Who becomes depressed?

A longitudinal web-based study on risk factors for depression

Nele Jacobs, Gert van Dijk, Aart Mudde

Introduction: depression

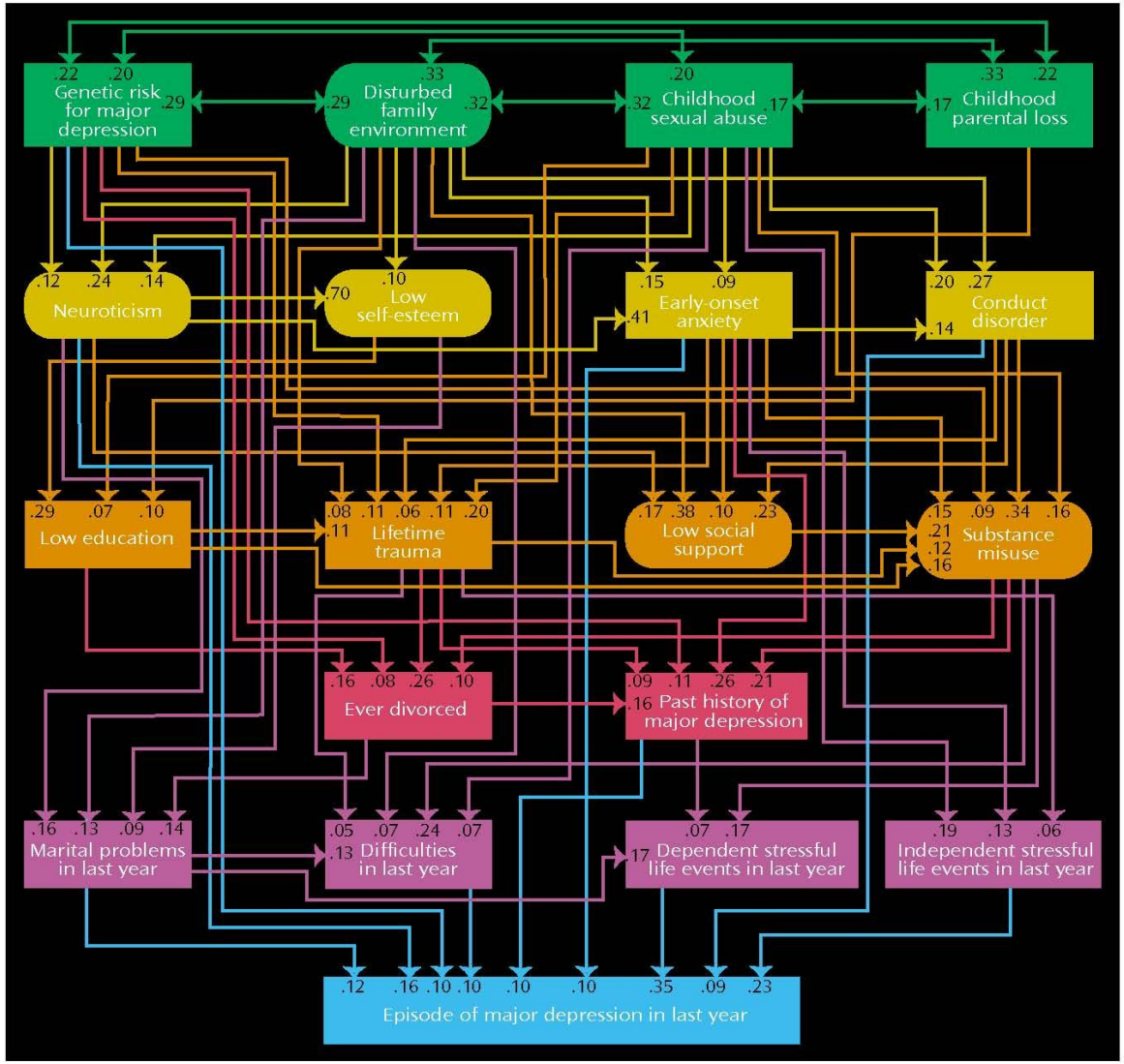
depressed mood
loss of interest in hobbies or activities
disturbances in sleep, appetite / weight, cognition
loss of energy
thoughts of death and / or suicide

highly prevalent psychiatric disorder

4th leading cause of disease burden

Depression: multifactorial disorder

FIGURE 1. Path and Correlation Estimates of the Best-Fitting Model for Predicting an Episode of Major Depression in the Last Year in 1,942 Female Twins[a]



Article

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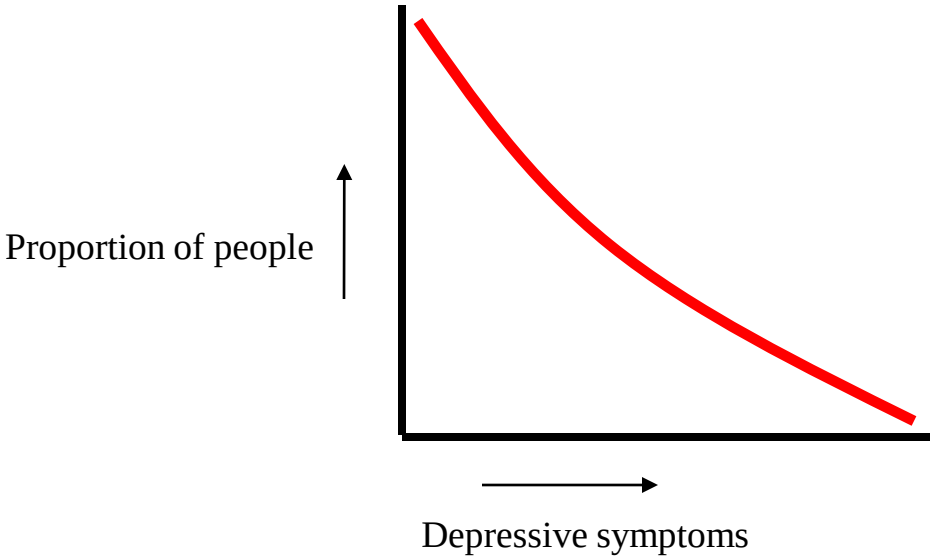
Depression: continuum perspective



continuum of severity and amount of life interference in the general population

with no clear distinction between patients and non-patients

Methods : Virtual Laboratory

Virtueel laboratorium
Onderzoeken op afstand
juni 2007 De Psycholoog

Khaled Zamani
en Marius van Dijke

-‘closed environment’

- control in selection participants

- no double submissions, no missing data

- cross-sectional & longitudinal (6 weeks)

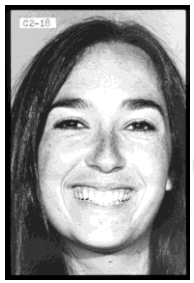
→ Valid and reliable data

Methods : Measures

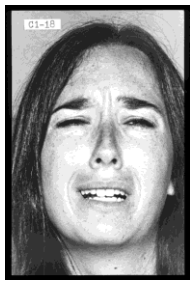
Outcome variable : - *depression*: continuous score on the Zung questionnaire

Predictive variables: - *stress*: Perceived Stress Scale

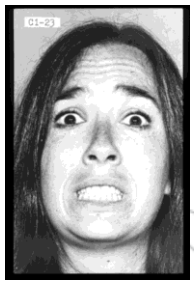
- *neuroticism:* Neuroticism scale of the Eysenck Personality Scale
- *positive & negative affect*: Positive and Negative Affect Schedule
- *bias in emotional processing*: Ekman pictures of Facial Affect recognition of expressed emotion and intensity estimate (0-100)



happiness (6)



sadness (7)



fear (6)

Methods : Participants

students of the faculty of psychology of the Open University

n at baseline = 738; n at follow-up = 437 (59,2%)

74% females, 25% males at baseline, idem at follow-up

mean age at baseline: 37 years (SD=9,8),

mean age at follow-up: 38 years (SD=9,9)

Methods : Analyses

Cross-sectional

1) Univariate lineair regression analyses

dependent variable: depression score at baseline

indepedent variable: respectively stress, neuroticism, bias in emotional processing, positive and negative affect.

2) *Multivariate lineair regression analyses*

Longitudinal

1) Univariate lineair regression analyses

dependent variable: depression score at follow-up

indepedent variable: respectively stress, neuroticism, bias in emotional processing, positive and negative affect and depression score at baseline

2) Multivariate lineair regression analyses

All corrected for sex

Results: descriptives

	Mean	SD	Cronbahs Alpha
Depression at baseline	36	7,4	0,83
Depression at follow-up	35,8	7,55	0,98
Stress	22,51	6,22	0.87
Neuroticism	16,58	3,26	0.82
Positive affect	34,88	6,86	0,88
Negative affect	18,71	7	0,88
Recognition happy faces (6)	5,7	0,66	
Intensity happy faces	54,93	12,91	0,88
Recognition sad faces (7)	5,8	1,18	
Intensity sad faces	54,93	15,14	0,77
Recognition fearful faces (6)	5,97	0,33	
Intensity fearful faces	75,94	15,65	0,95

Results

Univariate cross-sectional regression analyses with depression score at baseline as dependent variable (corrected for sex)

	Standardized regression coefficients	S.E.	95% CI
Stress	0.67**	0.03	(0.62; 0.73)
Neuroticism	0.68**	0.03	(0.63;0.74)
Positive affect	-0.48**	0.03	(-0.54; -0.41)
Negative affect	0.55**	0.03	(0.49; 0.61)
Intensity happy faces	-0.04	0.04	(-0.11;0.04)
Intensity sad faces	0.008	0.04	(-0.06;0.08)
Intensity fearful faces	-0.07	0.04	(-0.14;0.006)

** $p < 0.01$

Results

M**ultivariate** cross-sectional regression analyses with depression score at baseline as dependent variable (corrected for sex)

	Standardized regression coefficients	S.E.	95% CI
Stress	0.31**	0.03	(0.24; 0.38)
Neuroticism	0.41**	0.03	(0.35;0.47)
Positive affect	-0.23**	0.02	(-0.28; -0.18)
Negative affect	0.02	0.03	(-0.04; 0.08)

** p < 0.01

Results

Univariate longitudinal regression analyses with depression score at follow-up as dependent variable (corrected for baseline depression and sex)

	Standardized regression coefficients	S.E.	95% CI
Stress	0.13**	0.04	(0.04; 0.21)
Neuroticism	0.12**	0.05	(0.03;0.21)
Positive affect	0.05	0.04	(-0.02; 0.13)
Negative affect	0.06	0.04	(-0.01;0.14)
Intensity happy faces	-0.008	0.03	(-0.08;0.05)
Intensity sad faces	0.03	0.03	(-0.03;0.1)
Intensity fearful faces	0.01	0.03	(-0.05;0.08)

** $p < 0.01$

Results

Multivariate longitudinal regression analyses with depression score at follow-up as dependent variable (corrected for baseline depression and sex)

	Standardized regression coefficients	S.E.	95% CI
Stress	0.11*	0.05	(0.02;0.19)
Neuroticism	0.09	0.05	(-0.007;0.18)

* $p < 0.05$

Discussion

1) Virtual Laboratory: valid and reliable web-based tool, assessing self-reported depressive symptomatology and associated risk factors

→ screening and early detection through internet for individuals at risk

→ early intervention on a subclinical level in order to prevent transition to a clinical case

Discussion

2) **Stress, Neuroticism and PA associated with current depressive symptomatology**

PA and NA: two independent affective dimensions

PA: broadens the indivuals' attentional focus, promoting flexibility in thinking and problem solving

- PA is associated with resistance to and recovery from stress
- PA decreases the effect of genetic vulnerability for depression
- PA: crucial component of psychological resilience

→ investigate the causes of the diminished capacity to experience PA

→ examine ways to stimulate PA experience or its subsequent effects such as broadening the attentional focus

→ Mindfulness

Discussion

3) **Stress at baseline is associated with depressive symptomatology at follow-up**

individuals experiencing high levels of stress are at risk for depression

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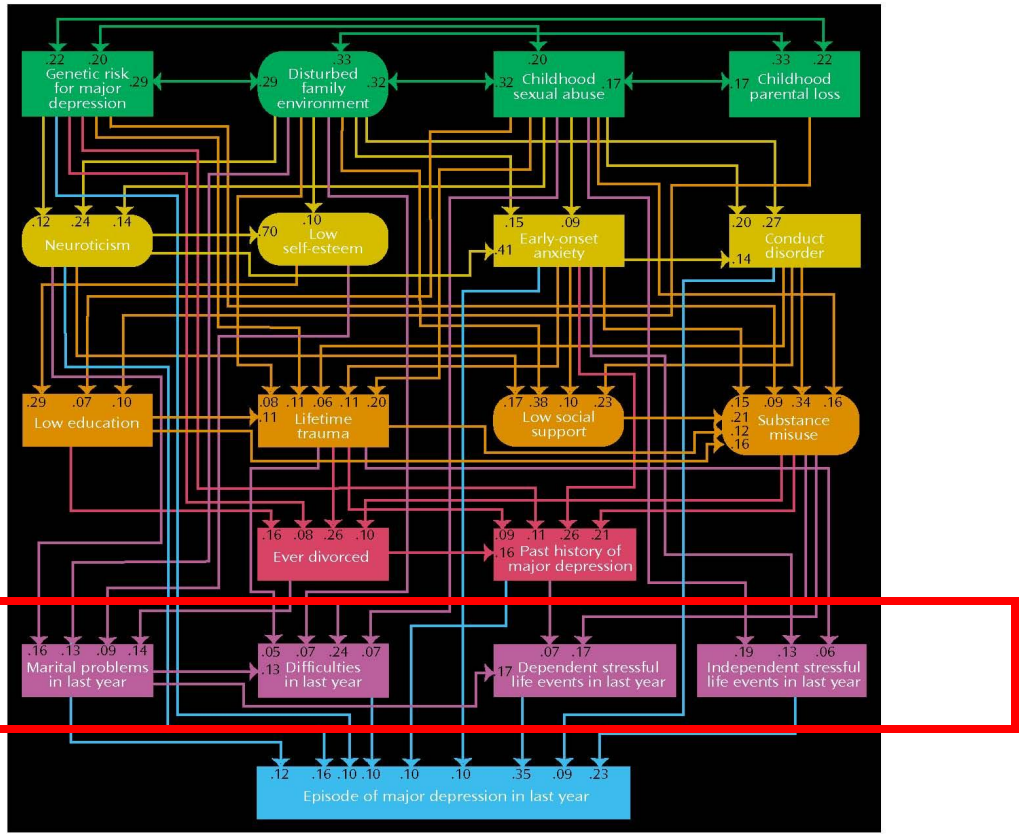

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→ stress-reduction

Conclusion

- web-based screening on self-reported stress is a valid and reliable method for early detection of individuals at risk of making the transition to clinical depression.

- web-based interventions methods might be a promising tool to prevent individuals from making transitions from a non-clinical to a clinical state of depression.

e.g. online stress management interventions

e.g. online mindfulness-based stress reduction treatment

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