Is there a general factor of psychopathology?

Background: Both research and official classification systems such as the DSM (Diagnostic and Statistical Manual of Mental Disorders) have so far treated mental disorders as distinct and episodic. But more recent studies have indicated that the current categorical approach may not reflect the true structure of psychopathology. One finding has been that many of the apparently distinct DSM disorders share similar risk factors, clinical correlates, as well as high rates of comorbidity. With both researchers and clinicians debating over the need for a more transdiagnostic approach, Caspi et al (2013) provided further insight into the latent structure of psychopathology.

They considered some of the following discoveries as well as difficulties highlighted by previous studies into the epidemiology of mental disorders. To start with, child psychopathology is currently characterised by two main dimensions: Externalising (eg. aggressive, delinquent and hyperactive-impulsive symptoms) and Internalising (eg. anxious and depressive symptoms). Interested whether this dimension continues, Caspi et al (2013) incorporated testing for these dimensions in adult psychopathology. They also decided to include psychotic disorders in psychopathology research, as they present a high comorbidity rate and occur more often in the general public than previously thought. More importantly, the inclusion of psychotic disorders in recent research in the field led to evidence of a possible third dimension of psychopathology: Thought Disorder.

Another interesting finding from epidemiological research is that psychiatric disorders present not only phenotypic correlations, but also a shared genetic factor that links certain disorders. One of the difficulties highlighted previously is that most work in the field has been conducted cross-sectionally. The problem with this is the inclusion of both single-cases as well as the chronic cases. As they are characterized by different comorbidity and severity rates it has become clear that longitudinal studies are needed to isolate the chronic cases. Many cross-sectional studies have been able to show comorbidity of disorders, but recent longitudinal studies have shown that there is not only a co-occurrence, but that it often happens sequentially. These findings have led to the inclusion of sequential comorbidity testing. Taking these points into consideration the following research goals were developed:

1. Test the structure of psychopathology, while considering its dimensionality, persistence, co-occurrence and sequential comorbidity.
2. Investigate the validity of the structure by looking at any correlations with personality structure and life impairment
3. Check for associations between family history of mental disorders and developmental histories and each factor representing psychopathology
4. Explore links between compromised brain integrity from early life and severe and impairing psychopathology

Methods:
The data was collected through the Dunedin Multidisciplinary Health and Development Study, a longitudinal study of a complete birth cohort (1972/73) in New Zealand. In total, 1037 participants took part and were assessed from age 3 until age 38. The assessments occurred every 3-5 years. To test for symptoms of common mental disorders, experience sampling was used to ask participants about past year experiences. Symptoms of 11 disorders were tested throughout the study: conduct disorder, alcohol, cannabis and hard drug dependence, MDE, GAD, fears/phobias, OCD, mania and positive and negative schizophrenia symptoms.

Results:
Findings showed that the structure of psychopathology can be explained by three main dimesions: Externalising (substance abuse and anti-social disorders), Internalising (depression and anxiety) and Thought Disorder (psychotic symptoms). In addition to these three

dimensions, an overlying general factor (coined the 'p factor') was confirmed, which best explained dispositions in developing any type of mental disorder. The p factor was associated with life impairment and family history in mental disorders. Developmental histories and compromised brain integrity from early life also showed correlations with both the three underlying factors and the p factor.

The finding of a general factor of psychopathology further validates previous claims that mental disorders show to be comorbid as well as continuous throughout development. With regards to personality, the p factor correlated with three of the five-factor personality traits: low Agreeableness, low Conscientiousness and high Neuroticism.

Important clarifications of the results are that, at this point, the p factor is not suggested to be a causal factor. Rather, it connects most, if not all, disorders and has neurological roots. They suggest that the p factor is presented on a scale of severity, from high to low. Thus, the higher a person's p score is, the more extreme the severity and continuity in symptoms may be and the probability of developing several disorders rises. Higher scores then also reflect the likelihood of stronger life impairment, lower brain functioning as well as child developmental and family history in mental disorders.

Strengths:
An obvious strength of this study is the number of participants (n=1,037) and the extensive amount of longitudinal and epidemiological data used. To support information gathered from participants directly, additional data was collected from friends and family of the participants. A further strength is that symptom level data was used rather than diagnosis of specific DSM disorders.

Weaknesses:
Caspi et al (2013) only investigated the structure of symptoms representing 11 disorders. While previous studies have used a similar number, further research will require the investigation of more symptoms, covering a wider range of disorders. Sex differences and age-related disorders also need to be investigated further. Additionally, it is unclear how reliable experience sampling really is. While they used additional measures (life-calendar interviews) to test the reliability, they do not mention anything regarding a possible bias in reporting symptoms. Participants' may have a propensity to portray themselves in a more positive or negative way. Also, participants experiencing a certain symptom may expect to experience another and therefore report symptoms they have not actually experienced. While the model presented in this paper is very informative and a first step into redefining the structure of psychopathology, it is clear that more research is needed to refine and strengthen the validity.

Questions:
1. Would underlying dimensions and the general factor persist in the same way if more disorders were added to the testing?
2. Is the structure validated by its correlations to life impairment, family history and brain integrity? Are there any confounding factors that should be considered?
3. What possible implication would a general factor of psychopathology have in the clinical world?

Reference:
Caspi, A., Houts, R.M., Belsky, D.W, Goldman-Mellor, S.J., Harrington, H., Israel, S., Meier, M.H., Ramrakha, S., Shalev, I., Poulton, R., and Moffitt, T.E. (2013) The p Factor: One General Psychopathology Factor in the Structure of Psychiatric Disorders? *Clinical Psychological Science* 2167702613497473