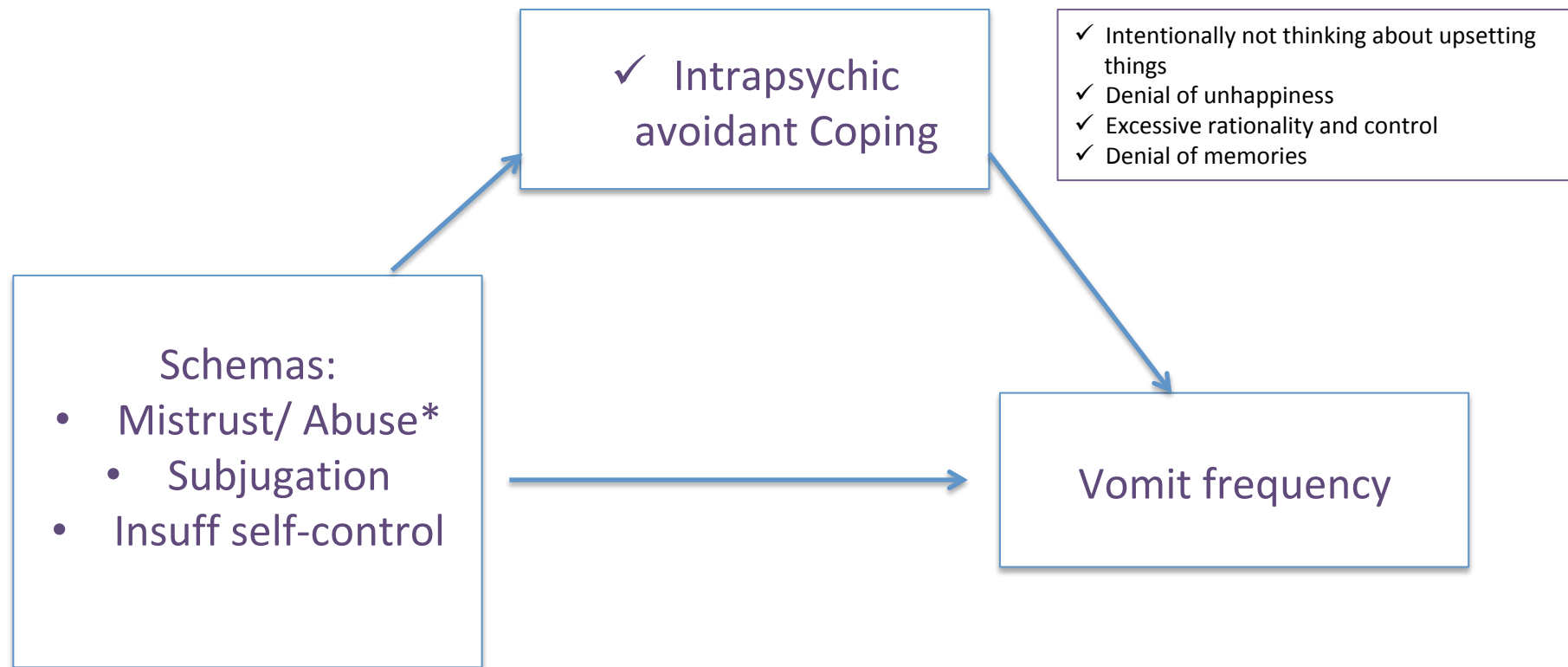
Significant Mediation models



Significant Full mediation,
PROCESS & SOBEL mediation model



Significant Mediation models



Significant Full mediation,
PROCESS & SOBEL mediation model

See Palmisano et al 2016, for a review on the role of abuse in Obesity & BED



Conclusions

- Obese reported higher Abandonment, Dependence, Subjugation and Insufficient Self-control **schemas** and, congruently, higher Vulnerable and Impulsive Child **modes**
- **BMI, bingeing, bulimic symptoms and overall risk of developing an ED** correlated with Insufficient Self-Control schema, and the Angry, Impulsive and Vulnerable child modes
- Insufficient self-control schema and the impulsive Child mode predict bingeing and bulimic frequency
- **Insufficient self-control** schema indicate beliefs of insufficient control over emotions or impulses and beliefs of not having enough capacity to deal with boredom or frustration in order to complete tasks.



Conclusions

- Obese also displayed stronger **Detached Protector coping mode** and more frequent **Behavioral/somatic avoidant Strategies**
- BMI, bingeing, bulimic symptoms and overall risk of developing an ED correlated with the Detached Protector coping mode.
- **Vomiting frequency, bingeing, bulimic symptoms and overall risk of developing an ED** was also associated with cognitive and emotional avoidance strategies
- **Demanding and Punitive parent** modes predict bingeing and bulimic severity
- **The Punitive parent** might be associated with **instrumental feeding*** , in which parents use food as reward or punishmentt (* associated with emotional eating, tending to overeat, snacking, bulimic symptoms and high BMI; Mason 2015)



Clinical implications

- Develop specific treatment approaches to address the management of addictive eating behaviors among obese / overweight individuals, especially when BED, depression, anxiety and/or psychological distress may be present.
- Focus on dysfunctional schemas, modes and coping strategies to help the patients to deal with stressful situations, negative affect, interpersonal issues, etc.



Clinical implications: What can ST do?



- The **Imagery with Re-scripting** technique could be applied to manage loss of control over eating or its detachment function, which are crucial symptoms of Food Addiction, Bingeing and Purging and to address the Vulnerable Child's needs.
In a pilot study (Cooper et al. 2007) with BN patients a single session of imagery intervention was associated with a decrease in the urge to binge and in levels of depression (compared to a control intervention).
- **Limit setting, Empathic confrontation and Chair work** with the Impulsive and Undisciplined Child modes
- **Chair work** to deal with the Demanding and Punitive Parent modes, decreasing the erroneous value/significance given to food.



Limits

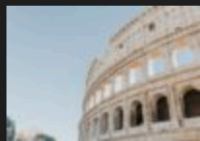
- Self-report measures
- cross-sectional study (precludes causal interpretations among the variables)
- Small sample size
- Clinical control (i.e., depressed, BED or other ED)



Thanks!

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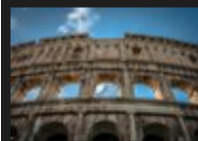
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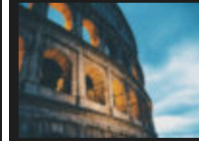
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