1. Jacobi F, Hoffer M, Siebert J et al. *Int J Methods Psychiatr Res* 2014;23: 304-19.
2. Romanelli RJ, Wu FM, Gamba R et al. *Depress Anxiety* 2014;31:641-52.
3. Foa EB, Liebowitz MR, Kozak MJ et al. *Am J Psychiatry* 2005;162:151-61.
4. Keefe JR, McCarthy KS, Dinger U et al. *Clin Psychol Rev* 2014;34:309-23.
5. Luborsky L. *Principles of psychoanalytic psychotherapy. Manual for supportive-expressive treatment*. New York: Basic Books, 1984.
6. Freud S. *Obsessions and phobias*. London: Hogarth Press, 1962/1895.
7. Crits-Christoph P, Luborsky L. In: Luborsky L, Crits-Christoph P (eds). *Understanding transference: the CCRT method*. New York: Basic Books, 1990:133-46.
8. Lang H. *The inhibited rebel. Structure, psychodynamics and therapy of subjects with obsessive-compulsive disorders*. Stuttgart: Klett-Cotta, 2015.
9. Freud S. *Lines of advance in psycho-analytic therapy*. London: Hogarth Press, 1955/1919.

DOI:10.1002/wps.20339

The social defeat hypothesis of schizophrenia: issues of measurement and reverse causality

Eleven years ago, two of us¹ published the social defeat hypothesis of schizophrenia, in an attempt to find a common denominator for several schizophrenia risk factors. The hypothesis posits that the long-term experience of being excluded from the majority group leads to an increased baseline activity and/or sensitization of the mesolimbic dopamine system, putting the individual at increased risk for the disorder^{1,2}.

The hypothesis may explain to a certain degree why a history of migration, membership of a disadvantaged ethnic minority group (e.g., African-American ethnicity), urban upbringing, low IQ, childhood trauma, drug abuse, hearing impairment, homosexuality^{3,4}, and perhaps also autism are schizophrenia risk factors.

We noted that the experience of defeat is neither a specific nor a sufficient or necessary risk factor for schizophrenia, and that other factors, including genetic vulnerability, co-participate in determining the nature of the outcome. Interestingly, neuroreceptor imaging studies reported evidence of dopamine sensitization in non-psychotic subjects with hearing impairment or with a history of childhood trauma, thus supporting the hypothesis^{5,6}.

However, there are at least two good reasons to criticize the hypothesis. First, it is difficult to measure social defeat in humans, because assessments based on interviews or questionnaires are biased by a tendency to give socially desirable replies. Second, one could argue that many children who go on to develop schizophrenia exhibit motor, cognitive and social impairments and that social defeat, therefore, is not a causal factor, but a consequence of a disorder in neurodevelopment, already present before the onset of psychosis and mainly driven by genetic factors.

As for the first issue, we recognize that the social defeat hypothesis is based on an interpretation of group comparisons (e.g., migrants versus natives, deaf subjects versus normal hearing individuals) and that we do not know with certainty whether individuals who develop schizophrenia are more “defeated” than others. This situation entails the risk of an ecological fallacy, which would be the case if, for example, successful migrants were found to be at equal risk of schizophrenia as non-successful migrants. However, we contend that the social defeat hypothesis is the most viable interpretation of the available data. The pattern of findings for ethnic minorities in Europe, for example, shows the highest risks for the least successful and most discriminated

groups: African-Caribbeans and Black Africans in the UK, Inuit in Denmark and Moroccan-Dutch in the Netherlands.

As to the second point of criticism, we agree that schizophrenia likely “begins” long before the onset of psychosis. Studies of the Philadelphia Neurodevelopmental Cohort, for example, have shown that individuals aged 11 to 21 years who endorse psychotic symptoms (but do not meet the criteria for schizophrenia) are cognitively delayed, have a diminished whole brain grey matter volume, and grey matter volume deficits in frontal, temporal and parietal cortex⁷. It is true that these individuals are more likely to develop schizophrenia than others. However, given the fact that about 16% of all cohort members endorse psychotic symptoms, it is also evident that the majority will *not* develop the disorder and that motor, cognitive, social or anatomic impairments are merely risk factors or risk indicators of disorder, not hallmarks.

We propose that the epidemiology of schizophrenia supports a role for social exclusion, because it is unlikely that the genes that contribute to a defective neurodevelopment also code for migration, disadvantaged ethnic minority status, urban upbringing, low IQ, childhood trauma, drug abuse, homosexuality, hearing loss and autism. The social defeat hypothesis offers a more parsimonious explanation for this pattern of findings and deserves further development and testing.

First, since only two studies examined the risk of schizophrenia among individuals with a non-heterosexual orientation, further investigations of this topic are required. The hypothesis can also be tested in various other discriminated groups, such as those who are physically less attractive, who harbor a congenital or acquired handicap, a gender identity disorder, etc..

Second, it is important to examine whether “defeated” individuals who develop schizophrenia differ from other defeated subjects in the way they cope with defeat. Are they more likely to deny the very occurrence of defeat or do they attribute their problems to external causes? If they deny any problem, can implicit association tests reveal that they are implicitly aware of an inferior position?

Third, it is possible to conduct experiments in the laboratory. One can expose individuals to a negative evaluation or rejection and examine which subjects react by developing an increase in subclinical psychotic symptoms.

Fourth, any of these approaches can be examined in models of gene x social defeat interaction which, if apparent, would add to the validity of the notion of “defeat” underlying environmental effects.

Finally, using neuroreceptor imaging, dopamine function can be compared between non-psychotic members of excluded and non-excluded groups. For example, a prospective study of dopamine function among migrants, shortly after arrival and after an interval of several years, and a comparison of the results to those obtained from a native control group, would be most informative.

In sum, the hypothesis seems to provide many promising avenues for investigating epidemiological patterns that are still lacking a satisfactory explanation.

Jean-Paul Selten^{1,2}, Jim van Os^{1,3}, Elizabeth Cantor-Graae⁴

¹Department of Psychiatry and Psychology, University of Maastricht, Maastricht, The Netherlands; ²Rivierduinen, Leiden, The Netherlands; ³King's College London, King's Health Partners, Department of Psychosis Studies, Institute of Psychiatry, London, UK; ⁴Division of Social Medicine and Global Health, Department of Clinical Sciences in Malmö, Lund University, Malmö, Sweden

1. Selten JP, Cantor-Graae E. *Br J Psychiatry* 2005;187:101-2.
2. Selten JP, van der Ven E, Rutten B et al. *Schizophr Bull* 2013;39:1180-6.
3. Chakraborty A, McManus S, Brugha TS et al. *Br J Psychiatry* 2011;198:143-8.
4. Gevonden MJ, Selten JP, Myin-Germeys I et al. *Psychol Med* 2014;44:421-33.
5. Gevonden MJ, Booij J, van den Brink W et al. *JAMA Psychiatry* 2014;71:1364-72.
6. Oswald LM, Wand GS, Kuwabara H et al. *Psychopharmacology* 2014;231:2417-33.
7. Satterthwaite TD, Wolf DH, Calkins ME et al. *JAMA Psychiatry* 2016;73:515-24.

DOI:10.1002/wps.20369

Self-Help Plus (SH+): a new WHO stress management package

Consistent with its recommendations for stress management interventions¹, the World Health Organization (WHO) has developed a new psychological intervention for managing stress and coping with adversity. This new intervention is intended to be relevant for coping with any type of adversity, including chronic poverty, endemic community and gender-based violence, long-term armed conflict, and displacement. It is especially targeted towards places with enormous needs but limited humanitarian access, such as Syria and South Sudan.

Following exposure to adversity, rates of diverse mental health problems and non-pathological distress increase. At the same time, most people affected by adversity do not have access to effective mental health and psychosocial support². Without mental health specialists on the ground, either for direct service delivery or for training and supervising non-specialists^{3,4}, new approaches need to be established that can be delivered without an extensive workforce for mental health.

SH+ was developed to address these needs. It does not require much time from experts for implementation: instead, it uses a guided self-help format and is delivered through a pre-recorded audio course, complemented with bibliotherapy. The potential of using a course to access hard-to-reach populations has been demonstrated previously⁵. Evidence for bibliotherapy is also promising⁶. Furthermore, research has found that guided self-help programs produce better results than “pure” (unguided) self-help, and the effects produced by guided self-help are surprisingly similar to face-to-face psychological treatment⁷. SH+ was designed to be relevant for large segments of adversity-affected populations: it is intended to be transdiagnostic, easily adaptable to different cultures and languages, and both meaningful and safe for people with and without mental disorders. The program was developed with experts in psychological care and global mental health, and colleagues in the humanitarian field. It underwent extensive peer-review, with 43 external experts reviewing the intervention.

The SH+ package has two components: a pre-recorded course and a self-help book. Pre-recorded audio material (locally adapted) is delivered across five 2-hour sessions and in groups of 20 to 30 people. The audio material imparts key information about stress management and guides participants through individual exercises and small group discussions. A written facilitator guide helps briefly trained non-specialist facilitators to conduct the course using these audio materials. To augment the course materials, an illustrated self-help book reviews all essential content and concepts. The book – inspired by an existing illustrated self-help guide⁸ – contains more than 400 illustrations and conveys key points with minimal text. It was written to be useful both as a standalone product and as a key resource for those participating in the course.

The format of SH+ is innovative in that it seeks to ensure that key intervention components are delivered as intended through the use of pre-recorded audio, without the burden of extensive training and supervision. This mode of delivery holds promise for helping hard-to-reach populations: the package may be introduced in areas where a conventionally delivered mental health intervention would not be feasible (e.g., remote areas, or areas where humanitarian access is limited).

SH+ is based on acceptance and commitment therapy (ACT), a form of cognitive-behavioral therapy, with distinct features⁹. ACT is based on the concept that ongoing attempts to suppress unwanted thoughts and feelings can paradoxically make these problems worse. Instead, it emphasizes learning new ways to accommodate difficult thoughts and feelings – primarily through mindfulness approaches – without letting them dominate, while guiding people to take proactive steps towards living in a way that is consistent with their values. ACT has been shown to be useful for a range of mental health issues¹⁰ and has been used successfully in a guided self-help format¹¹.

Components of the SH+ package are currently being piloted in Syria, with Syrian refugees in Turkey, and with South