43rd Annual Congress
European Association for Behavioural and Cognitive Therapies
25th - 28th September 2013
Marrakech 2013

Symposium:
Advances in CBT for Eating Disorders

The cognition of hunger in obese people

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Background

- The prevalence of obesity in both highly and less developed countries worldwide has rised to epidemic proportions so far at an alarming rate.
- Determinants of this rise have been identified in four classes: *sedentarity*, *weight cycling*, *depression*, *and genetics*.

Background

- Apart from *genetics*, the first three classes are open to modification, by factors such as stress events and conditions, educational factors, family habits, cultural pressures, commercial advertising, and personal beliefs.
- These factors may promote, initiate, or maintain daily behaviours which impinge on the caloric balance of the individual.

The SENICAL Study

- In the year 2000 a research project was started, aiming at studying overeating habits as a function of disruption of normal eating habits, diets, and emotional distress.
- It used the SENICAL Scale (*Scheda degli Eccessi Nutritivi Indistinti e dei Comportamenti Alimentari Limite*), a Scale for measuring Borderline Eating Behaviors (BEB).

The SENICAL (short version)

SENICAL-R - Data:_____ Cognome e Nome:_____ ***Programma di autocontrollo*** *[Abitudini alimentari - SENI_R_F2.doc]*

A proposito del mangiare, a me succede che.... *(indicate quanto sono tipiche del vostro modo di mangiare le abitudini elencate)*	MAI O QUASI	TALVOLTA	SPESSO	SEMPRE O QUASI	Qui non scrivete
1) Faccio più di uno spuntino tra i pasti...	❑	❑	❑	❑	A
2) Mangio di abitudine negli stessi posti...	❑	❑	❑	❑	B
3) Mi sottopongo a diete o digiuni, oppure tento di saltare pasti o pietanze...	❑	❑	❑	❑	A
4) Smetto di mangiare non appena ho finito la mia porzione...	❑	❑	❑	❑	B
5) Aspetto l'ora di pranzo o di cena anche se ho appetito...	❑	❑	❑	❑	B
6) Quando mi sento in tensione mangio di più...	❑	❑	❑	❑	A
7) Mangio di più quando mi sento annoiata o arrabbiata...	❑	❑	❑	❑	A
8) Faccio fantasie a occhi aperti sui miei cibi preferiti...	❑	❑	❑	❑	A
9) Mangio regolarmente nelle stesse ore della giornata...	❑	❑	❑	❑	B
10) Faccio uso di farmaci che riducono la mia voglia di mangiare...	❑	❑	❑	❑	A
11) Se sono addolorata, dispiaciuta o delusa, mangio più del solito...	❑	❑	❑	❑	A
12) Non resisto alla vista o al profumo di qualche cibo "invitante"...	❑	❑	❑	❑	A
13) Mastico a lungo ogni boccone che mangio...	❑	❑	❑	❑	B
14) Mi preoccupo moltissimo se mi sento troppo piena o sazia...	❑	❑	❑	❑	A
15) Mi trovo in situazioni che stimolano la mia voglia di mangiare...	❑	❑	❑	❑	A
16) Metto qualcosa sotto i denti quando ne sento il bisogno...	❑	❑	❑	❑	A
17) Mangio lentamente e assaporo i cibi...	❑	❑	❑	❑	B
18) Mangio soltanto se ho veramente appetito...	❑	❑	❑	❑	B
19) Appena sento lo stomaco pieno, mi sento male pensando a quanto ingrasserò...	❑	❑	❑	❑	A
20) Ogni tanto sento una fame insopportabile...	❑	❑	❑	❑	A
21) Ho a portata di mano o ben in vista biscotti, frutta o altri cibi, in caso di fame...	❑	❑	❑	❑	A
22) Smetto di mangiare non appena mi sento sazia ...	❑	❑	❑	❑	B

The SENICAL Study

- The Scale showed satisfactory qualities:
  - odd-pair correlation: *Pearson's r=0.68;*
  - *Cronbach's Alpha : 0.81.*
- Used together with a measure of anxious-depressive ideation, the *Automatic Thoughts Questionnaire* (ATQ).
- 140 overweight/obese SS assessed in DH.

Borderline Eating Behaviours (BEB)

Examples:

"Rarely" or "never or almost":

- *I always eat at the same time.*
- *I chew every bite for a long time.*
- *I eat slowly and taste the food.*

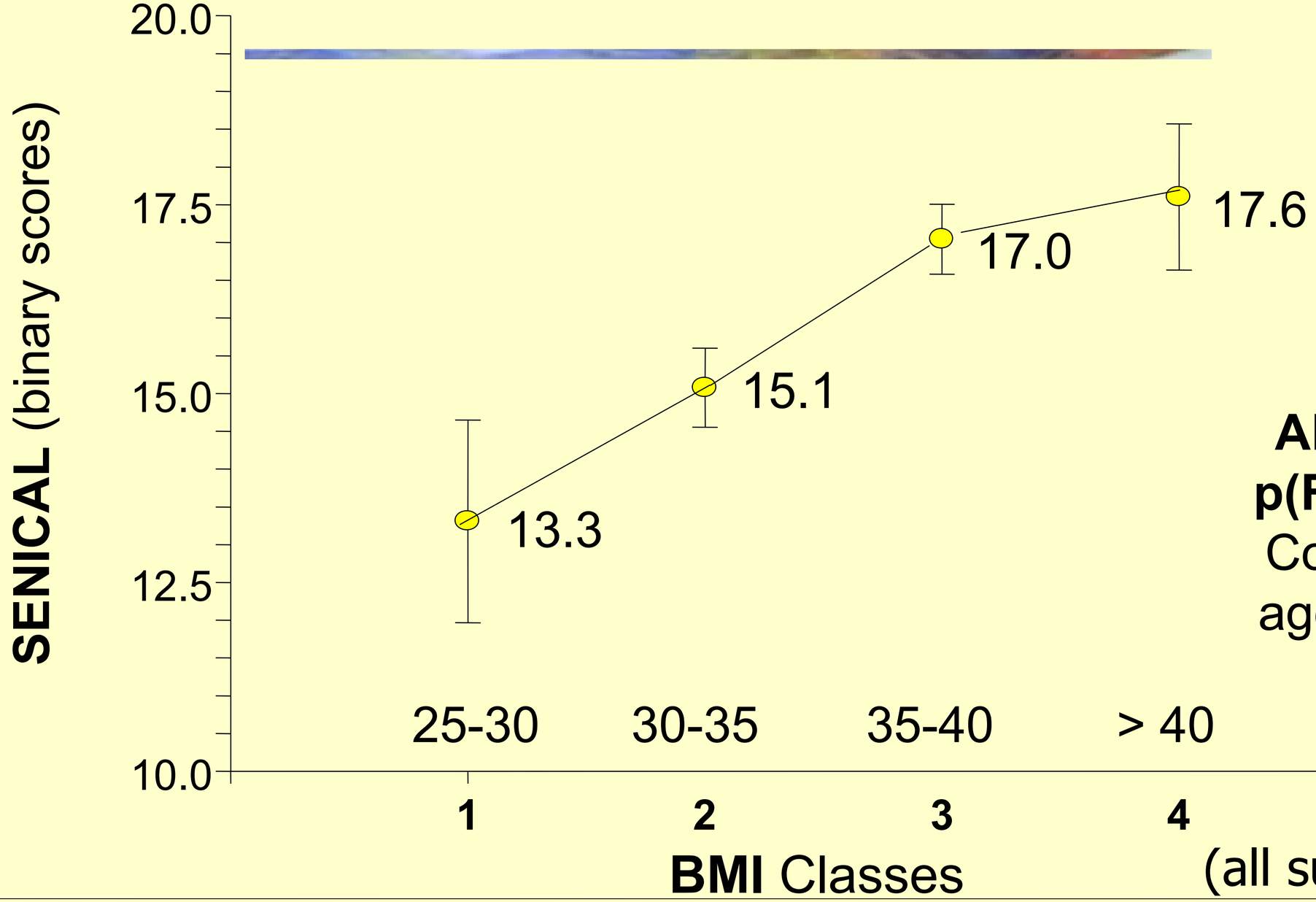
"Often" or "always or almost":

- *I snack more than once between meals.*
- *When I'm under pressure I eat more.*
- *When I eat out, I eat more than usual.*

New questions

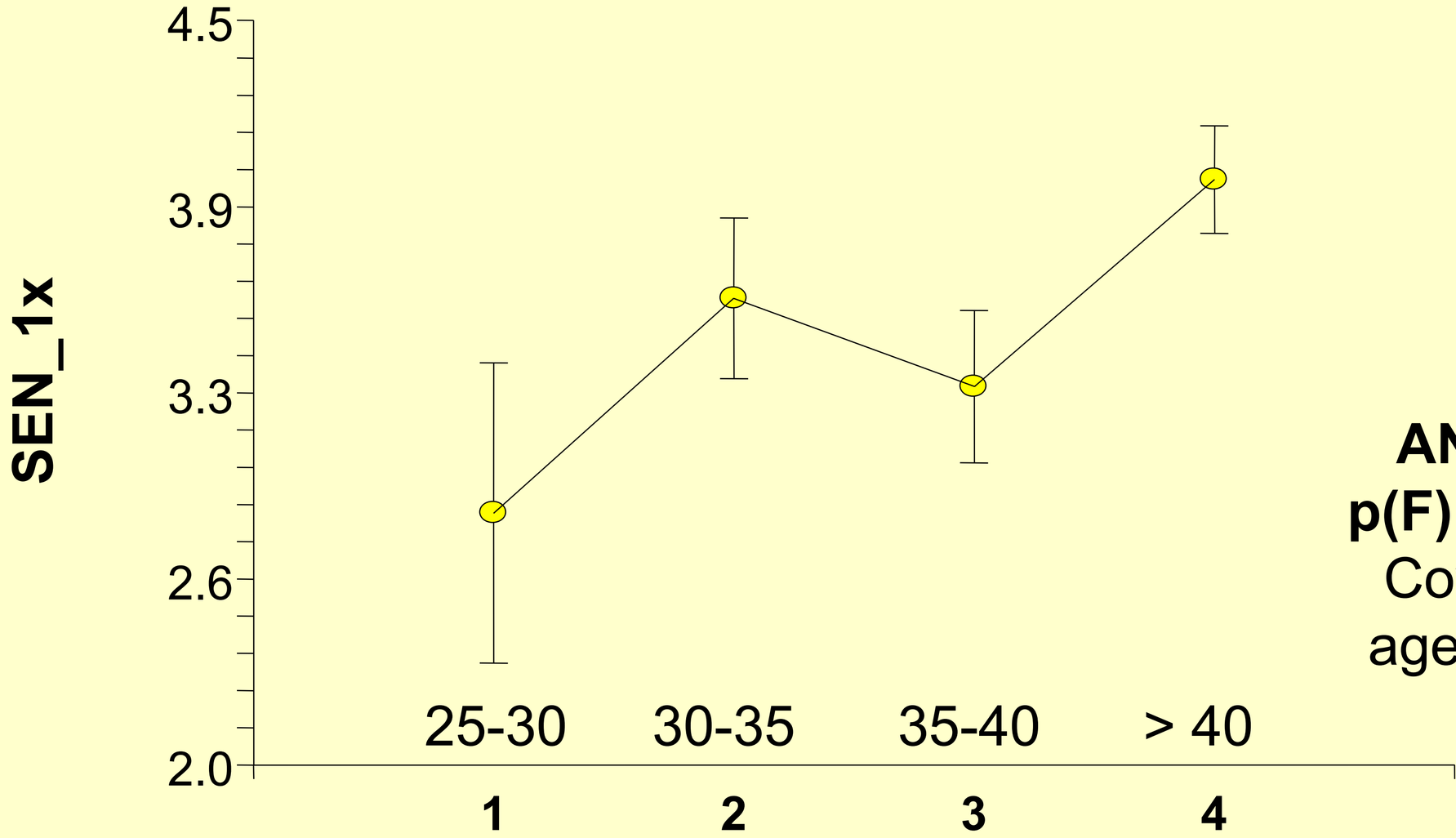
- Are “borderline” eating habits associated with overweight?
- Are “borderline” eating habits associated with emotional distress?
- Are dietary restrictions associated with “borderline” eating habits?

Increasing gradient of BEB (SENICAL) along the BMI classes



ANCOVA:
p(F) = .0032
Covariates:
age, gender

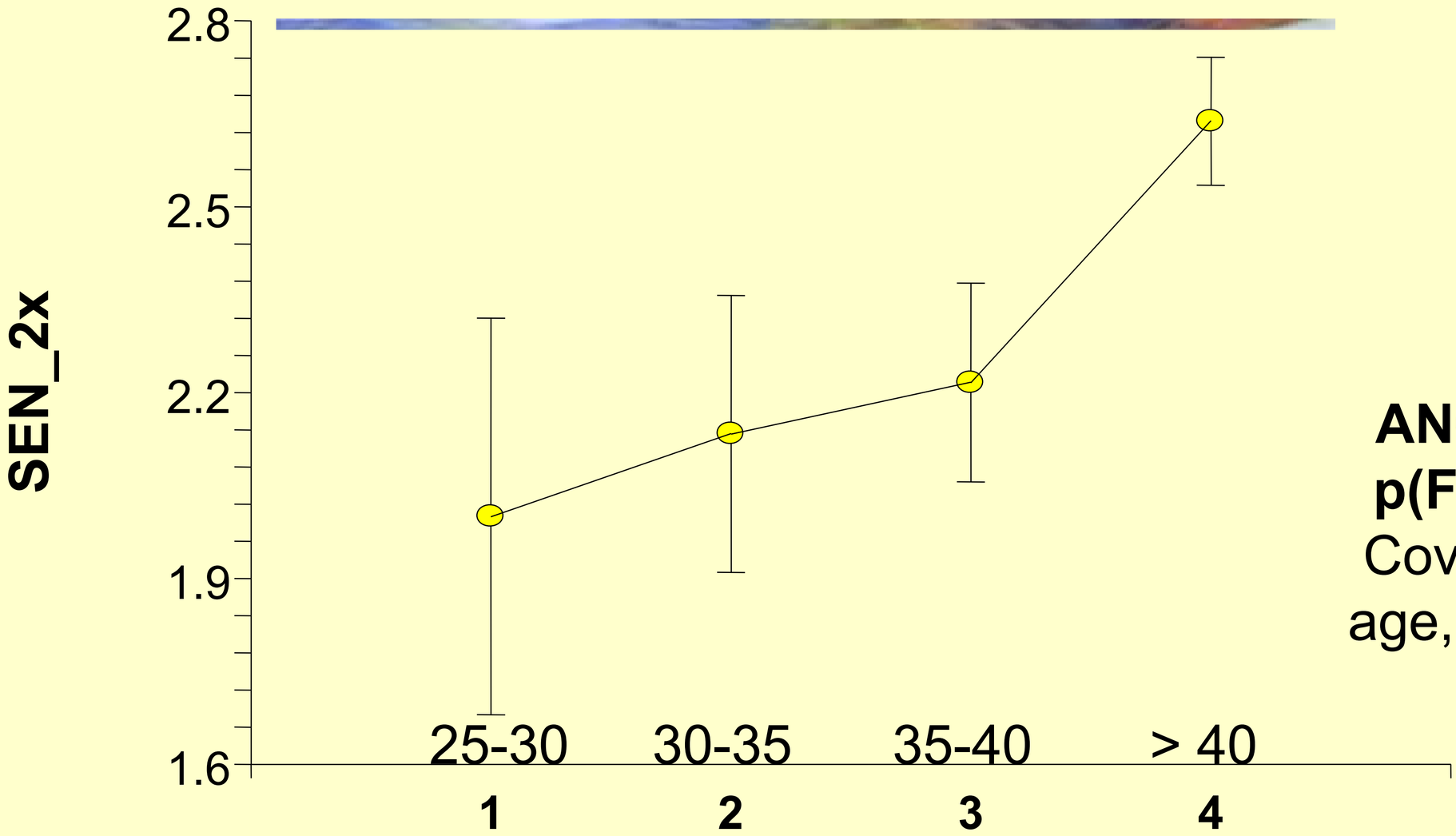
Gradient of “Generalised eating” (Senical Factor 1) along the BMI classes



ANCOVA
p(F) = 0.0487
Covariates:
age, gender

(all subjects)

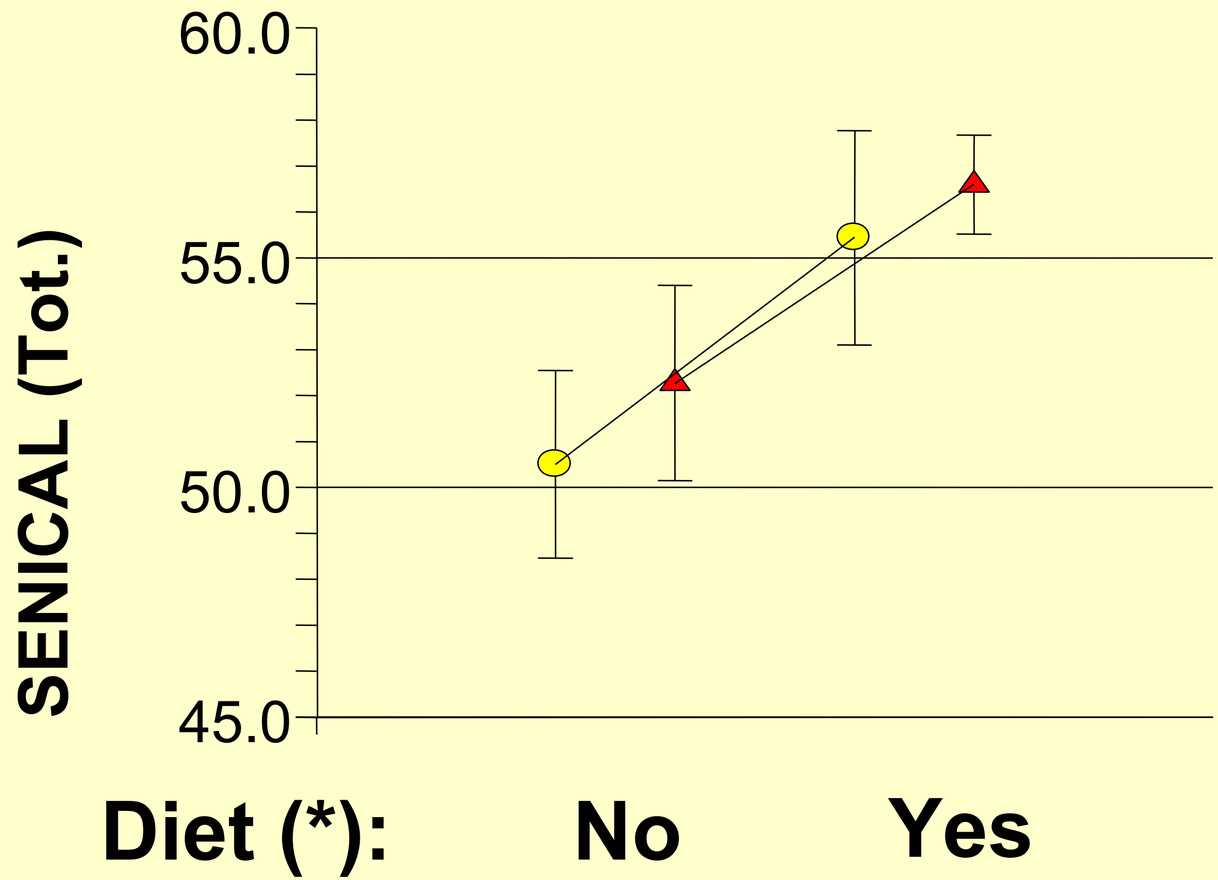
Gradient of “Emotional (state-dependent) eating” (Senical Factor 2) along the BMI classes



ANCOVA
p(F) < .04
Covariates:
age, gender

(all subjects)

Total eating irregularities (Senical total BEB score) in subjects with/without dietary restrictions



ANCOVA
p(F) = .033
Covariate: age
(all subjects)

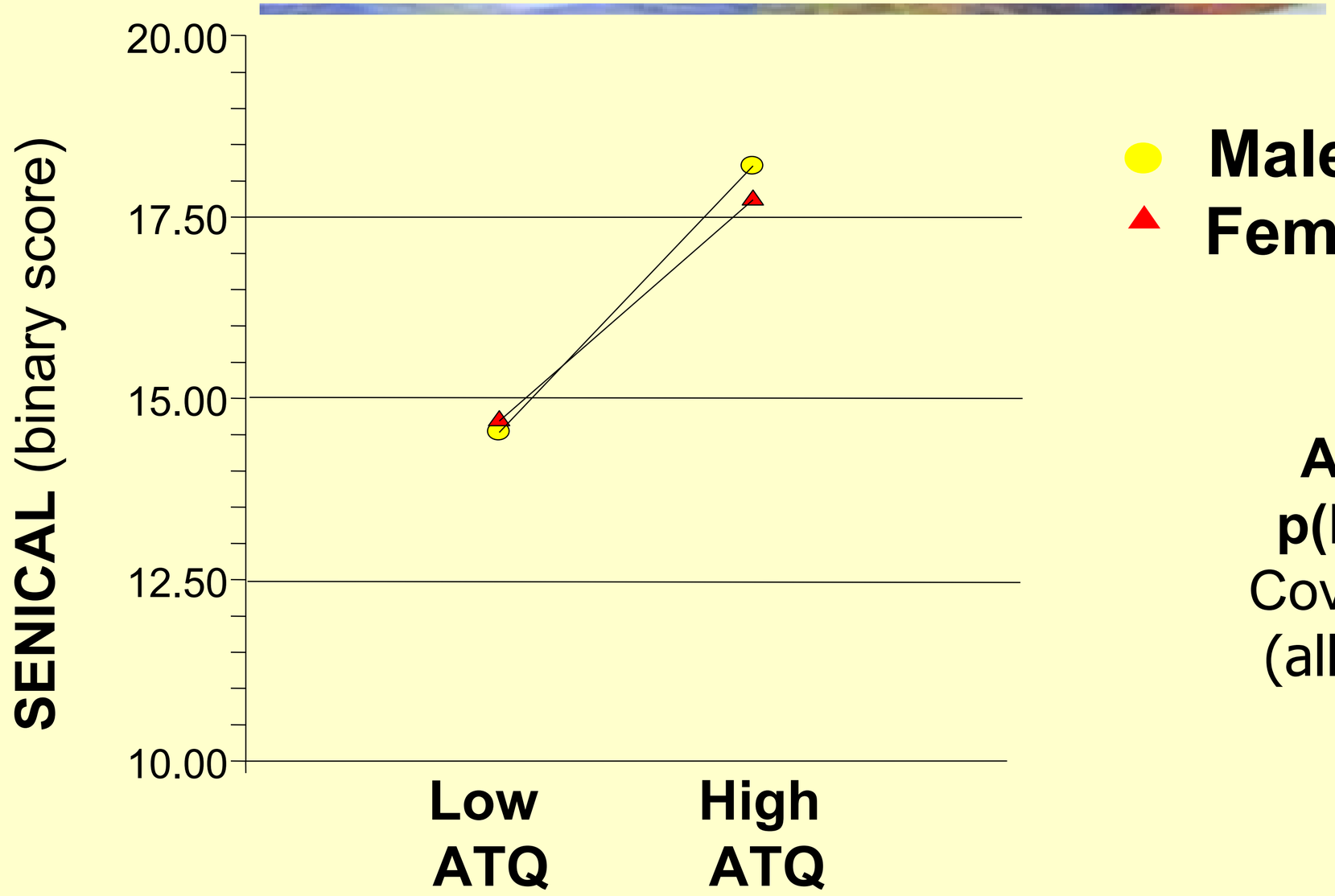
*** Item 3: "*Periodically I undergo dieting or fasting or try to*"**

Emotional distress (ATQ)
in subjects with/without dietary restrictions

Automatic Thoughts Questionnaire
score (anxious-depressive thinking)

ANCOVA
p(F) = . 021
Covariates:
age, BMI
(all subjects)

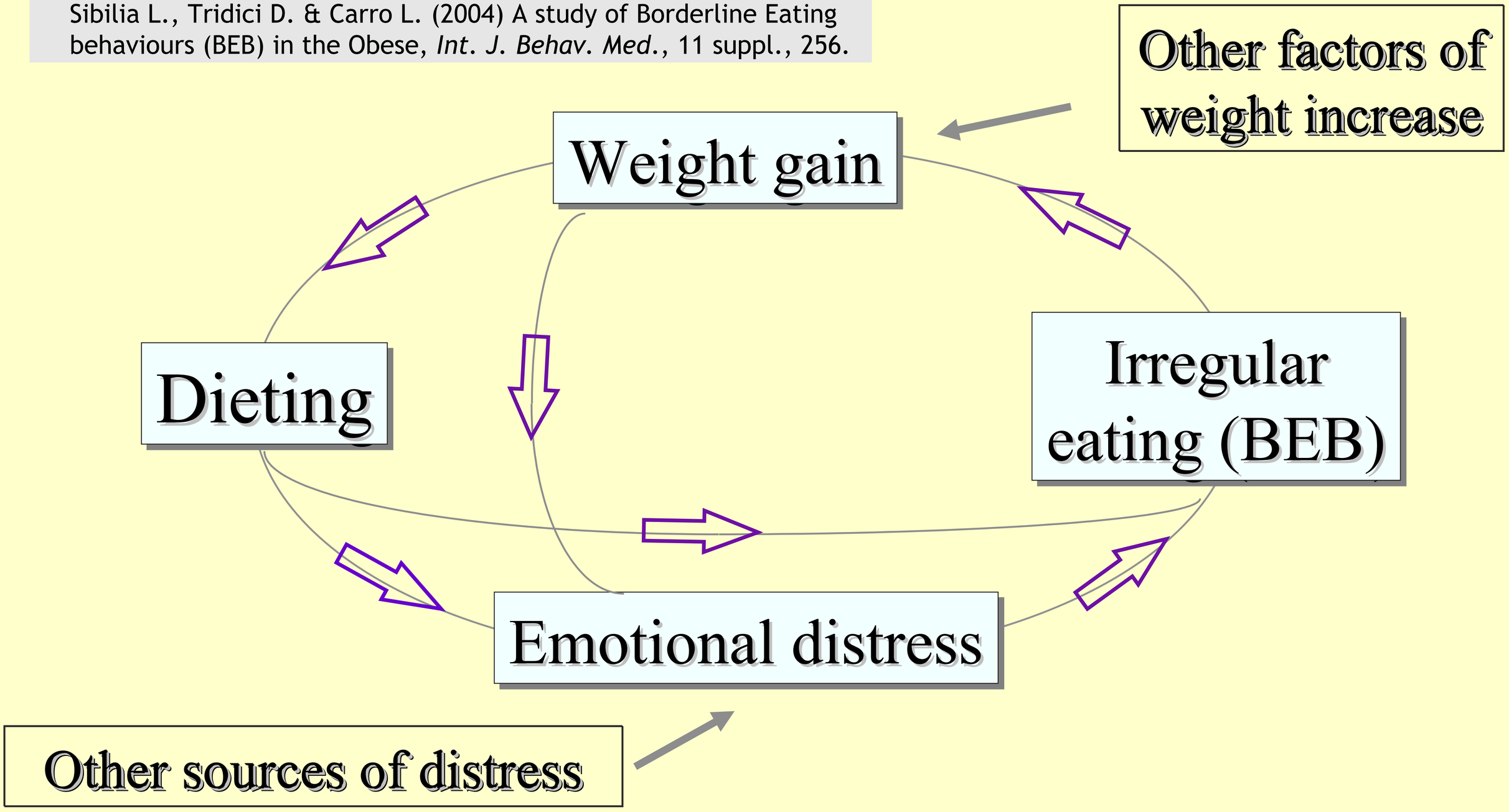
Gradient of BEB (SENICAL) in subjects with/without high emotional distress (Hi ATQ score)



ANCOVA
p(F) < .002
Covariate: age
(all subjects)

The perverse diet cycle: a recursive model

Sibilia L., Tridici D. & Carro L. (2004) A study of Borderline Eating behaviours (BEB) in the Obese, *Int. J. Behav. Med.*, 11 suppl., 256.



A special cognition: “hunger”

- Unpleasant feelings, ameliorated by eating, are often called “hunger” by overweight subjects, researchers and clinicians as well.
- Albeit taken for granted, these “hunger pangs” hide:
  - An attribution to hunger of feelings of different nature.
  - A (meta)belief that they “unbearable”.
- Biologically, “hunger” is a signal of starvation!

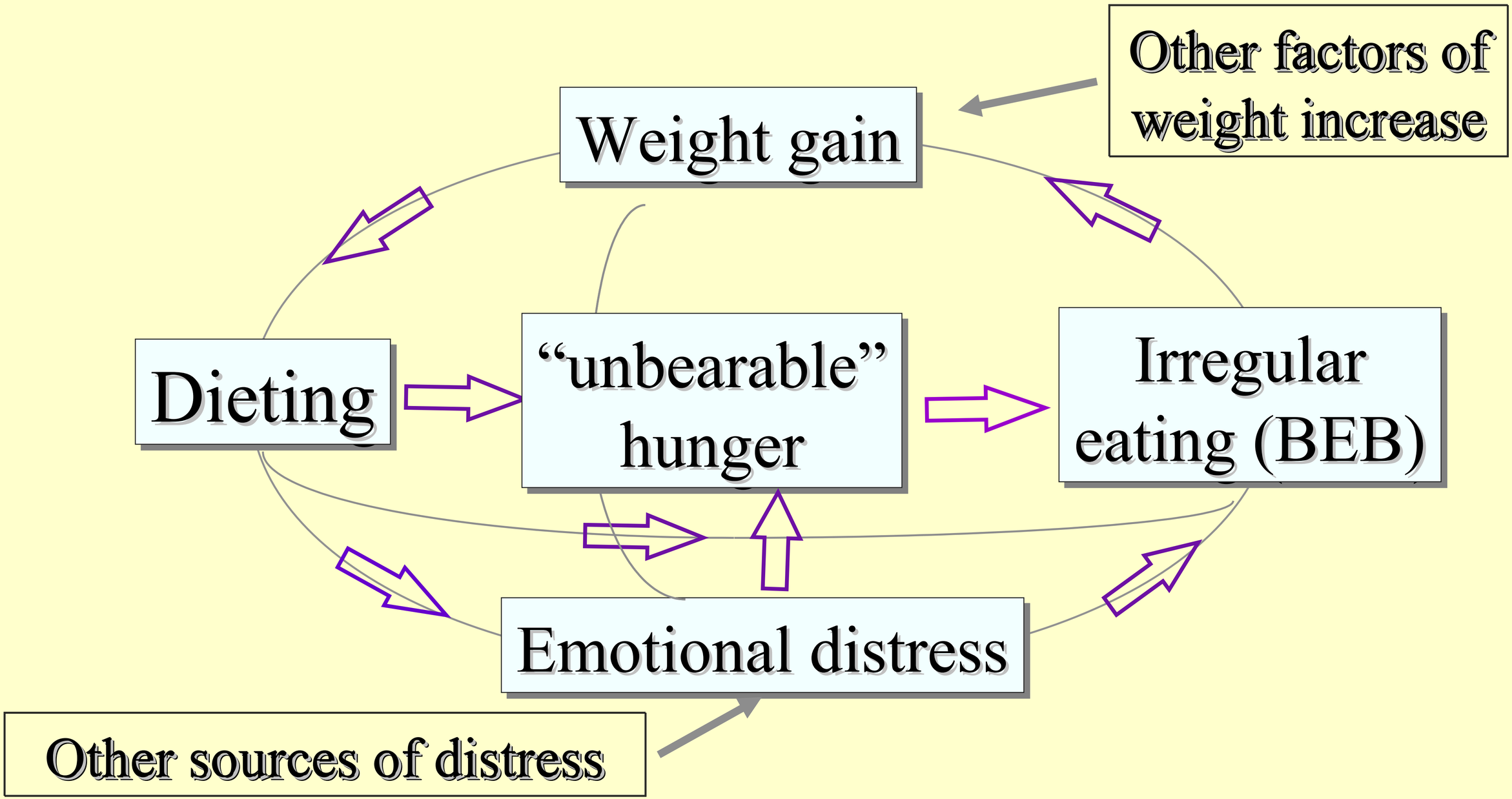
OTHER QUESTIONS

1. *Is it the the belief of "unbearable hunger" the mediating variable between food restrictions and BEB?*

2. *Is it the the belief of "unbearable hunger" the mediating variable between emotional distress and BEB?*

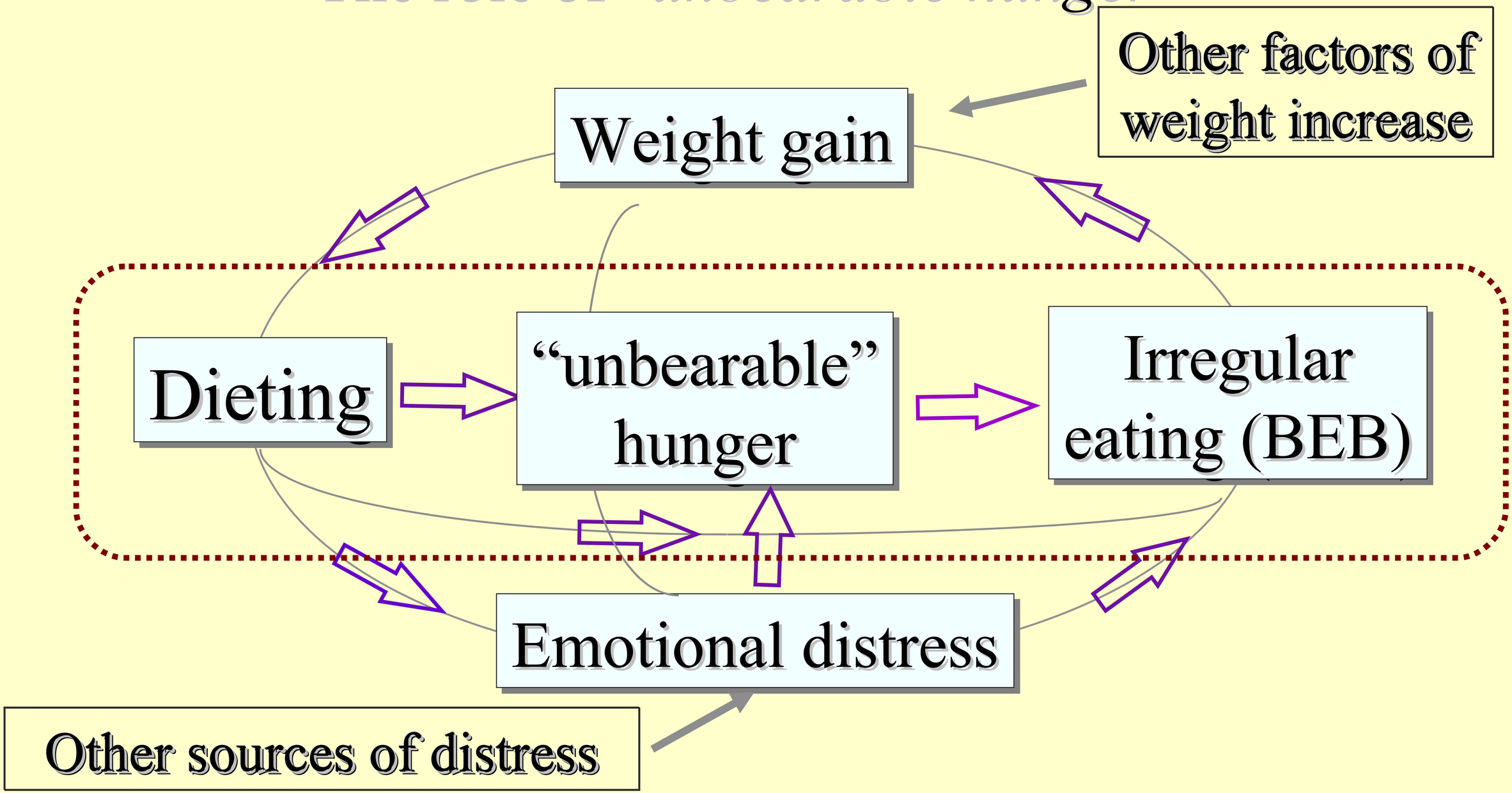
The perverse diet cycle: a recursive model

The role of "*unbearable hunger*"



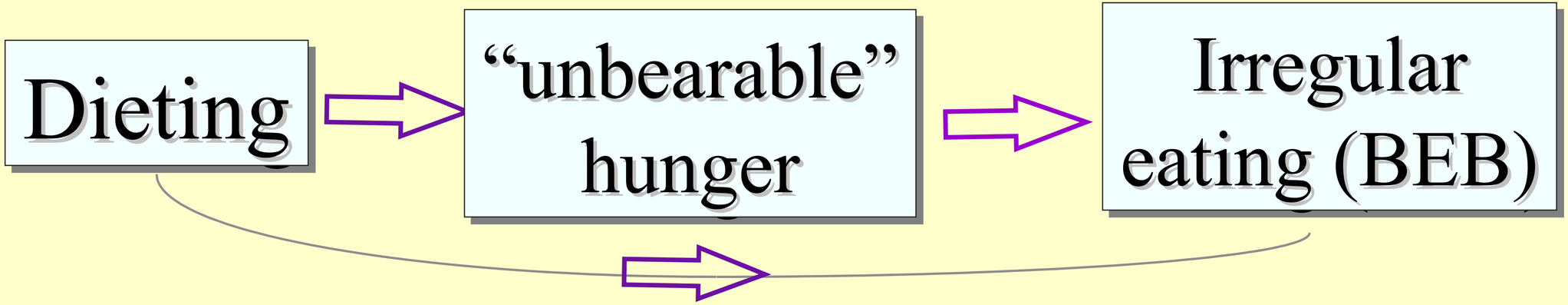
The perverse diet cycle: a recursive model

The role of "*unbearable hunger*"



The perverse diet cycle: a recursive model

The role of "*unbearable hunger*"

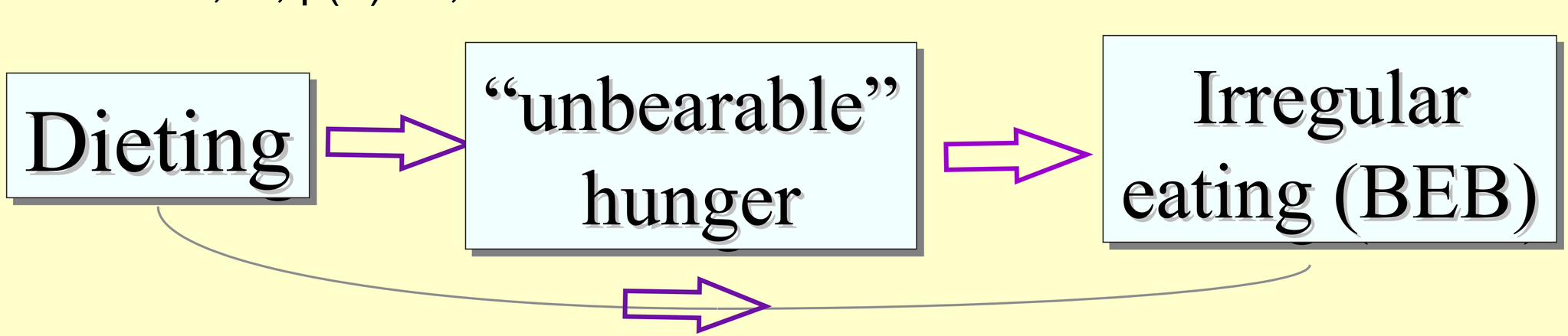


The perverse diet cycle: a recursive model

The role of "*unbearable hunger*"

ANOVA:
F=8,21; p(F)= 0,00465

ANOVA:
F=15,7; p(F)=0,0001

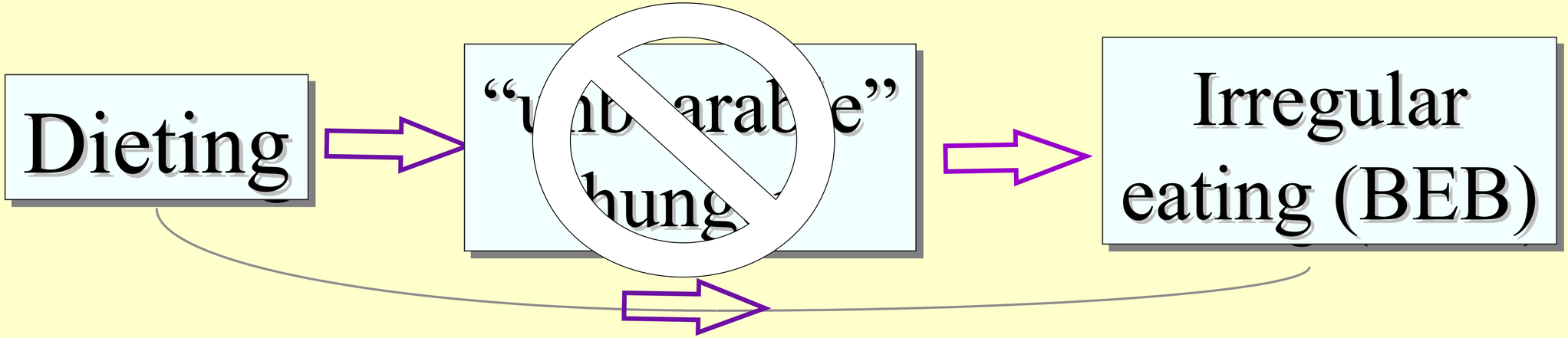


ANOVA:
F=4,08; p(F)= 0,045

The perverse diet cycle: a recursive model

The role of "*unbearable hunger*"

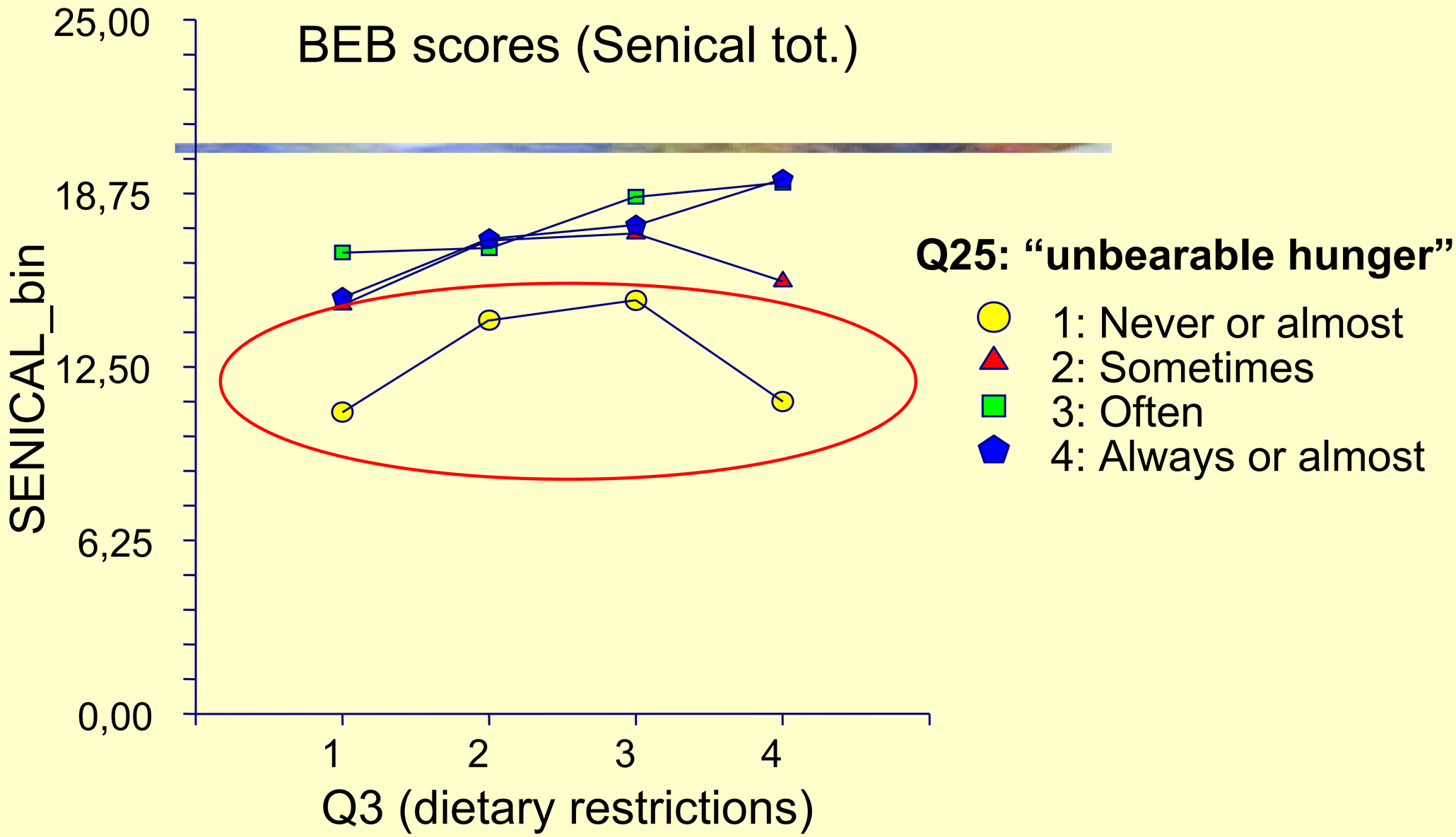
Controlling for the levels of "unbearable hunger" (Q25x), the relation between dietary restrictions (Q3x) and irregular eating (Tot. Senical) isn't anymore significant



MANOVA (covariate: Q25x)

F=2,34; p(F)= 0,1278 (n.s.)

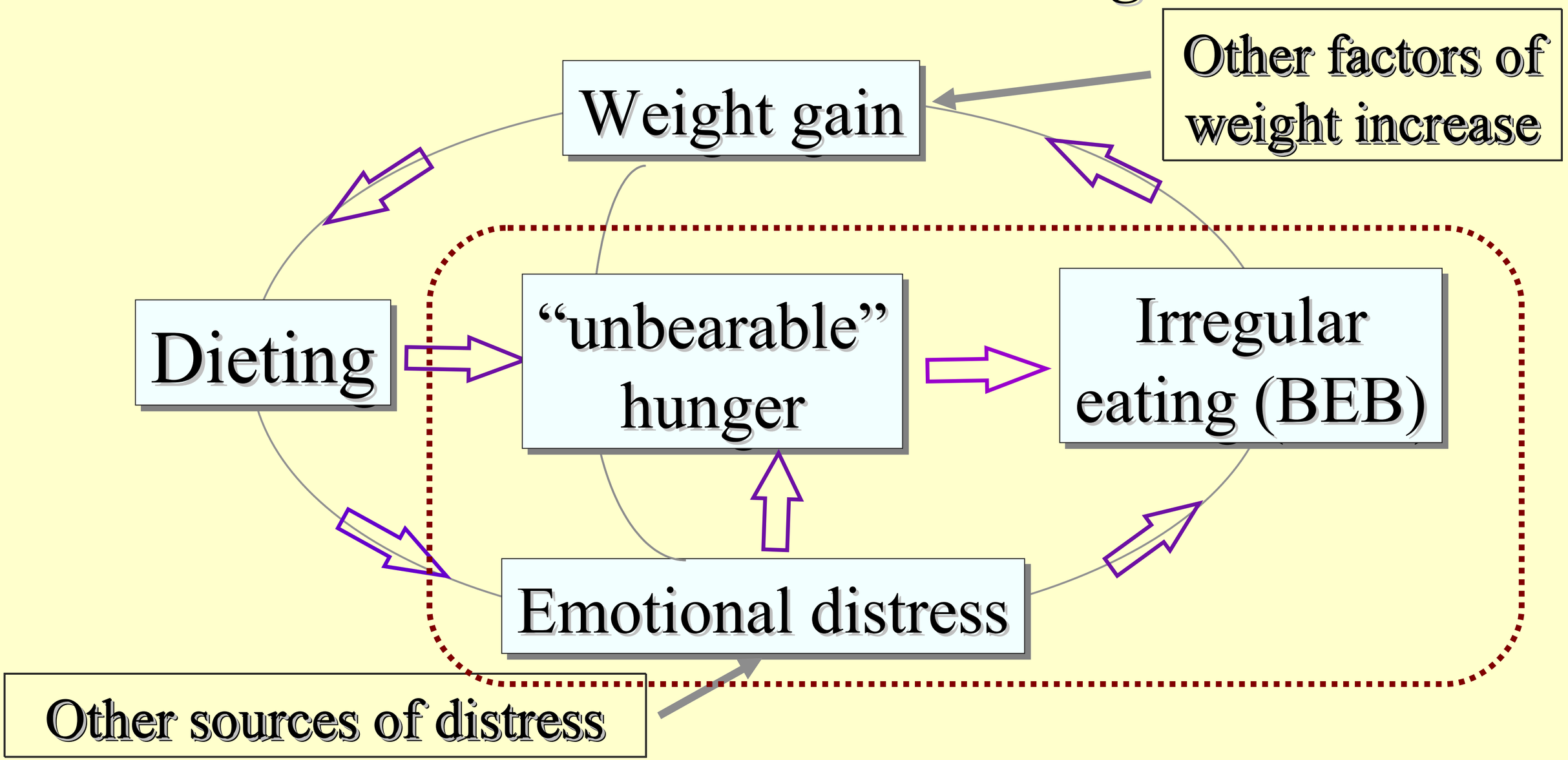
The role of "*unbearable hunger*"



Dietary restrictions(Q3) produce significantly lower eating irregularities if there is not "unbearable hunger"

The perverse diet cycle: a recursive model (revised)

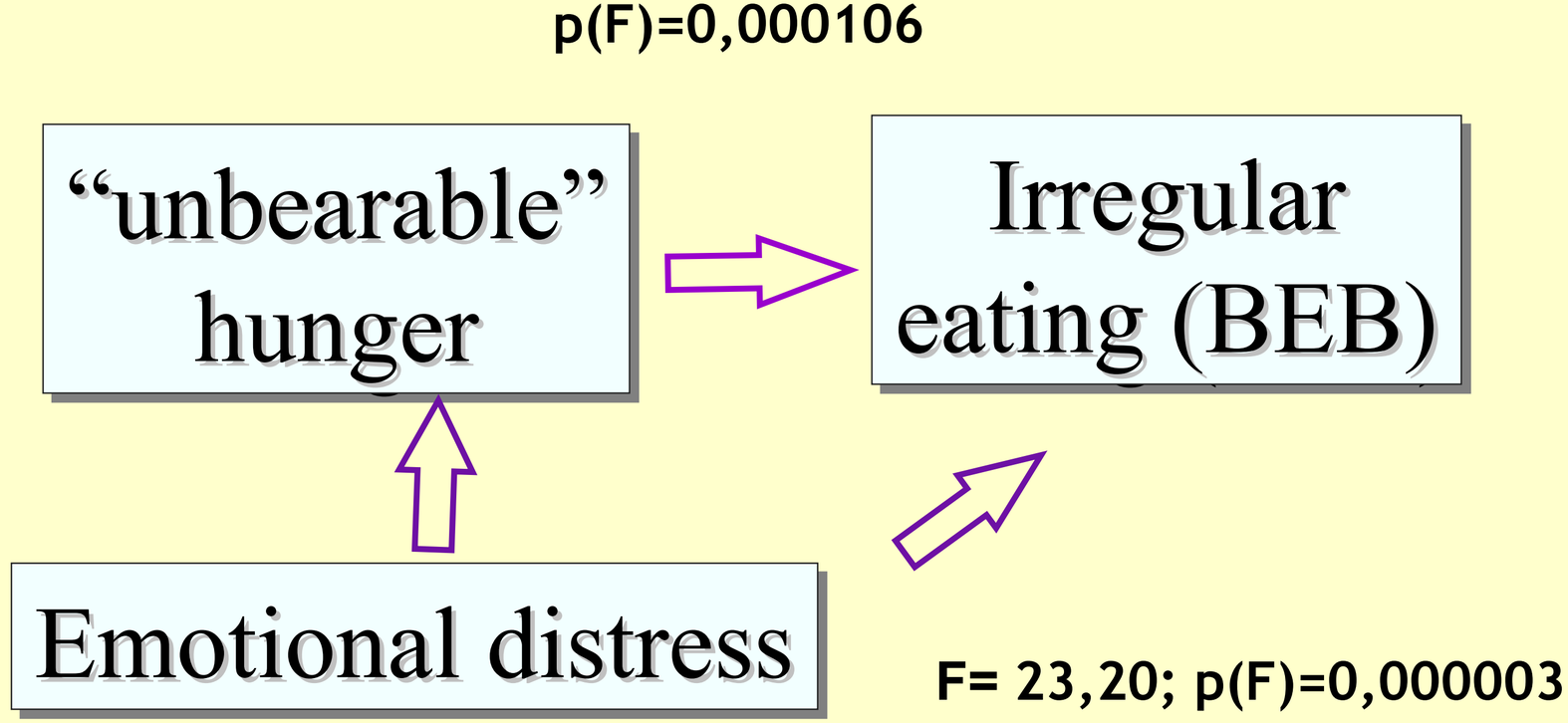
The role of "*unbearable hunger*"



The perverse diet cycle: a recursive model (revised)

ANOVA:

F=15,75;
p(F)=0,000106



F= 22,31;
p(F)= 0,000005

F= 23,20; p(F)=0,000003

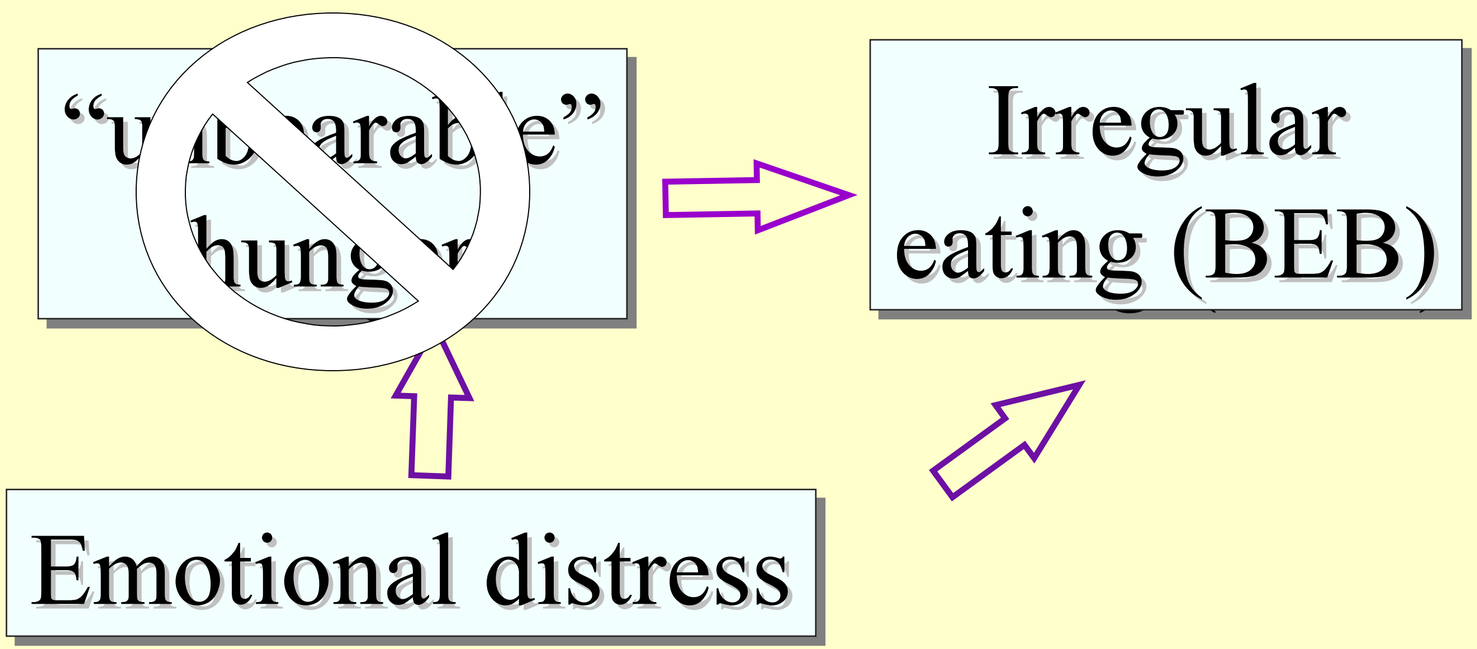
The perverse diet cycle: a recursive model (revised)

The role of "*unbearable hunger*"

Controlling for the levels of "unbearable hunger" (Q25x), the relation between emotional distress (ATQ) and irregular eating (Senical Tot.) is still significant

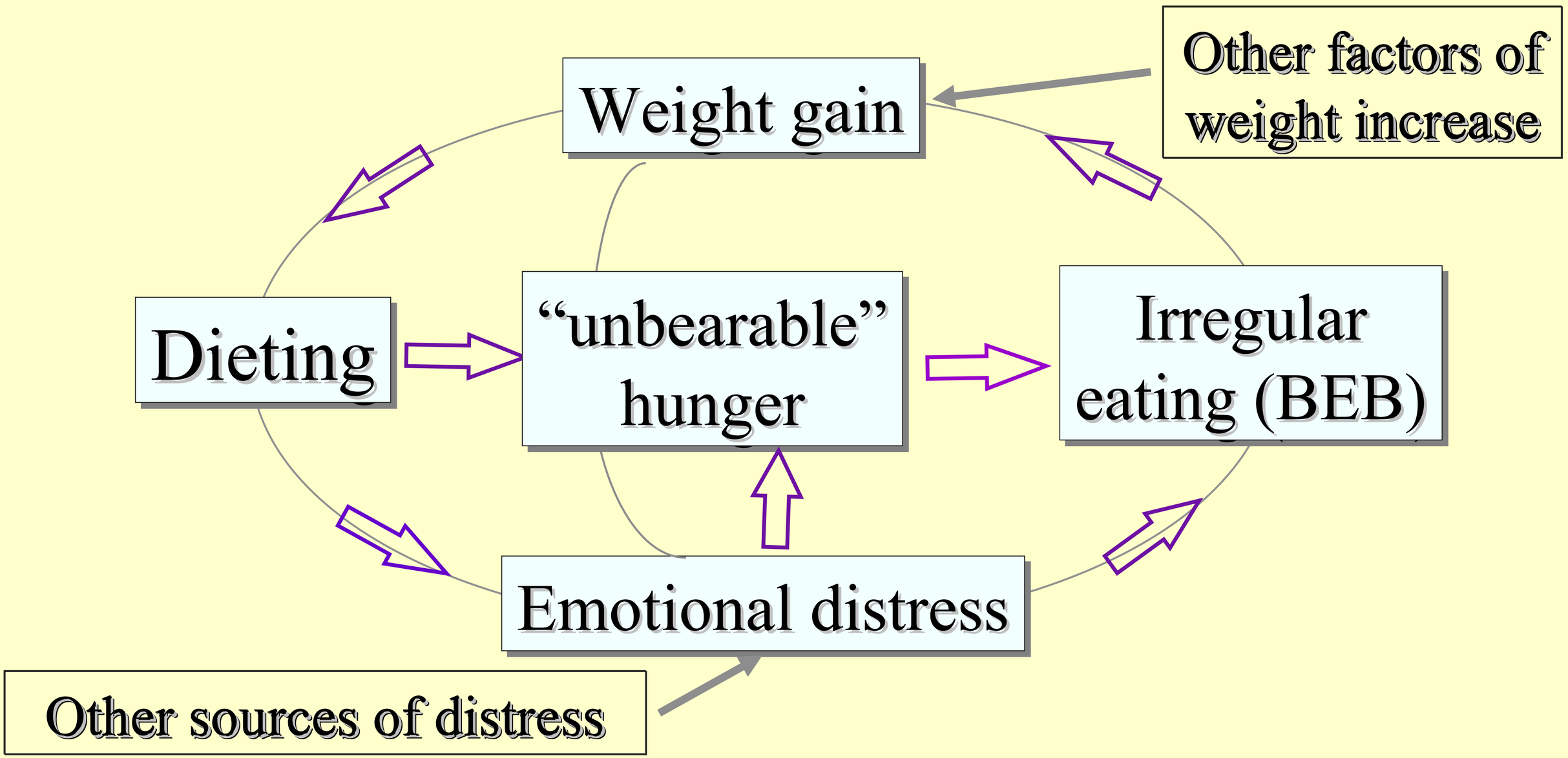
ANCOVA:

F=16,17; p(F)= 0,000087
(covariate: Q25)



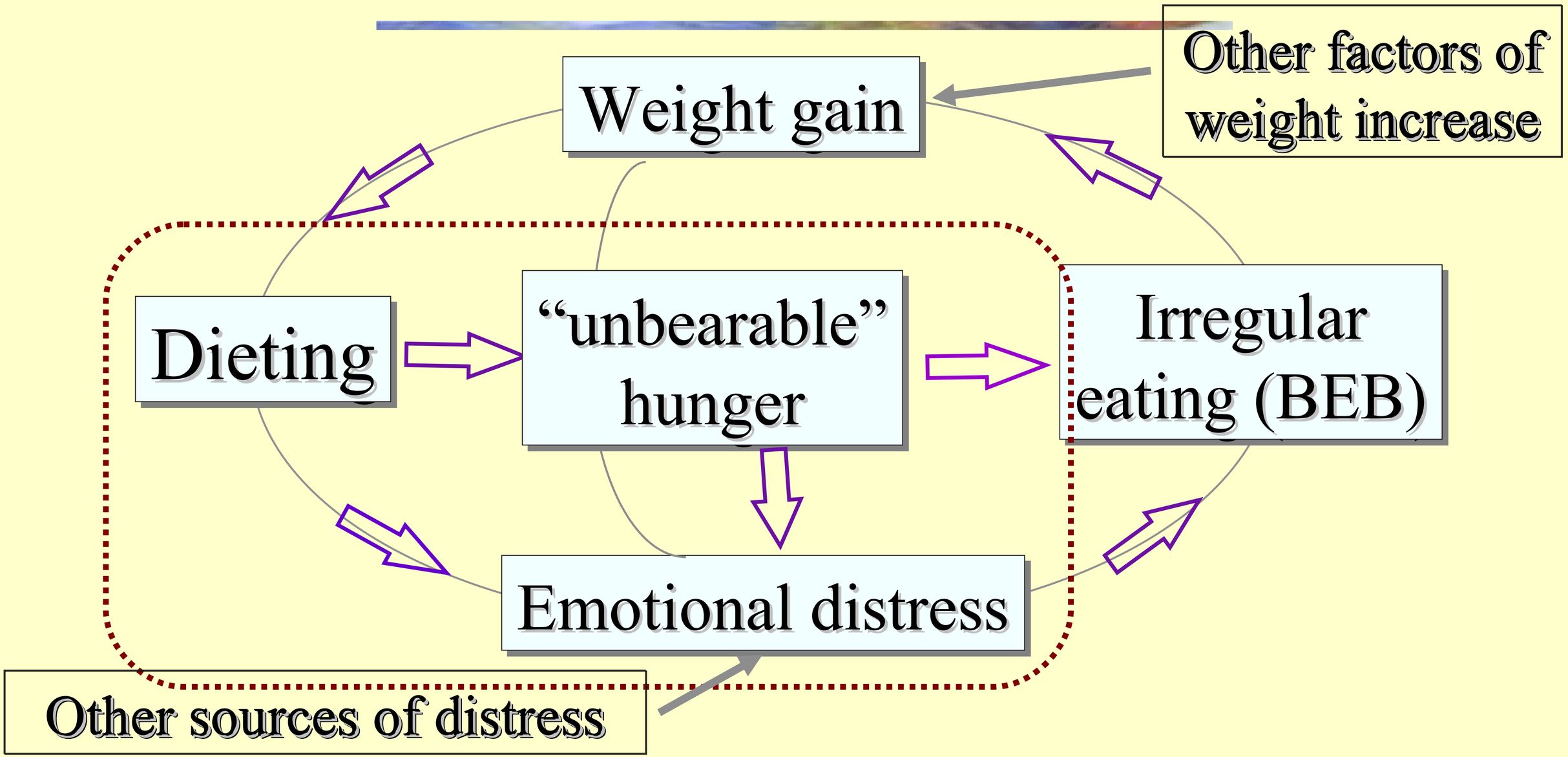
The perverse diet cycle: a recursive model (revised)

The role of "*unbearable hunger*"



The perverse diet cycle: a recursive model (revised)

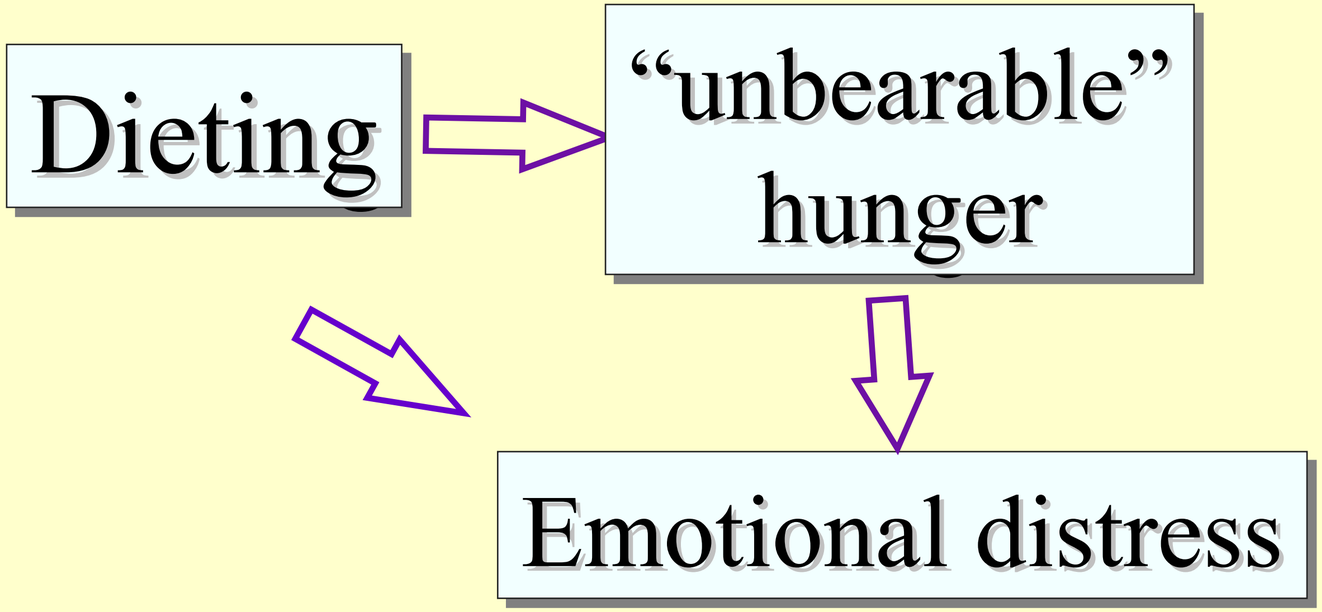
The role of "*unbearable hunger*"



The perverse diet cycle: a recursive model (revised)

The role of "*unbearable hunger*"

Could "unbearable"hunger (Q25) mediate between dietary restrictions (Q3) and emotional distress (ATQ)?

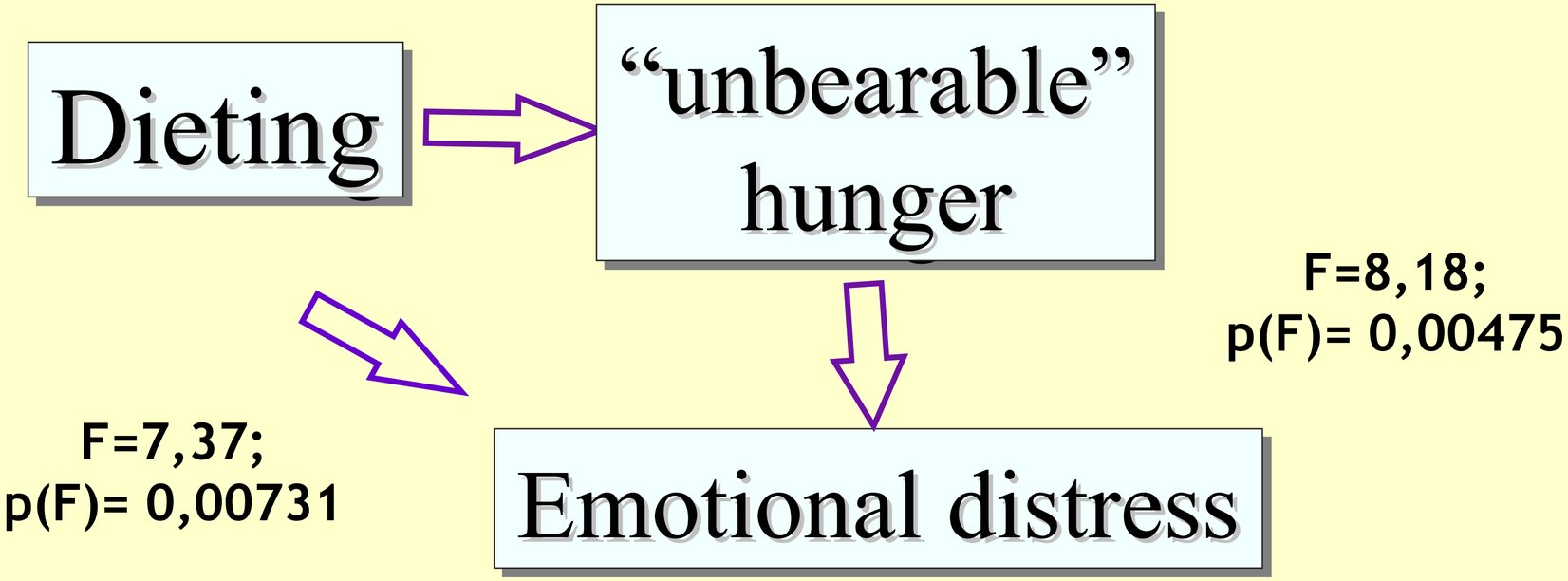


The perverse diet cycle: a recursive model (revised)

The role of "*unbearable hunger*"

Could "unbearable"hunger (Q25) mediate between dietary restrictions (Q3) and emotional distress (ATQ)?

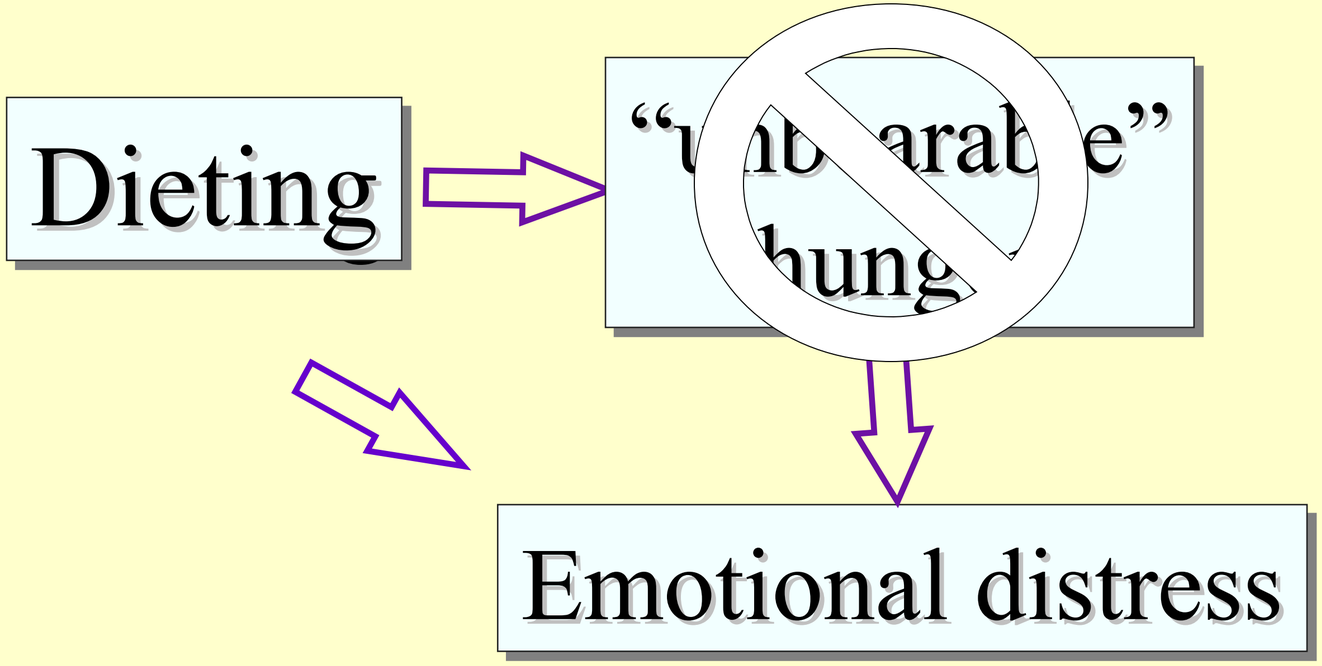
F= 8,21; p(F)= 0,004655



The perverse diet cycle: a recursive model (revised)

The role of "*unbearable hunger*"

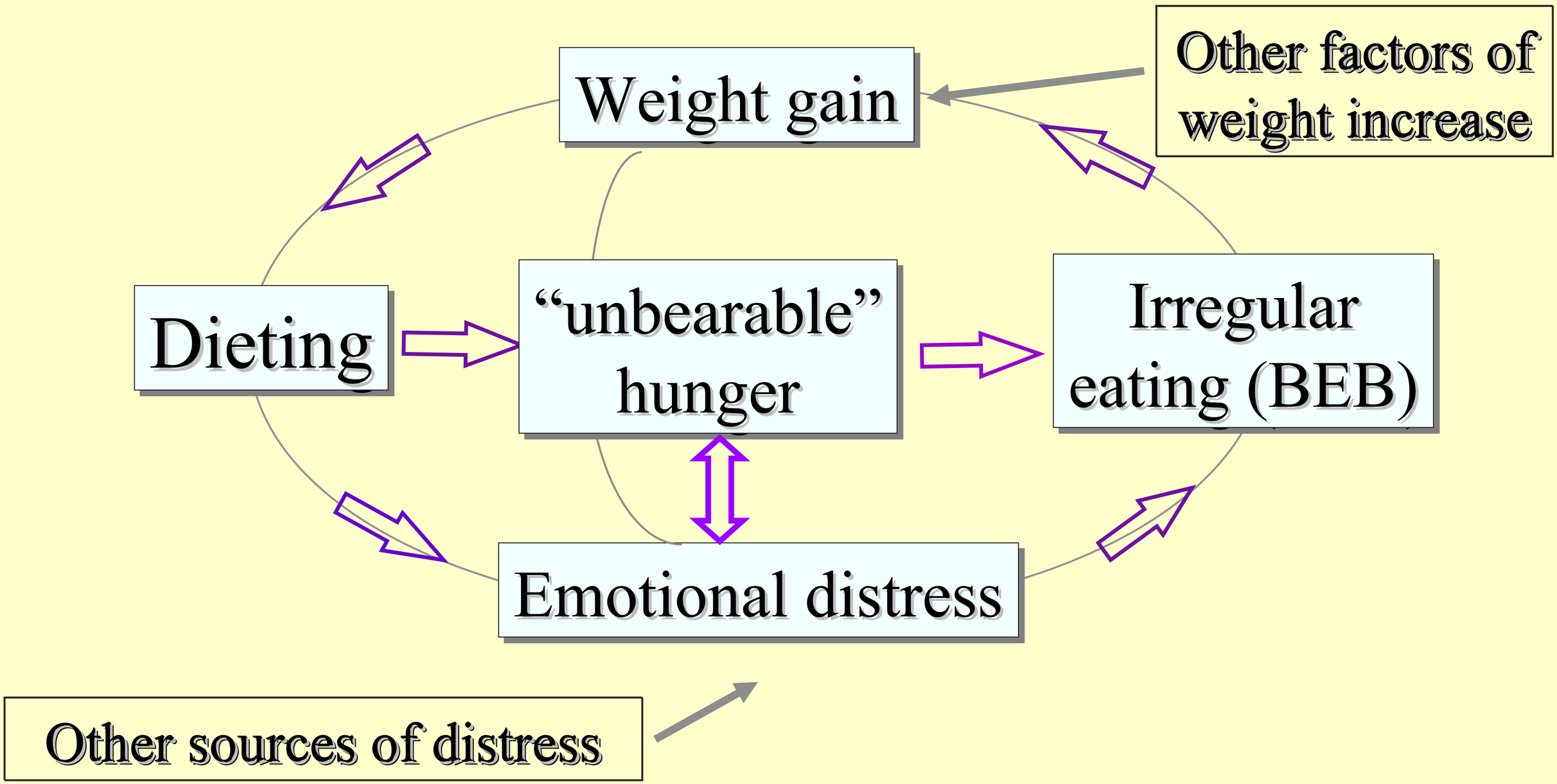
By taking into account "unbearable"hunger (Q25), dietary restrictions (Q3) still contribute to emotional distress (ATQ)



ANCOVA:

F=3,36; p(F)=0,02005
(covariate: Q25)

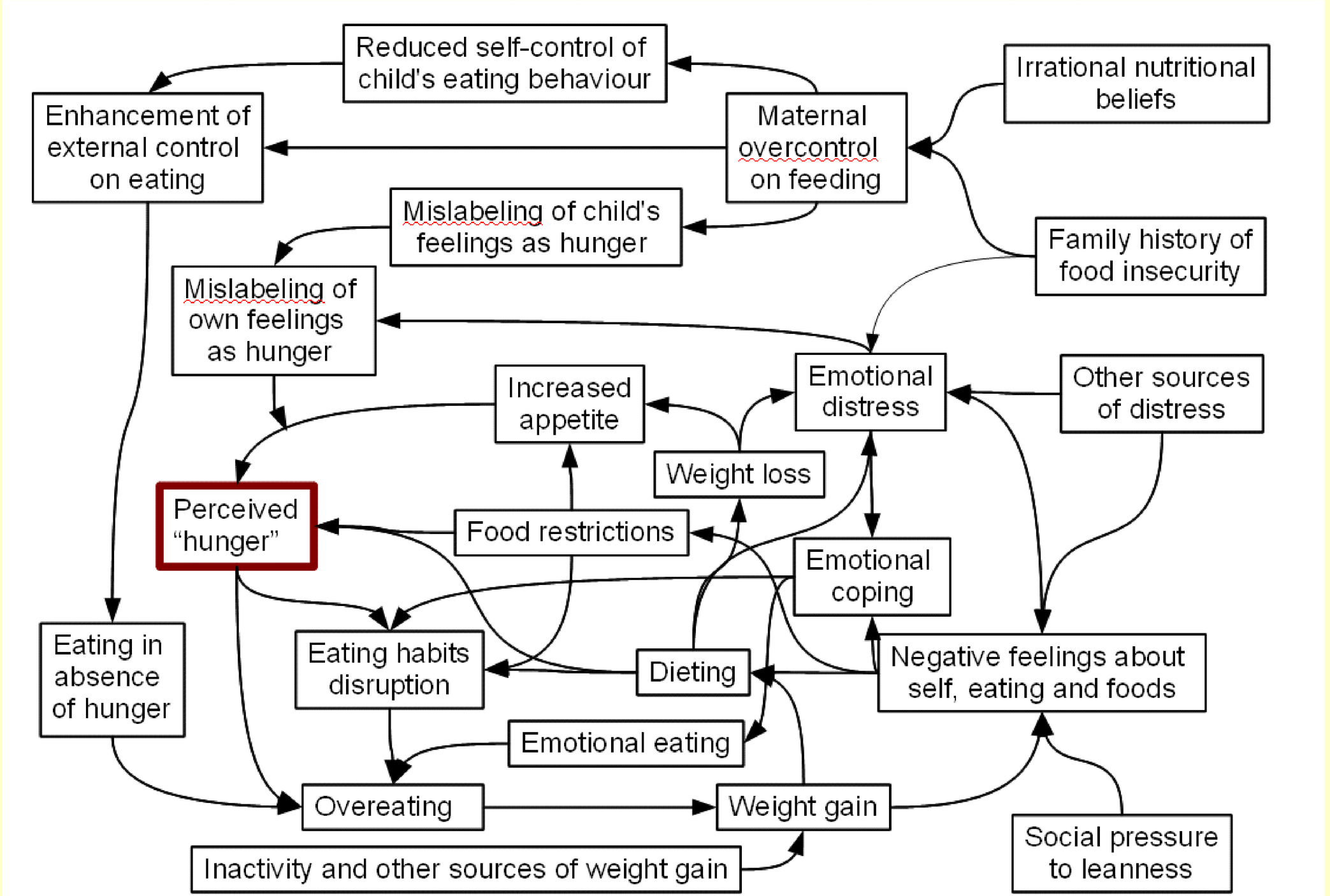
The perverse diet cycle: a recursive model (revised)



The perverse diet cycle: a recursive model (revised)

- The frequency of sensations of “unbearable hunger” mediates between dietary restrictions and borderline eating behaviours.
- “Sensations” of “unbearable hunger” and anxious-depressive ideation (ATQ scores) independently contribute to eating irregularities in the overweight people.
- “Sensations” of “unbearable hunger” and dietary restrictions independently contribute to anxious-depressive ideation.

A big picture of multiple pathways leading to weight gain



Sibilia L. (2010) The Cognition of Hunger and Eating Behaviours. *Psychological Topics*, 19, 2:341-354.

Obesity as a mental disease?

Editorial

As the American Psychiatric Association committees begin formal work on DSM-V, we welcome brief editorials on issues that should be considered in its formulation.

Issues for DSM-V: Should Obesity Be Included as a Brain Disorder?

Obesity (body mass index >30), has increased significantly over the past 30 years (approximately 50% per decade) (1), afflicting 32.2% of adults in the United States (2). Obesity increases risk for cardiovascular disease, diabetes, cancer, and other diseases, resulting in annual health care costs conservatively estimated for the United States at $70 to $100 billion a year (3) as well as reductions in life expectancy by 5 to 20 years (4). These facts highlight the urgent need to develop strategies to prevent and treat those afflicted.

Although there have been major scientific advances in the treatment of the medical complications of obesity (i.e., diabetes, hypertension hypercholesterolemia), the morbidity from this disorder is hampered by the failure of interventions to sustain weight loss. Standard interventions based on promoting lifestyle changes to decrease excessive food consumption (dieting) and increased physical activity (exercise) are effective and can normalize weight if followed rigorously, but unfortunately they are incredibly difficult to sustain. The discrepancy between the successes of the metabolic treatments of consequences of obesity and the failures of behavioral treatments to prevent or reverse obesity highlight the fact that this condition

"Consideration of the mental component of obesity should be a key target in the treatment of obesity to facilitate compliance and minimize relapse."

As a conclusion

Attribution to “hunger” of unpleasant feelings,
in overweight subjects (not ungergoing starvating diets) is at least unjustified, or an illusion.
The cognition (or illusion) of “unbearable hunger” should be appraised in all overweight subjects treated with CBT, as it mediates between dietary restrictions and eating borderline irregularities (strongly associated with weight gain),
in particular when a disthymic condition is present.

Thanks for your attention