Western University

From the SelectedWorks of Amresh Srivastava

2015

RESILIENCE: A PSYCHOBIOLOGICAL CONSTRUCT FOR PATHWAY OF SUICIDALITY

Amresh Srivastava
Corelee Berlmont
Miky Kaushal
Avinash DeSouza
Robbie Campbell, *Western University*, et al.

Available at: https://works.bepress.com/amreshsrivastava/165/

Resilience

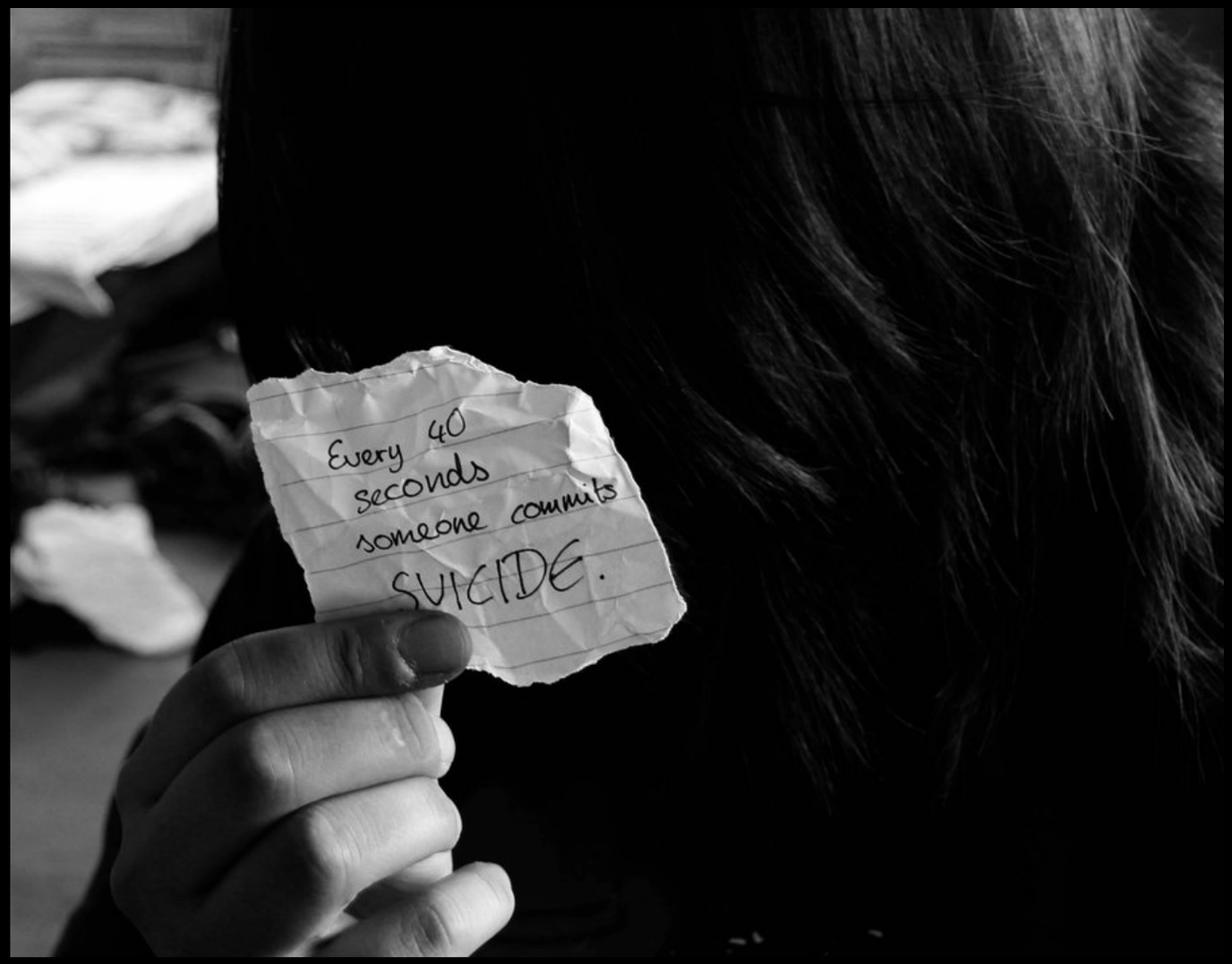
A Psychobiological Construct

for Pathways of Suicidality

Amresh Srivastava

Coralee Berlemont MSW RSW, Miky Kaushal MD, Avinash DeSouza MD, Robbie Campbell FRCPC and Larry Stitt Ph.D

No Conflict of of Interest



1 suicide Every 40 seconds

Every day 11 suicide
211 attempt
CANADA

Offer Hope.

Prevent Suicide.

The science of mastering life's greatest challenges

Resilience

Suicide	Predictability
Vulnerability	Pathway
Variability	Prevention

Resilience

Resilience is a factor which allows individuals to swiftly adapt to adverse life events and bounce back to normalcy

> 500 key words

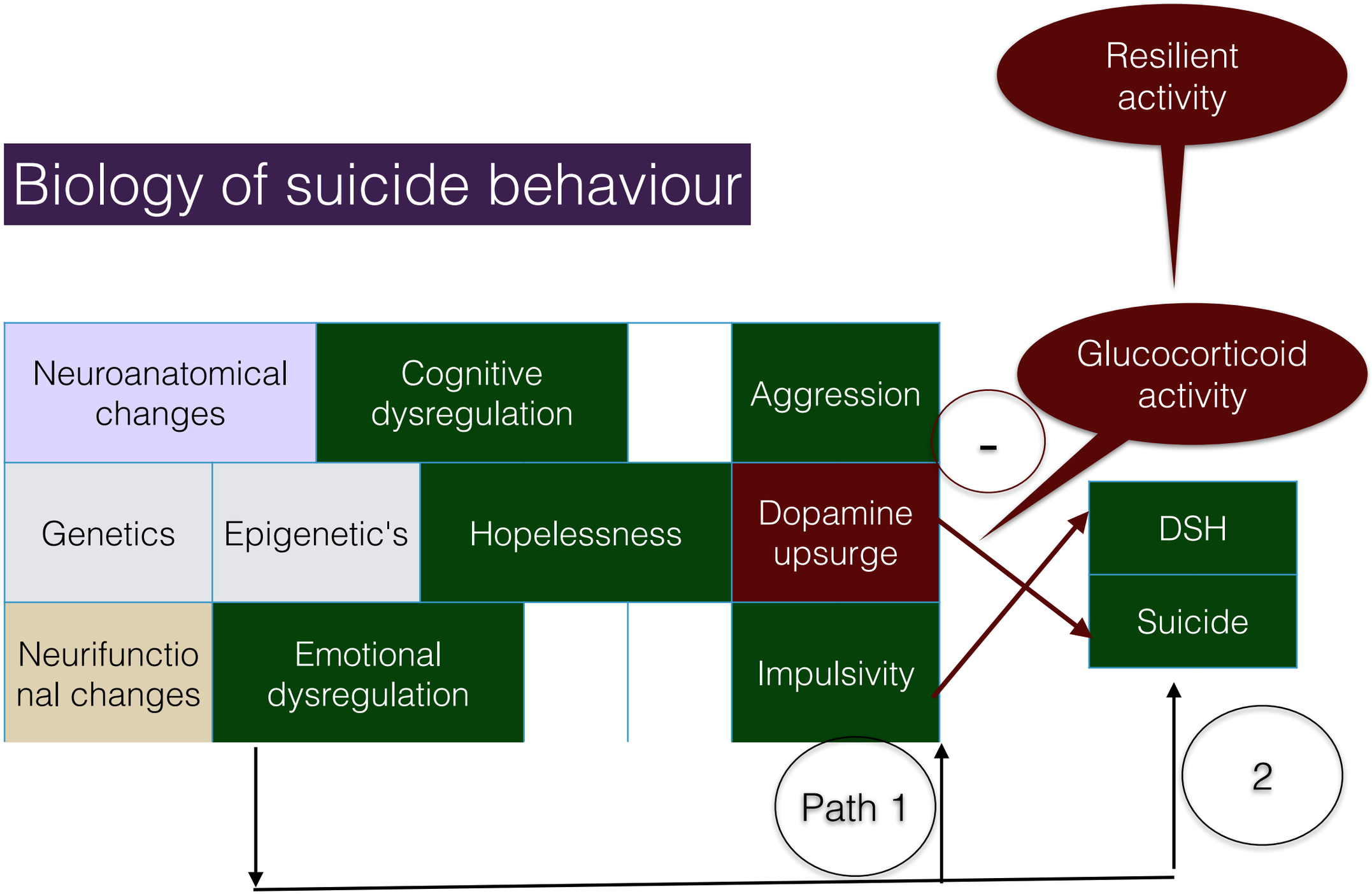
A psychobiological construct	Neurobehavioral construct
Adaptability	A Protective factor
Optimism	Modifiable
Satisfaction	Mindfulness
Contentment	Foresight
	Shares common biological features with suicide

Neurocognition	Neuroplasticity	Neuropeptides neuroprotectives,BDNF and NG1/2
Neuro-circuitry Amygdala, hypothalmus. mPFC, ACC	Resilience	HPA Axis, NA, DA, serotonergic system
	Genetics and epigenetics	Genetics and epigenetic

Resilience - A neurobiological construct

Evidence based, comprehensive and hypothetical Model

Biology of suicide behaviour



Questions in Resilience - suicide association

Objective

Q.1. Is resilience associated with suicide?

Q.2. Does level of resilience differ in severity of suicidality?

Q.3.Are there specific factors determining resilience which are associated with resilience

Outcome measures

1. Difference is level of resilience between low and high suicidality

1. Difference in subgroup of resilience with severity level of suicide

Behavioural Characterstics of resilience are associated to repeated hospitalizarion : 25 items of CD-RISC scale

1) Able to adapt
2) One close & secure relationship
3) Fate/God can help
4) Deal with whatever
5) Past successes give confidence
6) Try to see humour in problems
7) Coping with stress makes me stronger
8) Bounce back after illness/injury
9) Most things happen for a reason
10) Give my best effort
11) Believe I can achieve goals

12) I don't give up
13) Know where to turn for help
14) Under pressure I stay focused
15) Prefer to take lead
16) Not easily discouraged by failure
17) Think of myself as strong
18) I can make unpopular/difficult decisions
19) Able to handle unpleasant feelings
20) Sometimes act on a hunch
21) Strong sense of purpose
22) I feel in control of life
23) I like challenges
24) I work to attain goals
25) Take pride in achievements

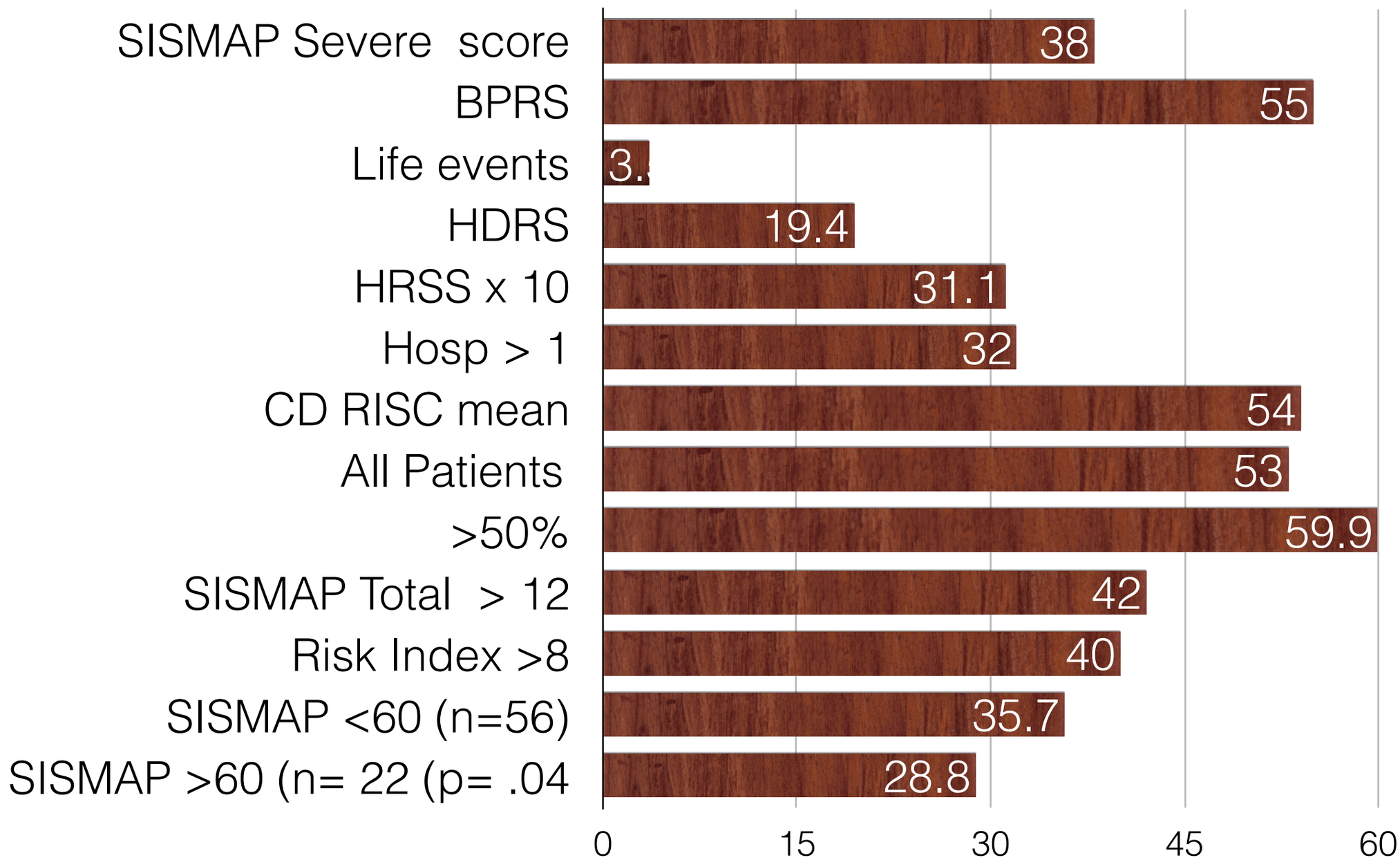
Re-organization of description of resilience

CD-RISC-25	
12 items	4,5,7,8, 10,12,14,
5 items	24,3,6,13
8 items	25,22,18, 16, 11,9,2,1

Study of resilience in suicidality

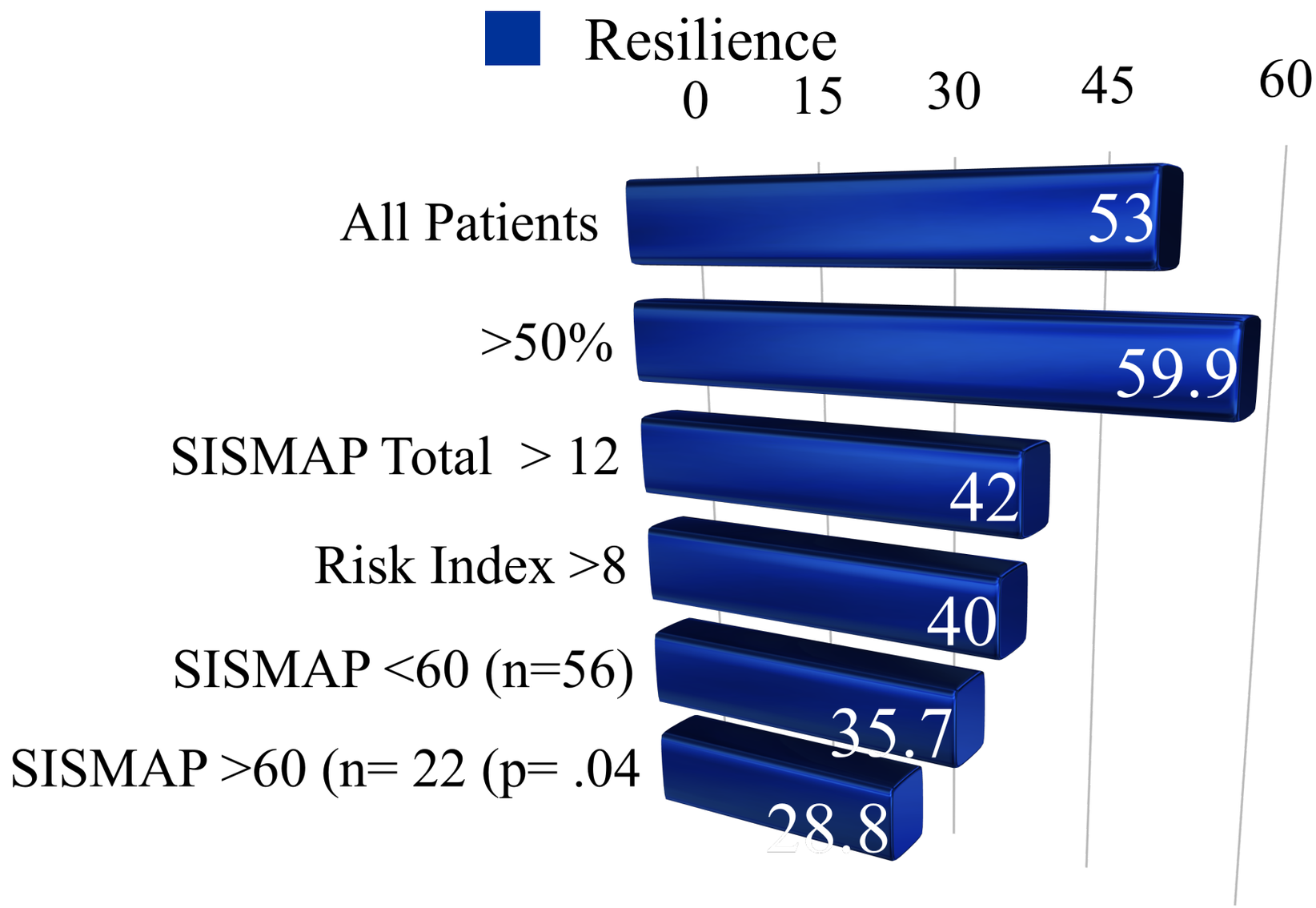
Methods	Instruments	Recruitment	Assessment
Prospective	Cohort	Recently discharged	RMHC
Assessed for	Resilience	Suicidality	Psychopathology
SISMAP	Standard Psychometric tools and CD-RISC		
CD-RISC	two parameters <60 Vs >60 and <50 Vs> 50		
	Lesser score is low level of resilience		
Suicidality	Severity,suicide as reason for admission, risk index. ideas and attempt		

Sample characteristics



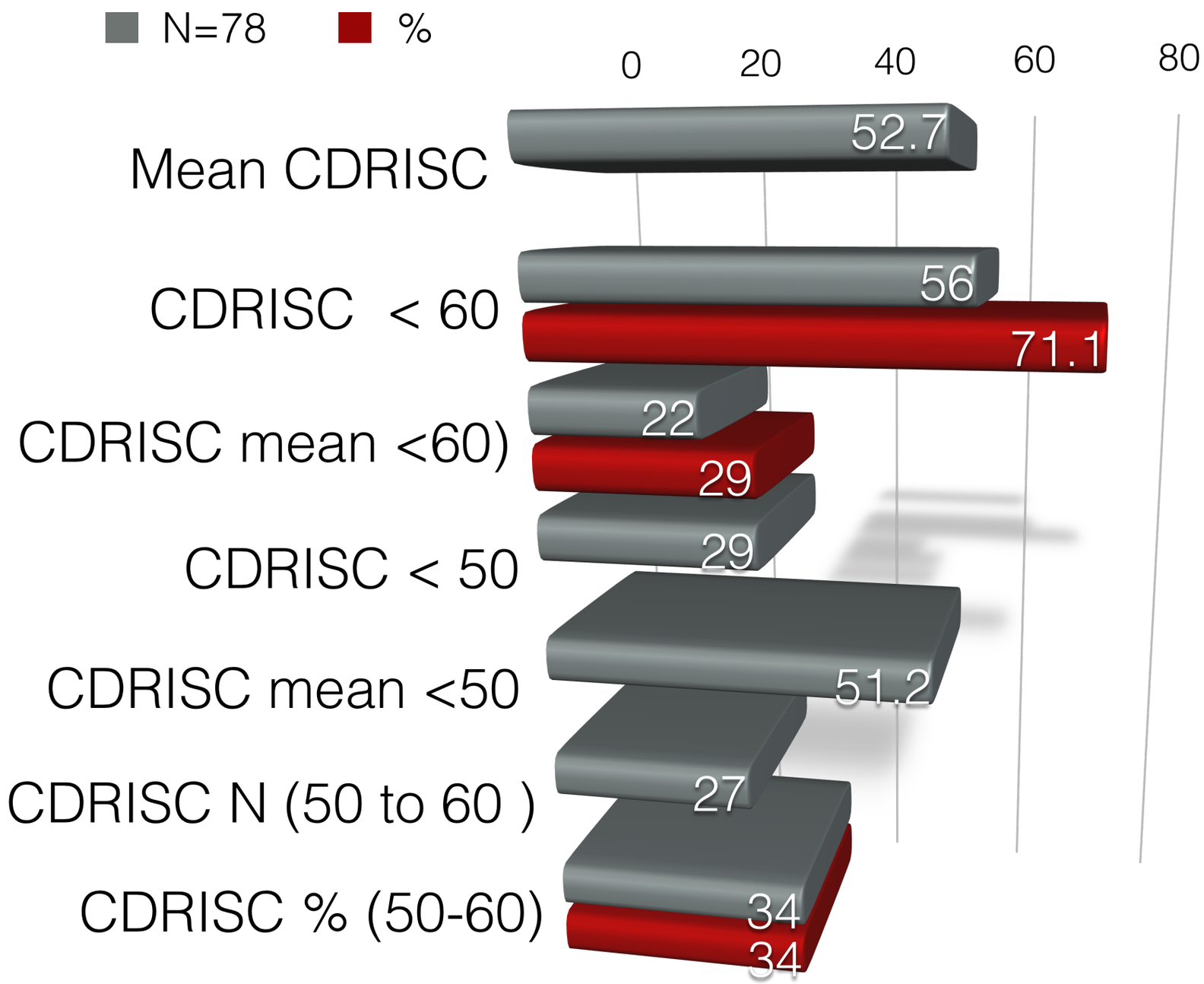
Low resilience in mental disorders

Sample characteristics



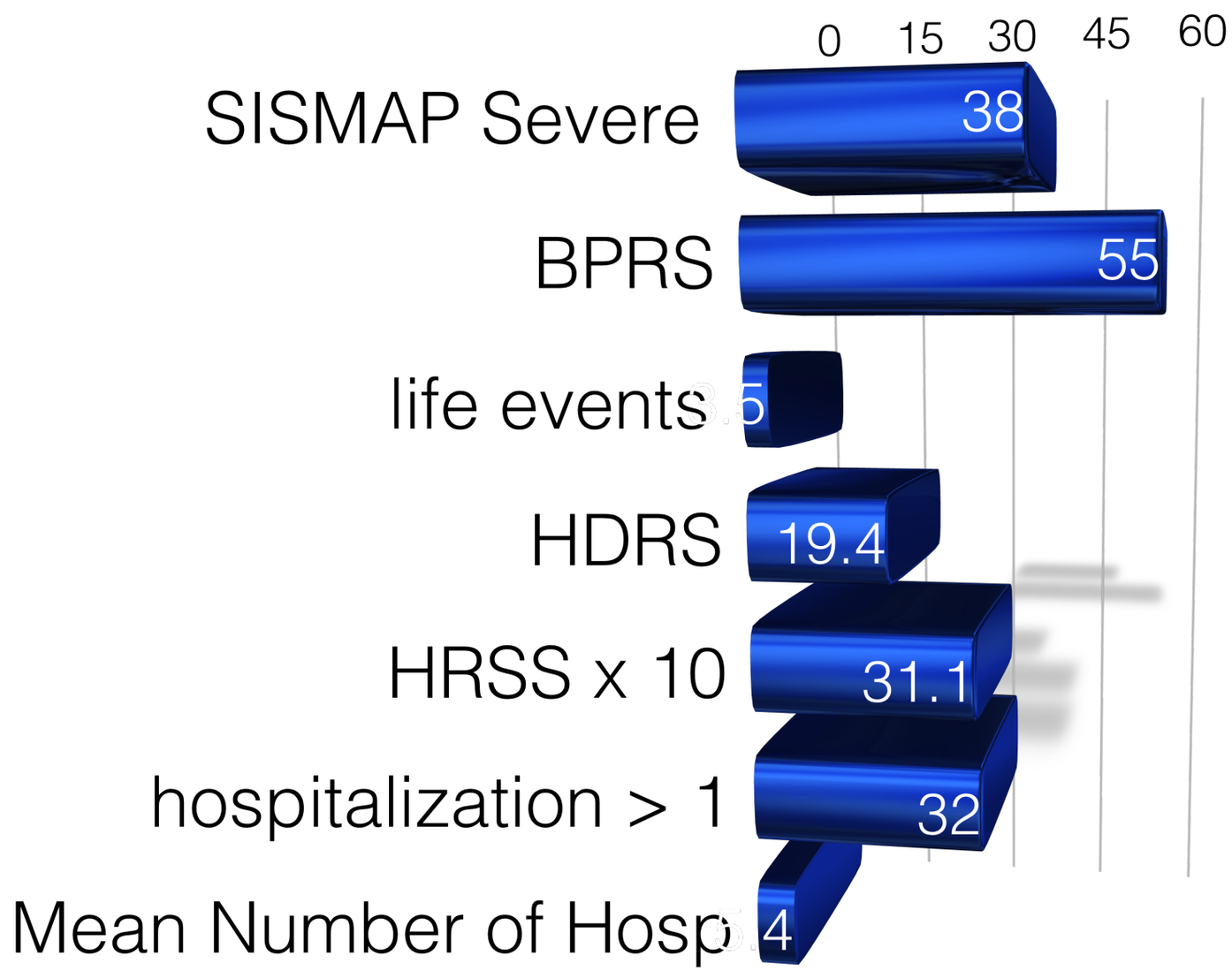
Resilience in Post-Discharge Patients

Resilience

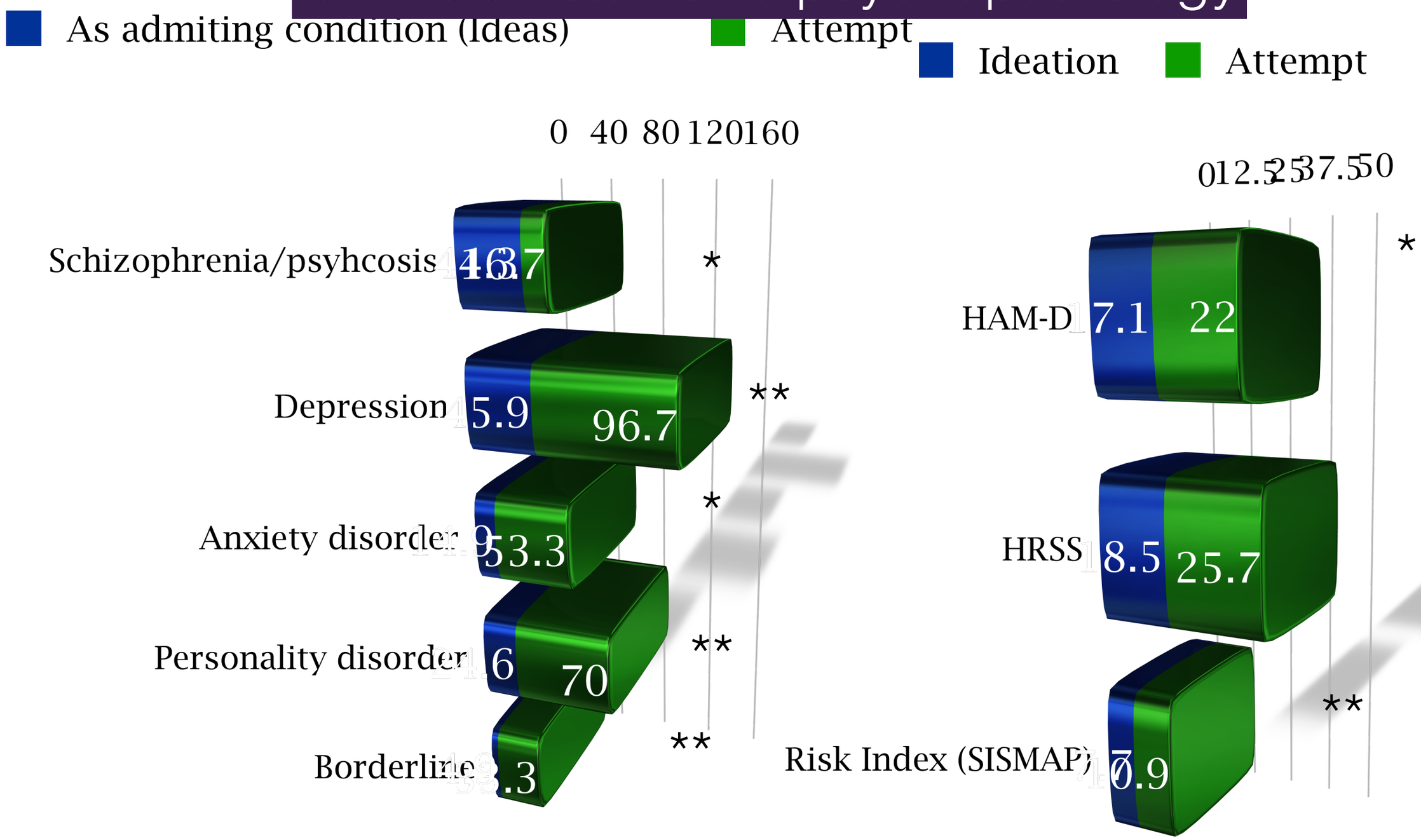

N=78
%
0
20
40
60
80
Mean CDRISC
52.7
CDRISC < 60
56
71.1
CDRISC mean <60)
22
29
CDRISC < 50
29
CDRISC mean <50
51.2
CDRISC N (50 to 60)
27
CDRISC % (50-60)
34
34

Psychopathology

N=78, Male = 78, Age 43.6
Married 20%



CDRISC Total and psychopathology

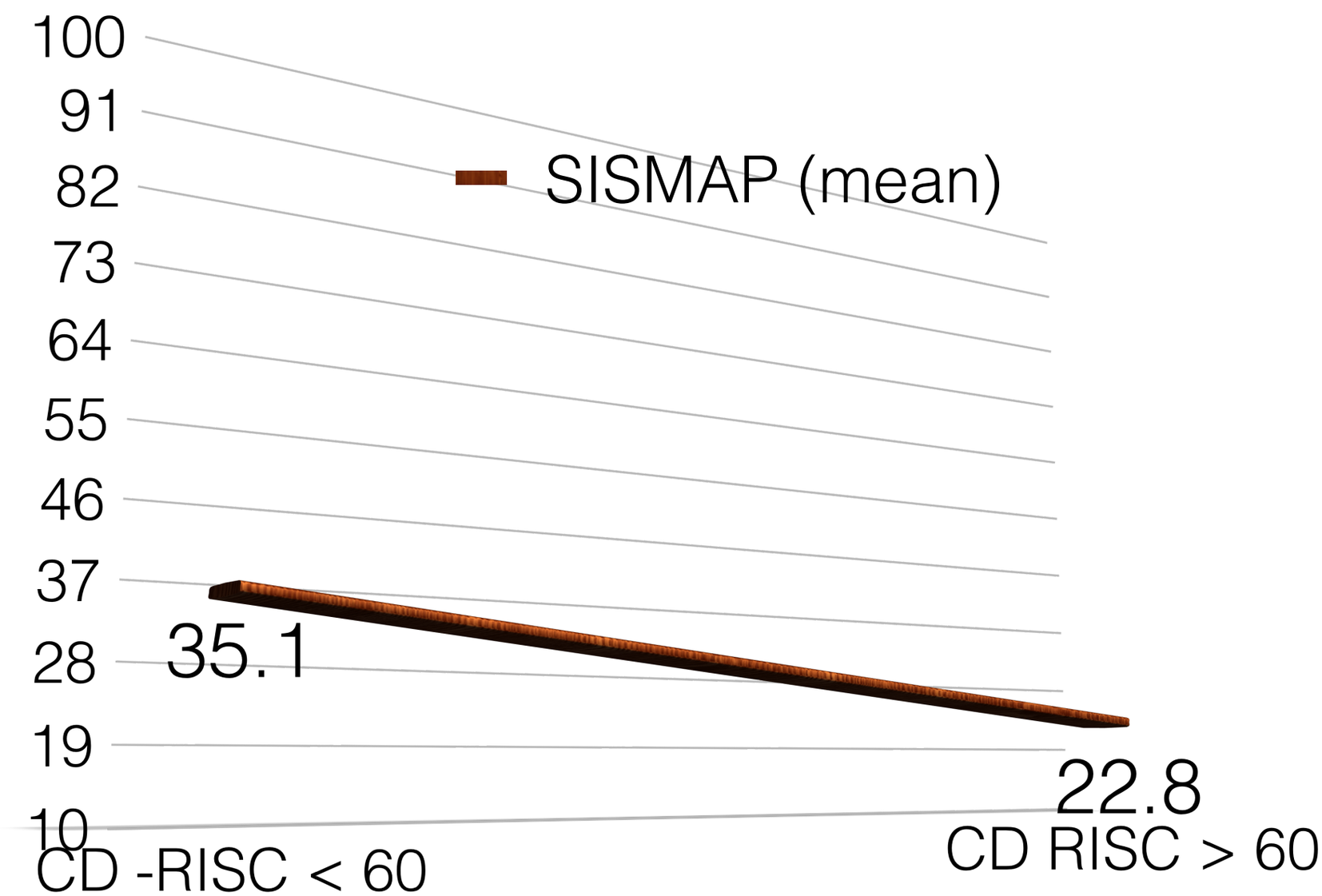


* - P < 0.01 ** = P<0.001

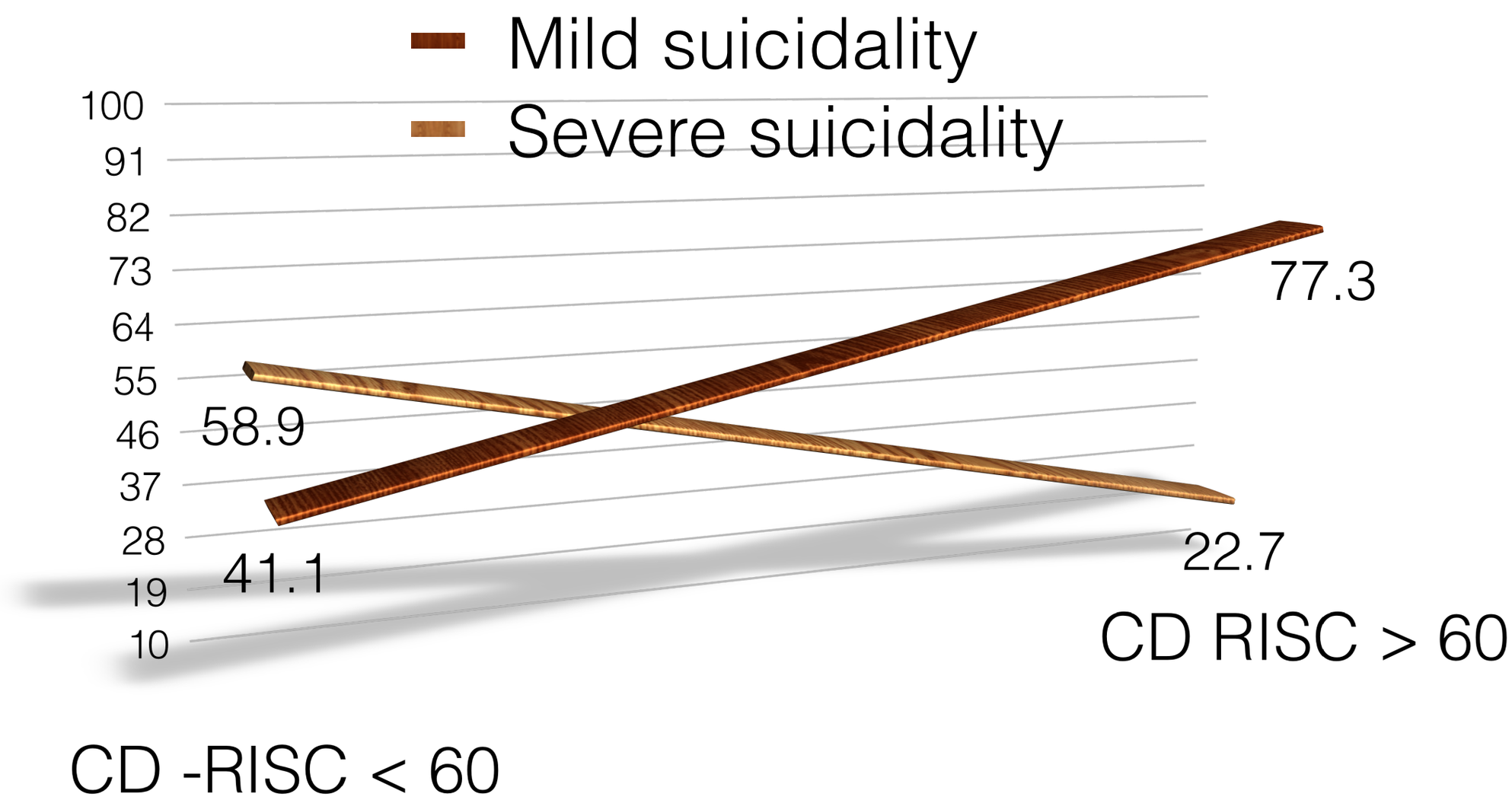
1. Severe suicidality ie an attempt of a defenit plan as a
   a. Diagnosis of schizophrenia depression ar
   b. Borderline personality disorder and learn
   c. Severe depressive symptoms
   d. Higher suicide index

Low resilience and psychopathology

Resilience and suicidality: inversely related

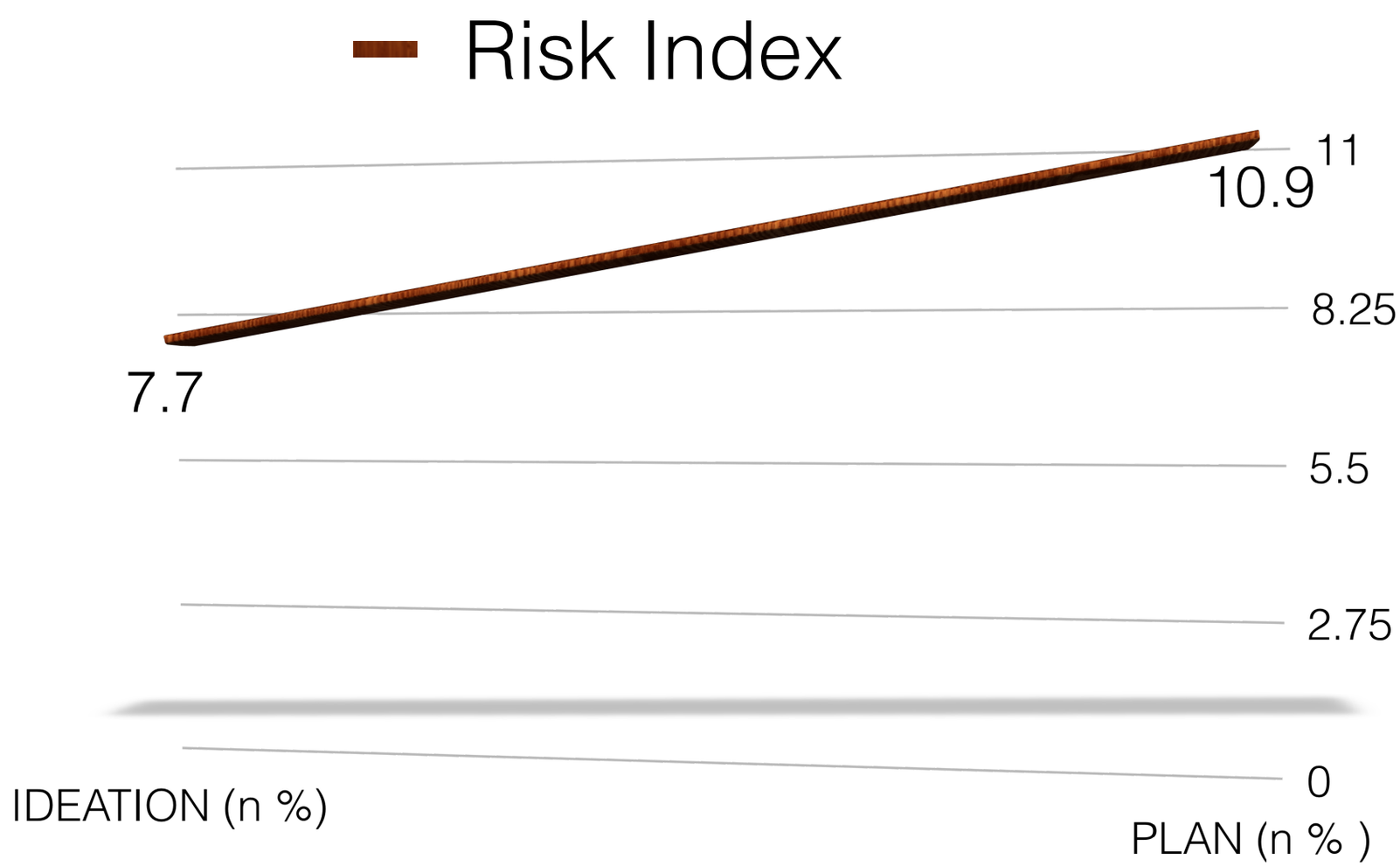


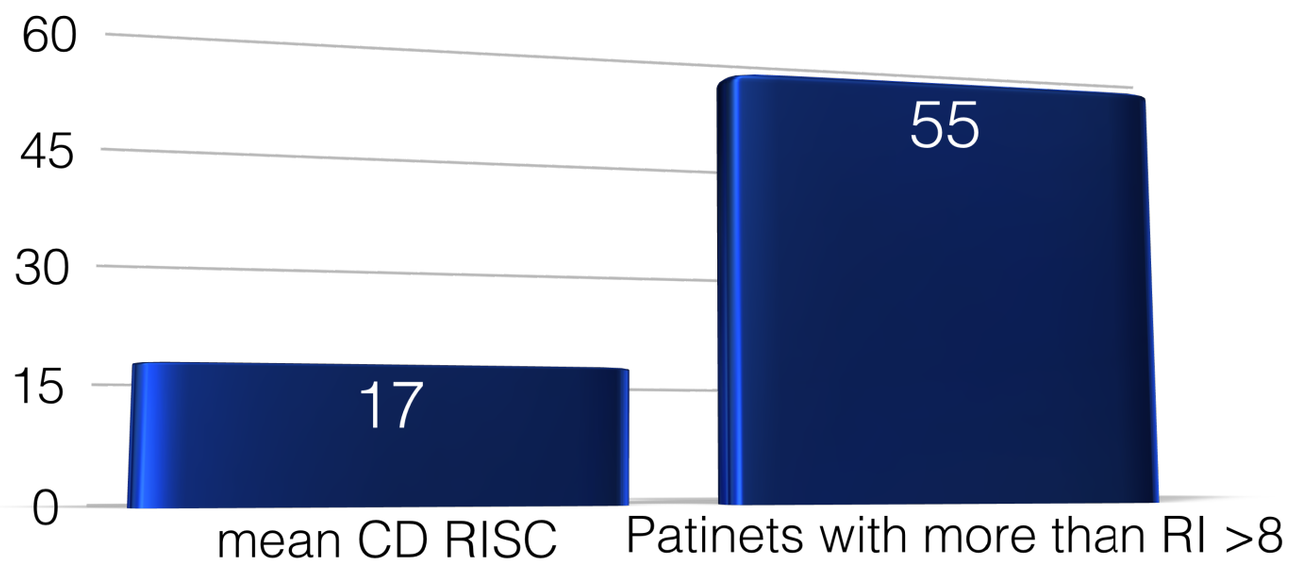
Severity of suicidality and resilience



4. Severe risk in among lesser number of patients than moderate risk in higher level of resilience >60

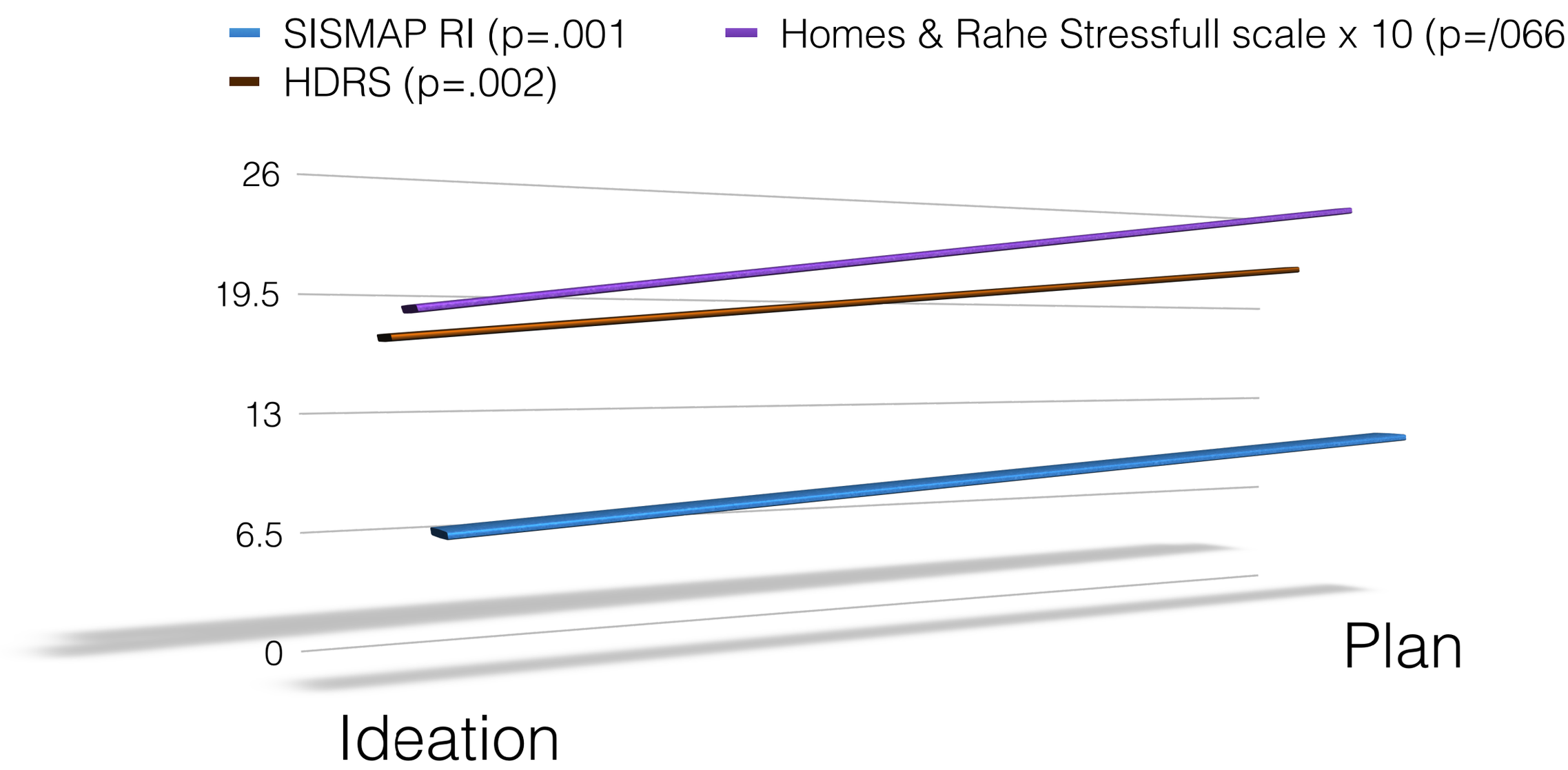
Suicide risk (RI), ideation and plan





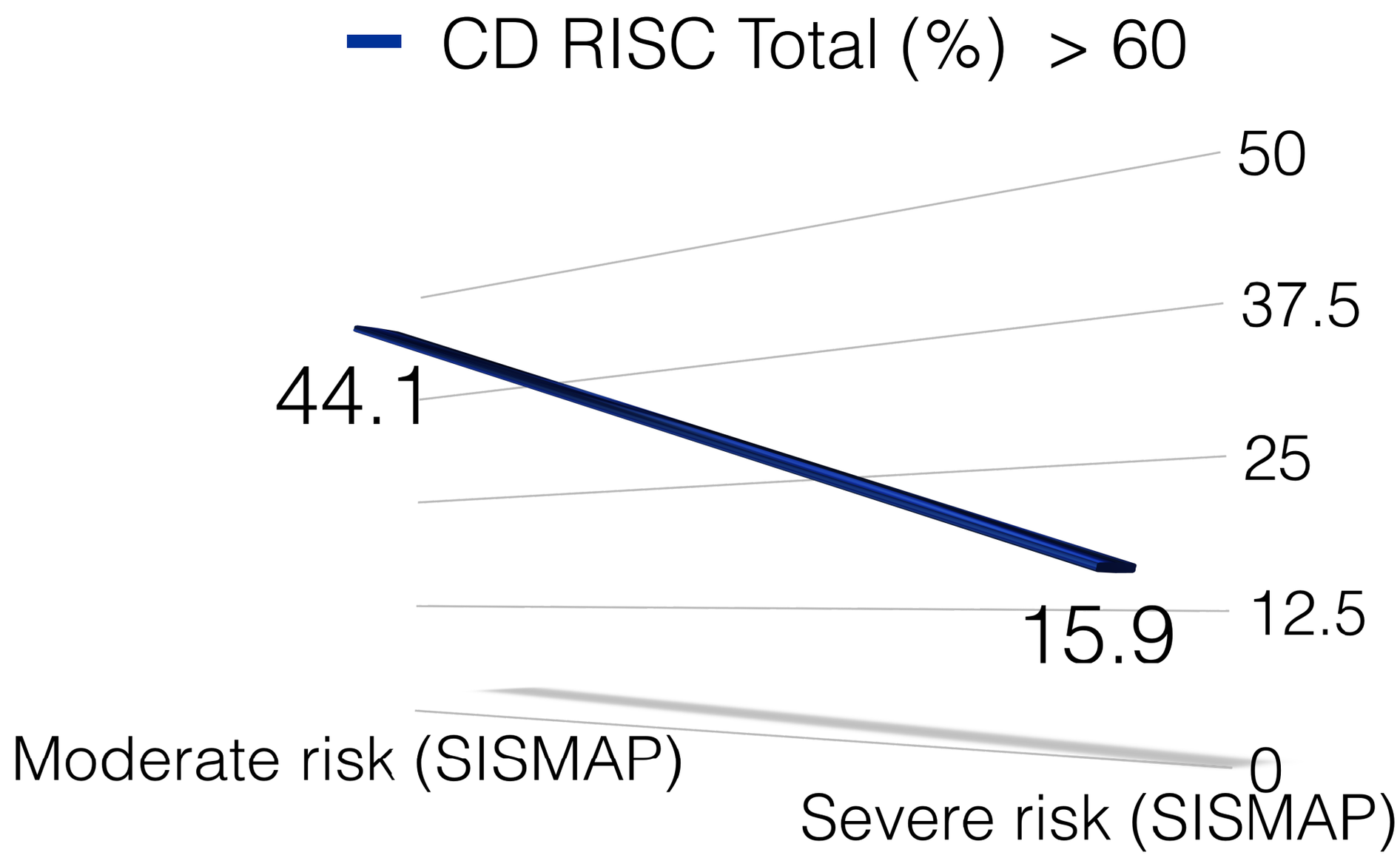
Patients with mean Risk and very low resilience

Psychopathology suicide risk among ideation and plan

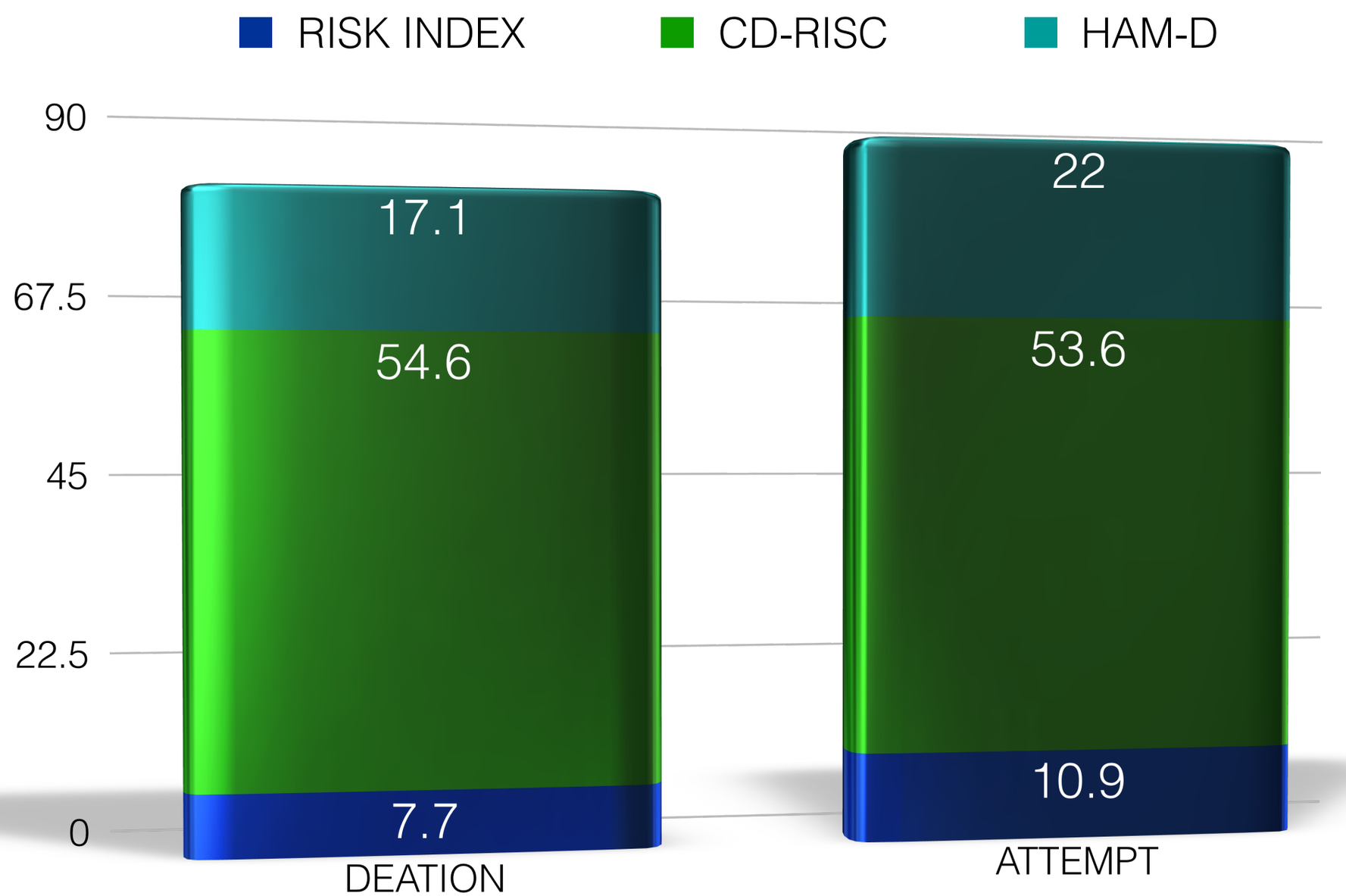


Low resilience, ideation and Plan of suicide

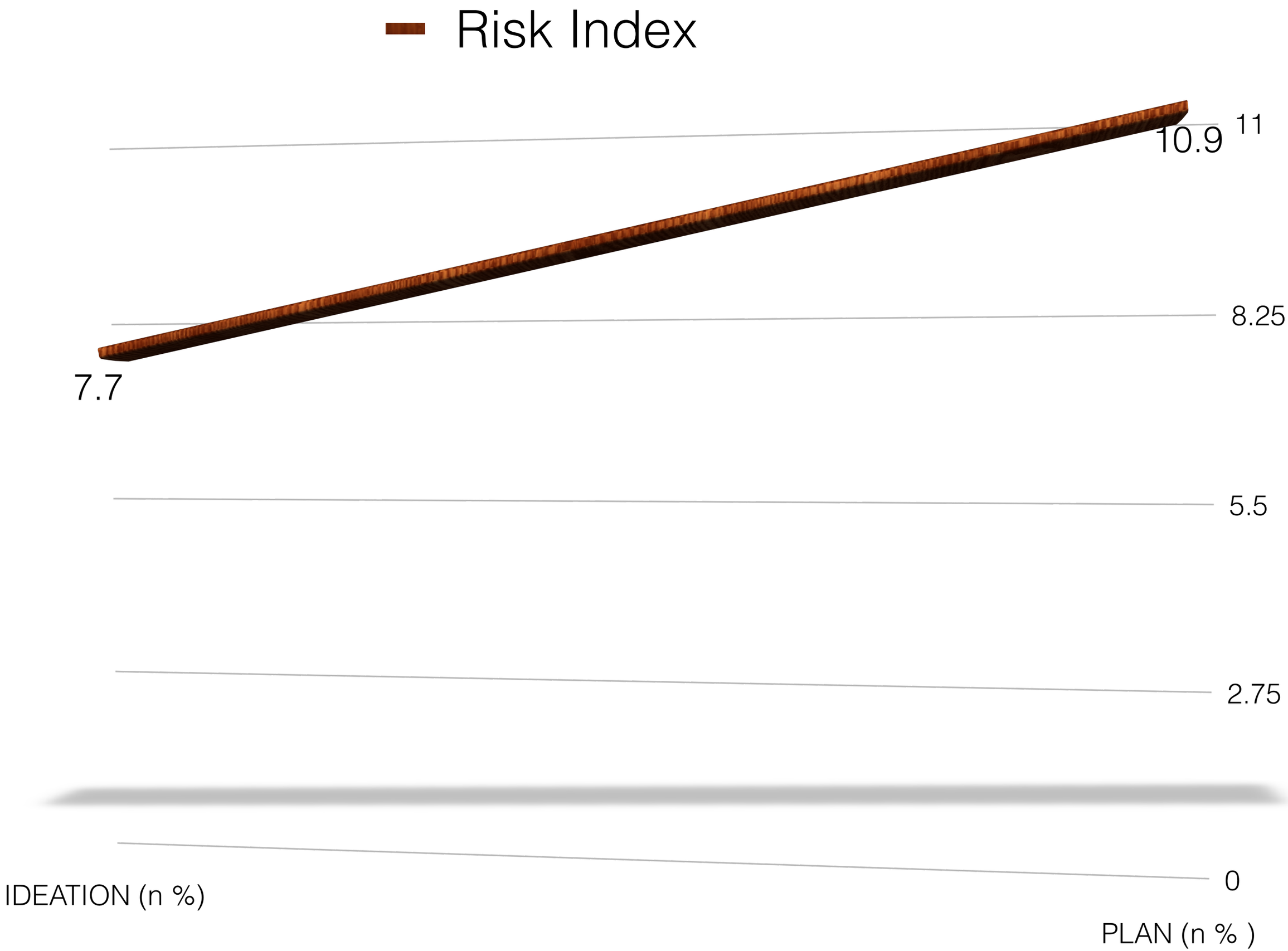
Severity of risk of suicidality and high Resilience



Suicide risk (RI), ideation and plan



Suicide attempt as admitting condition and resilience

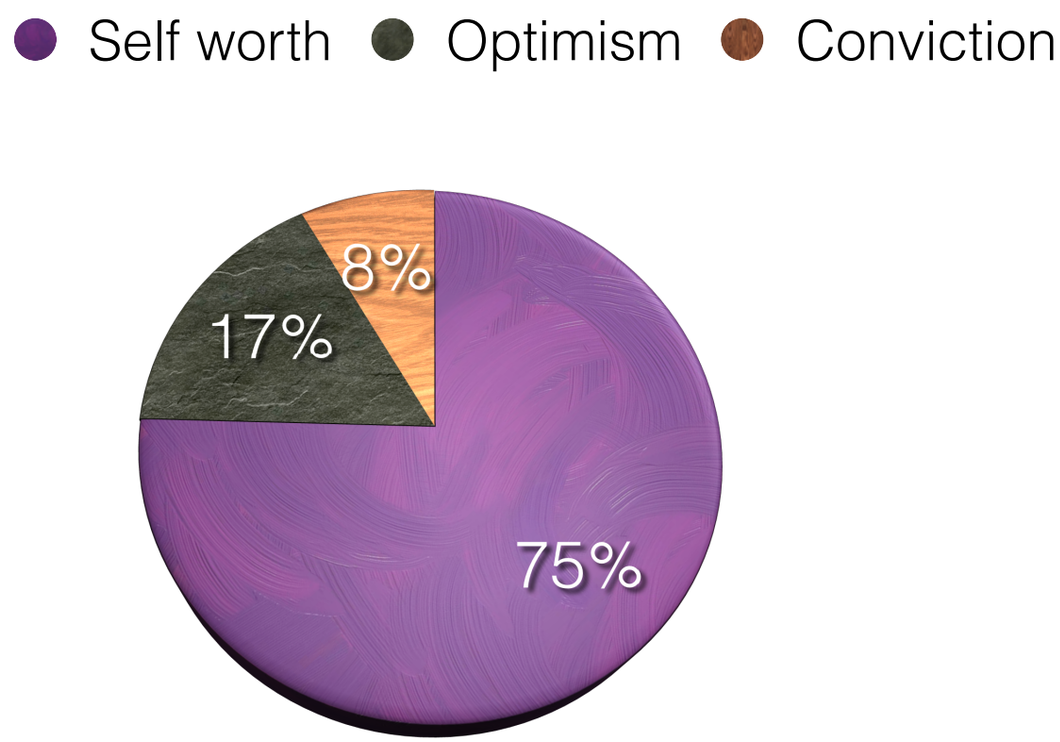

Risk Index
11
10.9
8.25
7.7
5.5
2.75
0
IDEATION (n %)
PLAN (n %)

Correlations Among Scores of resilience, psychopathology and suicide risk

	CD-RISC		HRSS		Life Events past year		HDRS		SISMAP	
	r	P Value	r	P Value	r	P Value	r	P Value	r	P Value
CD-RISC			0.405	0.036	0.406	0.017	-0.242	0.168	-0.424	0.012

CD RISC items and suicidality			
CD-Risc Item – n (%) scores as ≥3	SISMAP Risk Categories	P Value	
	Mild/Moderate Risk	Severe	
6) Try to see humour in problems	19 (55.9%)	12 (27.3%)	0.011
7) Coping with stress makes me	18 (52.9%)	7	<0.00
8) Bounce back after illness/injury	19 (55.9%)	11	0.005
9) Most things happen for a reason	25 (75.8%)	14	<0.00
11) Believe I can achieve goals	19 (55.9%)	8	<0.00
12) I don't give up	19 (55.9%)	10	0.003
14) Under pressure I stay focused	12 (35.3%)	7	0.048
17) Think of myself as strong	17 (50.0%)	7	0.001
19) Able to handle unpleasant	13 (39.4%)	5	0.004
20) Sometimes act on a hunch	14 (41.2%)	8	0.030
21) Strong sense of purpose	9 (26.5%)	2 (4.6%)	0.006
22) I feel in control of life	12 (35.3%)	3 (6.8%)	0.002
23) I like challenges	13 (39.4%)	7	0.023
25) Take pride in achievements	24 (70.6%)	21	0.043

Behavioural Characteristics of resilience



Lack of

Conviction

Optimism

Self-Worth

Low of mild

Severe

chance of severe suicidality or attempt are less, if an individual possess good qualities on 13 items

Possessing good qualities of ‘ self-worth’ may prevent serve attempt of suicide
Significantly fewer number of patients are likely to have ‘mild degree of suicide (only ideas without plans} if they possess good qualities/positivity on Optimism and conviction

Summary

More patients with LOW RESILIENCE

and high suicidality after discharge

high resilience : low severity and incidence of suicide

Resilience had consistent negative correlation with severity Suicidality

characteristics of resilience may be a therapeutic targets

Dopamine

Glucocorticoid

Adaptation

Not a longitudinal study to determine transition in robust manner

Risk - Resilience - Response: Newer Interventions

Resilience - building measures	Mindfulness training	Yoga
combined recreational sport and psychosocial rehabilitation	Harm-reduction approach	TM
metallization and cognitive training	protection approach	Meditation
moderate resilience and emotional intelligence	promotion approach	Medications
Cognitive interventions	Psychotherapies	transmagenetic modulation

Clinical implications of research of resilience

New understanding - new hope

Newer intervention

Sub-clinical

Effective treatment in early phase

UHR

Meaningful integration o ftreatments

Prevention of mental disorders

Suicide and resilience:
Is there a relationship?

Not concluded

hope

resilience

prevention