

The Affective and Temperamental Basis of the Emotional Disorders

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The DSM-5 Emotional Disorders

- ▶ The **emotional disorders** fall into 5 adjacent diagnostic classes in DSM-5
 - Bipolar and Related Disorders
 - Depressive Disorders
 - Anxiety Disorders
 - Obsessive-Compulsive and Related Disorders
 - Trauma- and Stressor-Related Disorders
- ▶ These disorders involve affective dysfunction and dysregulation
- ▶ Explicating this affective dysfunction can:
 - Clarify the common vs. unique components of these disorders
 - Help address the problem of comorbidity

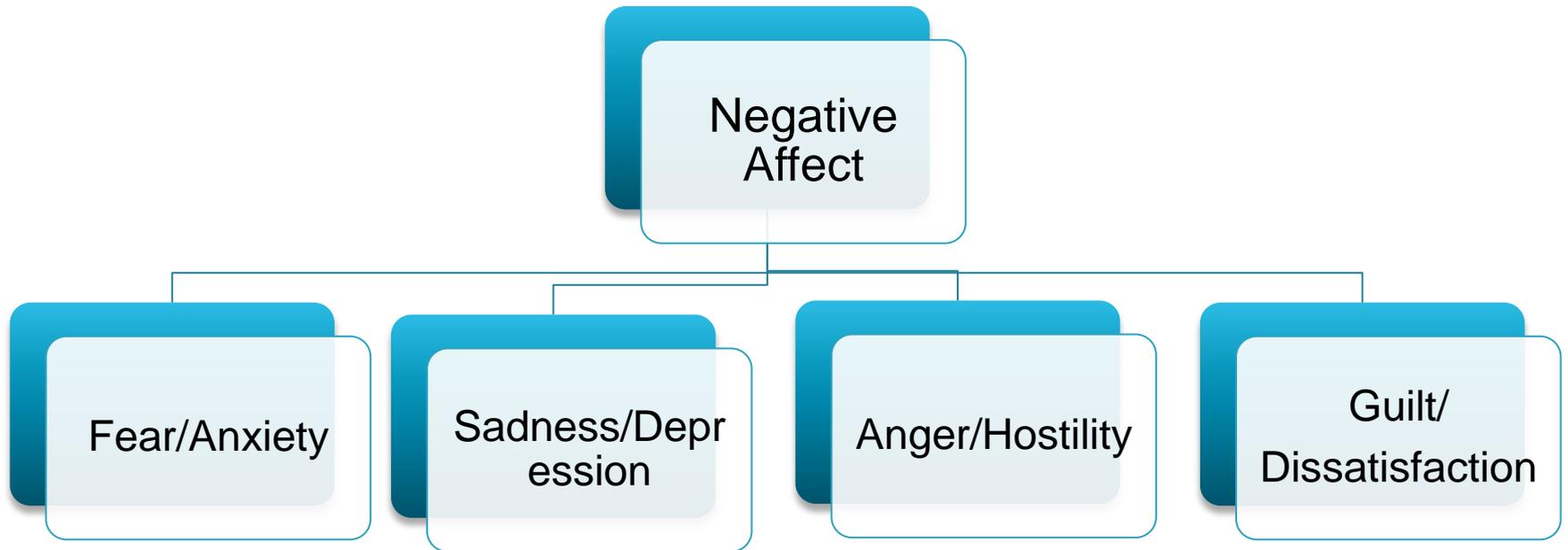
Tetrachoric Correlations Across Four National Epidemiological Studies (*N* = 29,014; Watson, 2009)

Disorder	MDD	Dysthymic	GAD	Panic	SAD	Agora
MDD	—					
Dysthymic	.74	—				
GAD	.64	.66	—			
Panic	.55	.50	.58	—		
SAD	.50	.49	.51	.53	—	
Agora	.48	.42	.52	.67	.61	—

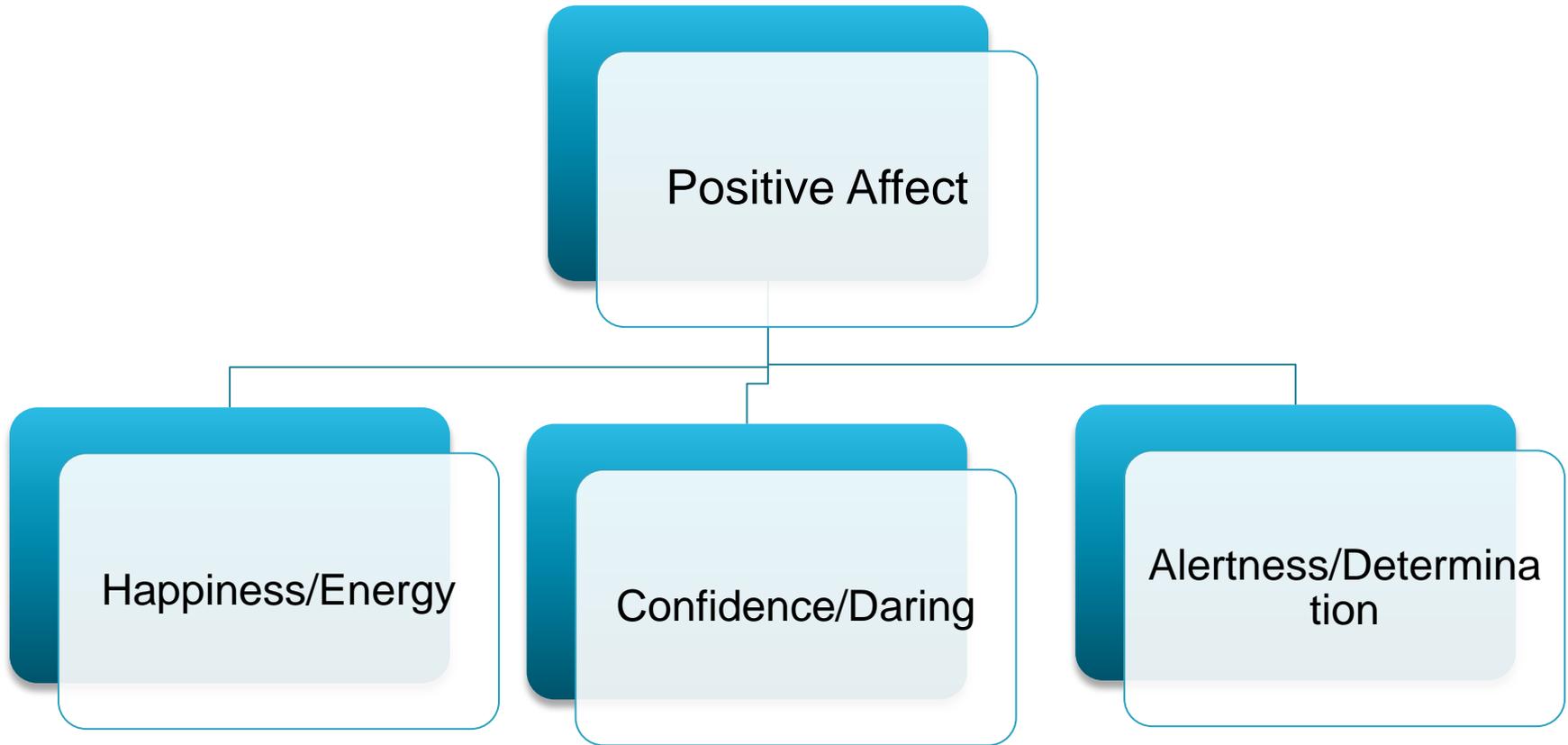
The Hierarchical Structure of Affect

- ▶ Affective experience is characterized by two general dimensions
 - Negative Affect (or Emotionality)
 - Positive Affect (or Emotionality)
- ▶ Each of these general factors can be decomposed into several specific, discrete affects
 - EG, fear/anxiety, sadness/depression, and anger/hostility represent specific components within Negative Affect
- ▶ The two general factors model the empirical covariation among these specific affects
 - EG, people who are sad also report feeling afraid, angry, and ashamed
 - Someone who is happy also reports feeling energetic, confident, and alert

The Hierarchical Structure of Negative Affect



The Hierarchical Structure of Positive Affect



Correlations among Depressed Mood, Anxious Mood & Angry Mood Scales (Watson et al., 2008)

Sample	N	Dep-Anx	Dep-Angry	Anx-Angry
HS Students	247	.77	.72	.73
College Students	980	.72	.68	.66
Adults	362	.76	.69	.75
Postpartum	925	.74	.72	.69
Older Adults	214	.85	.55	.64
Adolescent Pats	131	.76	.71	.65
Adult patients	690	.74	.60	.64
Overall	3,549	.78	.68	.68

The Two-Factor Model (Watson et al., 1988)

- ▶ Watson, Clark & Carey (*Journal of Abnormal Psychology*, 1988) proposed a two-factor affective model of the emotional disorders
- ▶ Negative Affect represents a nonspecific factor that is common to these disorders
 - Its influence is largely responsible for observed comorbidity
- ▶ (Low) Positive Affect represents a unique factor that is specific to depression
 - Indicators of positive affect have stronger negative correlations with depression than anxiety
 - Low positive affect also related to social anxiety/social phobia

Correlations with DIS Symptoms (N = 150; Watson et al., 1988)

Symptom Index	Negative Emotionality	Positive Emotionality
Panic	.36**	-.15
OCD	.37**	-.13
Phobias	.25**	-.11
Depression	.57**	-.40**

Correlations with DIS Diagnoses (N = 150; Watson et al., 1988)

Diagnoses	Negative Emotionality	Positive Emotionality
Anxiety Disorders		
OCD	.39**	-.12
Simple Phobia	.16*	-.01
Social Phobia	.20*	-.23*
Mood Disorders		
Major Depression	.50**	-.41**
Dysthymic Disorder	.39**	-.37**

The PANAS Scales

(Watson, Clark & Tellegen, 1988)

Scale	Items
Negative Affect	Scared, afraid, nervous, jittery, guilty, ashamed, irritable, hostile, upset, distressed
Positive Affect	Active, alert, attentive, enthusiastic, excited, interested, inspired, proud, strong, determined

Polychoric Correlations with DSM Diagnoses: PANAS Negative Affect

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 3 (<i>N</i> = 252)	Weighted <i>M</i>
MDD	.61	.60	.61	.61
GAD	.54	.50	.50	.52
Panic Disorder	.54	.47	.49	.50
PTSD	.42	.50	.52	.47
OCD	.29	.42	.48	.39
Social Phobia	.27	.40	.38	.34
Specific Phobia	.22	.22	—	.22

Polychoric Correlations with DSM Diagnoses: PANAS Positive Affect

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 3 (<i>N</i> = 252)	Weighted <i>M</i>
MDD	-.44	-.52	-.46	-.47
GAD	-.13	-.40	-.03	-.18
Panic Disorder	-.21	-.23	-.03	-.16
PTSD	-.10	-.18	-.16	-.14
OCD	-.10	-.24	-.09	-.14
Social Phobia	-.16	-.14	-.29	-.19
Specific Phobia	.07	.01	—	.04

Specific Negative Affects

- ▶ As noted, the general Negative Affect dimension can be decomposed into specific types of affect
 - These specific negative affects are strongly correlated
- ▶ Nevertheless, individual PANAS-X scales show very different patterns:
 - **Fear** has strong, nonspecific associations with the emotional disorders
 - **Sadness** shows strong specificity to major depression
 - **Guilt** also shows specificity to depression
 - **Hostility** has relatively weak, nonspecific relations to these disorders
- ▶ These data provide important refinements to the original two-factor model

The PANAS-X Negative Affect Scales (Watson & Clark, 1999)

Scale	Items
Fear	Afraid, scared, frightened, nervous, jittery, shaky
Sadness	Sad, blue, downhearted, alone, lonely
Hostility	Angry, irritable, hostile, scornful, disgusted, loathing
Guilt	Guilty, ashamed, blameworthy, angry at self, disgusted with self, dissatisfied with self

Polychoric Correlations with DSM Diagnoses: PANAS-X Fear

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 3 (<i>N</i> = 252)	Weighted <i>M</i>
MDD	.59	.58	.47	.55
GAD	.54	.46	.48	.50
Panic Disorder	.56	.50	.56	.54
PTSD	.45	.53	.50	.49
OCD	.26	.46	.44	.37
Social Phobia	.21	.44	.34	.32
Specific Phobia	.28	.23	—	.26

Polychoric Correlations with DSM Diagnoses: PANAS-X Sadness

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 3 (<i>N</i> = 252)	Weighted <i>M</i>
MDD	.62	.66	.73	.67
GAD	.37	.37	.40	.38
Panic Disorder	.47	.32	.28	.37
PTSD	.35	.36	.49	.40
OCD	.25	.29	.31	.28
Social Phobia	.29	.25	.30	.28
Specific Phobia	-.06	.02	—	-.03

Polychoric Correlations with DSM Diagnoses: PANAS-X Guilt

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Weighted <i>M</i>
MDD	.60	.64	.62
GAD	.39	.41	.40
Panic Disorder	.50	.44	.47
PTSD	.37	.40	.38
OCD	.20	.40	.29
Social Phobia	.23	.39	.30
Specific Phobia	.03	.06	.04

Polychoric Correlations with DSM Diagnoses: PANAS-X Hostility

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 3 (<i>N</i> = 252)	Weighted <i>M</i>
MDD	.38	.40	.42	.40
GAD	.32	.40	.26	.33
Panic Disorder	.32	.31	.27	.30
PTSD	.33	.29	.37	.33
OCD	.13	.40	.43	.30
Social Phobia	.21	.26	.22	.23
Specific Phobia	.16	.16	—	.16

Summary of Logistic Regression Analyses

Diagnosis	Fear	Sadness	Hostility	Guilt
MDD	++	+++	-	++
GAD	+++	+	+	
Panic Disorder	+++			
PTSD	+++	+		
OCD	+		+	
Social Phobia	++			
Specific Phobia	++	-		

IDAS Negative Mood Scales

- ▶ The Inventory of Depression and Anxiety Symptoms (IDAS; Watson et al., 2007) contains two negative mood scales
 - **Dysphoria**
 - Contains content related to depressed mood, worry/anxiety, and guilt/shame
 - Strong, broad associations with the emotional disorders
 - Nevertheless, shows clear specificity to major depression
 - **Ill Temper**
 - Assesses angry mood and related behavior
 - Similar to PANAS-X Hostility, shows relatively weak, nonspecific relations to the emotional disorders

IDAS Dysphoria and Ill Temper Scales

Scale	Sample Items
Dysphoria	I felt depressed
	I blamed myself for things
	I felt inadequate
	I felt discouraged about things
	I found myself worrying all the time
Ill Temper	I was furious
	I felt like breaking things
	I felt enraged
	Little things made me mad

Dysphoria: Correlations with the PANAS-X Negative Affect Scales

PANAS-X Scale	Past Week (<i>N</i> = 1,113)	General (<i>N</i> = 917)	Weighted <i>M</i>
Fear	.66	.69	.67
Sadness	.77	.69	.73
Hostility	.63	.58	.61
Guilt	.76	.70	.73

III Temper: Correlations with the PANAS-X Negative Affect Scales

PANAS-X Scale	Past Week (<i>N</i> = 1,113)	General (<i>N</i> = 917)	Weighted <i>M</i>
Fear	.51	.51	.51
Sadness	.57	.52	.55
Hostility	.73	.66	.70
Guilt	.57	.51	.54

Polychoric Correlations with DSM Diagnoses: IDAS Dysphoria

Diagnosis	Sample 1 (<i>N</i> = 604)	Sample 2 (<i>N</i> = 252)	Sample 2 (<i>N</i> = 407)	Weighted <i>M</i>
MDD	.73	.69	.80	.74
GAD	.46	.53	.73	.56
Panic Disorder	.43	.40	.57	.47
PTSD	.40	.59	.54	.48
Agoraphobia	.32	—	.49	.39
Social Phobia	.27	.36	.55	.38
OCD	.24	.38	—	.28
Specific Phobia	.19	—	—	.19

Polychoric Correlations with DSM Diagnoses: IDAS III Temper

Diagnosis	Sample 1 (<i>N</i> = 604)	Sample 2 (<i>N</i> = 407)	Weighted <i>M</i>
MDD	.35	.47	.40
GAD	.33	.46	.38
Panic Disorder	.33	.46	.38
PTSD	.36	.51	.42
Agoraphobia	.26	.42	.32
Social Phobia	.24	.33	.28
OCD	.27	—	.27
Specific Phobia	.19	—	.19

Findings for Specific Positive Affects

- ▶ The general Positive Affect dimension also can be decomposed into specific types of affect
 - These specific positive affects are strongly correlated
- ▶ Nevertheless, individual PANAS-X scales show different patterns:
 - **Joviality** shows clear specificity to major depression
 - **Self-Assurance** and **Attentiveness** show weaker, more non-specific associations with the emotional disorders

The PANAS-X Positive Affect Scales (Watson & Clark, 1999)

Scale	Items
Joviality	Happy, cheerful, delighted, joyful, enthusiastic, excited, lively, energetic
Self-Assurance	Proud, strong, confident, bold, daring, fearless
Attentiveness	Alert, attentive, concentrating, determined

Polychoric Correlations with DSM Diagnoses: PANAS-X Joviality

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 2 (<i>N</i> = 226)	Weighted <i>M</i>
MDD	-.41	-.61	-.42	-.48
GAD	-.17	-.41	-.33	-.29
Panic Disorder	-.20	-.30	-.23	-.24
PTSD	-.10	-.26	-.30	-.21
Agoraphobia	-.23	-.28	-.15	-.22
Social Phobia	-.15	-.16	-.42	-.23
OCD	-.23	-.26	—	-.24
Specific Phobia	-.04	.05	—	-.00

Polychoric Correlations with DSM Diagnoses: PANAS-X Self-Assurance

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 2 (<i>N</i> = 226)	Weighted <i>M</i>
MDD	-.26	-.44	-.37	-.35
GAD	-.07	-.31	-.33	-.22
Panic Disorder	-.11	-.19	-.26	-.18
PTSD	-.01	-.19	-.11	-.09
Agoraphobia	-.19	-.27	-.15	-.20
Social Phobia	-.09	-.23	-.32	-.20
OCD	-.09	-.08	—	-.09
Specific Phobia	.10	.02	—	.07

Polychoric Correlations with DSM Diagnoses: PANAS-X Attentiveness

Diagnosis	Sample 1 (<i>N</i> = 331)	Sample 2 (<i>N</i> = 253)	Sample 2 (<i>N</i> = 226)	Weighted <i>M</i>
MDD	-.41	-.44	-.35	-.40
GAD	-.13	-.27	-.33	-.23
Panic Disorder	-.14	-.10	-.27	-.16
PTSD	-.11	-.03	-.10	-.08
Agoraphobia	-.08	-.15	-.18	-.13
Social Phobia	-.17	-.03	-.50	-.30
OCD	-.02	-.19	—	-.09
Specific Phobia	.06	.04	—	.05

Summary of Logistic Regression Analyses

Diagnosis	Joviality	Self-Assurance	Attentiveness
MDD	--	+	-
GAD			
Panic Disorder			
PTSD			+
Agoraphobia			
Social Phobia		-	+
OCD			
Specific Phobia	-		

IDAS-II Positive Mood Scales

- ▶ The Expanded Version of the IDAS (the IDAS-II) contains two positive mood scales:
 - **Well-Being**
 - Assesses a healthy, adaptive form of positive affect
 - Correlates *negatively* with psychopathology
 - Shows strong specificity to major depression
 - **Euphoria**
 - Assesses an unhealthy, maladaptive form of positive affect
 - Correlates *positively* with psychopathology
 - Shows specificity to bipolar disorder and forms of externalizing

IDAS Well-Being & Euphoria Scales

Scale	Sample Items
Well-Being	I felt optimistic
	I looked forward to things with enjoyment
	I felt like I had a lot of interesting things to do
Euphoria	I felt elated for no special reason
	I felt like I was “on top of the world”
	I had so much energy it was hard for me to sit still

Well-Being: Correlations with the PANAS-X Positive Affect Scales

PANAS-X Scale	Past Week (<i>N</i> = 1,113)	General (<i>N</i> = 917)	Weighted <i>M</i>
Joviality	.71	.74	.72
Self-Assurance	.59	.59	.59
Attentiveness	.57	.65	.61

Euphoria: Correlations with the PANAS-X Positive Affect Scales

PANAS-X Scale	Past Week (<i>N</i> = 1,113)	General (<i>N</i> = 917)	Weighted <i>M</i>
Joviality	.37	.38	.37
Self-Assurance	.48	.38	.43
Attentiveness	.27	.29	.28

Polychoric Correlations with DSM Diagnoses: IDAS-II Well-Being

Diagnosis	Sample 1 (N = 337)	Sample 2 (N = 267)	Sample 3 (N = 290)	Sample 4 (N = 407)	Weighted <i>M</i>
MDD	-.58	-.52	-.48	-.38	-.48
Social Phobia	-.21	-.12	-.06	-.37	-.21
Agoraphobia	-.29	-.32	-.11	-.21	-.23
GAD	-.25	-.36	-.03	-.28	-.23
PTSD	-.14	-.27	-.11	-.15	-.16
Panic Disorder	-.26	-.22	-.13	-.15	-.19
OCD	-.21	-.20	-.09	—	-.17
Specific Phobia	.02	.07	-.05	—	.01
Curr Manic Ep	—	—	.41	-.01	.16

Well-Being: Correlations with IMAS Scales

IMAS Scale	Patients (<i>N</i> = 362)	Students (<i>N</i> = 373)	Weighted <i>M</i>
Depression	-.36	-.31	-.33
GAD	-.26	-.26	-.26
Social Phobia	-.21	-.30	-.26
PTSD	-.22	-.28	-.25
Agoraphobia	-.18	-.16	-.17
Panic	-.15	-.13	-.14
Specific Phobia	-.07	-.09	-.08
OCD	-.06	-.07	-.07
Mania	.28	.15	.21

Polychoric Correlations with DSM Diagnoses: IDAS-II Euphoria

Diagnosis	Sample 3 (<i>N</i> = 290)	Sample 4 (<i>N</i> = 407)	Weighted <i>M</i>
MDD	-.10	.08	.01
Social Phobia	-.07	.00	-.03
Agoraphobia	.05	.11	.09
GAD	.07	.10	.09
PTSD	.14	.27	.22
Panic Disorder	.02	.07	.05
OCD	.13	—	.13
Specific Phobia	.24	—	.24
Current Manic Episode	.47	.40	.43

Euphoria: Correlations with IMAS Scales

IMAS Scale	Patients (<i>N</i> = 362)	Students (<i>N</i> = 373)	Weighted <i>M</i>
Depression	.13	.21	.17
GAD	.16	.17	.17
Social Phobia	.05	.03	.04
PTSD	.18	.19	.19
Agoraphobia	.12	.06	.09
Panic	.22	.20	.21
Specific Phobia	.10	.05	.07
OCD	.17	.22	.20
Mania	.64	.64	.64

General Conclusions

- ▶ **Individual differences in negative affect are strongly and broadly related to the emotional disorders**
 - Fear: Strong non-specific associations
 - Sadness: Strong specific association with major depression
 - Hostility: Weak nonspecific associations
- ▶ **Positive affect shows much greater specificity**
 - Some types of positive affect (e.g., joviality) show a specific, negative association with major depression
 - Other types of positive affect (e.g., euphoria) show a specific, positive association with bipolar disorder

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