Social Navigation Hypothesis of Major Depression: Predictions

I've had a number of requests for more explicit testable predictions of the SNH.

This essay provides a primer that I hope will encourage commentary and substantive testing. I also hope it will further clarify the SNH for anyone interested in the hypothesis.

Predictions of the Social Navigation Hypothesis in Relation to Major Depression
by Dr. Paul J. Watson (posted 04/11/2008; updated 04/11/2008)

According to the SNH, depression is a potentially adaptive response to major socially-imposed fitness hindrances which attempts at active negotiation have failed to relieve.�Cline-Brown and Watson (2004) tested whether depression scores of elderly people were associated with socially imposed fitness-hindrances and obtained some positive results. Much more work should be done on the precise social circumstances that are risk factors for major depression. Special emphasis should be placed on the number, identity, and network distribution of social partners that are responsible for each subject's most costly fitness-hindrances, and their independent as well as mutually reinforcing joint roles in perpetuating the subject's key difficulties.

The SNH does not predict a consistent relationship between negative life events and major depression. Negative events, such as loss of a close social partner or loss of status or rank, should not lead to major depression if the event does not create a capacity-opportunity mismatch resistant to solution via active negotiation strategies. In fact, under the SNH, positive life events, such as having a creative idea or getting a big promotion, could create a mismatch that needs to be addressed and which may, given social constraints on effectively doing so, may "paradoxically" be associated with depression.

An important prediction of the SNH is that psychotherapy for depression that takes a substantive fitness-oriented social problem-solving approach will be distinctly more effective than other therapies, both in the short term and in preventing recurrence. A Darwinian social problem-solving approach also should be much better at preventing the recurrence of depression than the best and most carefully designed pharmaceutical regimes. If serious unbridled application of such an approach fails to yield superior results across cultures, genders, and age groups, then the SNH should be rejected as an explanation of major depression.

An SNH style social problem-solving psychotherapy would require the therapist get to know the patient and their social network well. A collaborative "process of discovery" has to be implemented at the start of treatment, to establish rapport and to sharply identify specific capacity-opportunity mismatches have a significant negative impact on the patient's inclusive fitness. Social allies of the patient may be involved if the therapist is convinced that they are capable of presenting objective views of the patient's situation, that is, if they do not have an over-riding vested interest in maintaining the patient in their status quo social niche. It cannot be over emphasized that in this discovery process the therapist should be looking for social constraints that really seem to limit the patient's fitness.

Once a small handful of hypotheses are developed about the patient's key fitness-hindering capacity-opportunity mismatches, the therapist needs to enlist all plausible resources to help develop and implement problem-solving strategies to eradicate or reduce them. The patient's mind should be watching for this being done competently, conscientiously, and with determination. The SNH predicts that if the patient witnesses and understands the problem-solving program, and has collaborated in its formulation, their depression should abate not only if the program succeeds, but even if it fails. As an adaptive hypothesis of depression, the SNH predicts that in most cases even "failed" problem-solving programs will cause depression to lift, once it becomes plain that (1) the sought for niche changes are not feasible, (2) the perceived capacity-opportunity mismatch is revealed to be based on an incorrect assessment (i.e. either the capacity or the opportunity actually don't exist), or, (3) the social network is shown not to be responsible for the identified mismatches. In other words, the SNH predicts that most instances of depression should be responsive both to solved problems and increased fitness and strong evidence that depression will not work to bring about the hoped for life changes.

I suggest that with regard to incorrect assessment being responsible for a bout of major depression, one of the most common will be over-estimating extortionary leverage on social partners in modern environments. In the intimate social context of our hunter-gatherer and family and clan based early agricultural groups, where natural selection would have tuned the mental mechanisms that regulate adaptive depression, positive fitness correlations between people would have been high. That is, there would be a high degree of inter-dependency and more difficulty replacing social partners than in modern societies. The cues that people have evolved to use to gauge how dependent their partners are on them for their own fitness may not be as reliable today as in largely pre-historic evolutionary environments. For example, two men may work together on a factory assembly line or in adjoining offices for years. They may socialize and car pool. Yet, some manager or executive they barely know and have little influence over may be responsible for their promotions, salary, and even whether they continue to be employed. The classic cues and feelings of friendship are used by the depressive to unconsciously estimate the ancestral probability of helping, but these indicators of positive fitness correlation are somewhat decoupled from the modern probability of actually eliciting helping behavior, especially in difficult situations. Withdrawal or manipulation, rather than help, often may be more likely responses to modern depression. Both PST and CBT style therapies, as well as a fully committed SNH-based approach, may benefit from approaching this possible source of miscalculation honestly and openly with the patient. Of course, it should not just be assumed by the therapist that the leverage (or the honest signaling) of the depressive is too weak to yield positive results.

There is a school of psychotherapy emphasizing the importance of social causes of depression (e.g. Brown & Harris, 1978) and social problem solving therapy (PST) (e.g. Nezu et al., 1989). However, the PST approach has not achieved dominance in clinical practice. Perhaps the mental health establishment regards PST as too complicated and costly. The ingrained medical bias toward conceptualizing depression as pathology may make therapies that simply focus on trying to change depressive patterns of thought (see below) seem to have more validity. But, PST still garners some attention. A meta-analysis (i.e. a statistical study-of-studies) of the efficacy of PST by Malouff et al. (2007), as well as a recent primary study by Eskin et al. (2008), found significant benefits of PST; these papers also offer a good description of the standard PST approach and bibliographies with many key PST references - they are available here in pdf format by clicking the links above.

Considering the standard PST methods as described in the Malouff et al. (2007) and Eskin et al. (2008) papers from the perspective of the SNH may help explain why, while PST does prove helpful, as it is often practiced PST has not proven to be remarkably more effective than most other psychotherapeutic methods. Standard PST often mainly emphasize fortification of generalized rational problem-solving skills, that is, problem definition and the generation of alternative solutions. Although the therapist and patient commonly do collaborate early in the treatment to define a problem to work on, standard PST does not offer a concentrated effort to identify specific social barriers to major fitness-enhancing revisions of the patient's socioeconomic niche, that is, the socially-caused fitness-hindrances that the SNH proposes to be the main context for adaptive major depression. If key fitness-related problems are not identified in PST, or some minor piece of one is selected just because it seems "manageable" in the context of a short treatment regime (e.g. six 1.5 to 2 hour sessions), then the actual cause of the patient's depression may remain relatively untouched.

The SNH predicts that the mental mechanisms that regulate depression should be looking for substantive fitness-enhancing problem-solving action. It is interesting that the Malouff study suggested that PST regimes that included work not just on rational problem-solving skills, but that also included problem orientation training, that is, work on the patient's own ability to solve problems and their attitude towards problems, improved the therapeutic effects of PST. The Malouff meta-analysis also suggested that PST may perform better if homework is assigned as part of the therapy. Thus it seems that the more practical and applied PST becomes, the more effective it is, as the SNH would predict.

Usually, when people suffering depression are offered a talking therapy, it is cognitive behavioral therapy (CBT) plus some regime of drug treatment. It was recently called to my attention by Dr. Paul W. Andrews that studies of CBT that separately examined the effectiveness of its two main components show that the "behavioral component," which consists of keeping the patient engaged with his or her social network in ways that lead to "successes," at least in nominal social navigation tasks, accounts for most of CB's appreciable short-term efficacy. Indeed, the SNH clearly predicts that there should be therapeutic value to gaining rapport with an authoritative and perspicacious social ally - even a paid one - who, moreover, is willing to provide practical help in productively engaging the social network. Again, the more effectively and efficiently the assigned social tasks are at improving the long-term fitness prospects of the patient, the more they should result in both short and long-term eradication of depression.

Conversely, the "cognitive component" of CBT, in which the therapist skillfully tries to convince the patient that they are not assessing their life situation in a reasonable way, and that they need to change their outlook, is relatively ineffective. I do not find this surprising, as the SNH predicts that depression should be designed by natural selection to be resistant to purely cognitive or emotional manipulation, because this is just how social partners resistant to helping typically would have tried to persuade depressives to accept or ignore their capacity-opportunity mismatch. The SNH in my opinion would go even further, predicting that attempts to manipulate the patient's thinking per se would actually result in a rapport-damaging conscious or unconscious backlash that would make other aspects of the treatment plan less effective.

Clearly, another important test of the SNH entails whether major depression elicits help from a broad set of important social partners. There are model research paradigms in other domains of evolutionary psychology, such as studies designed to

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measure differential helping of kin according to their degree of relatedness, and the propensity to help given kin versus non-kin. Several such studies are reviewed by Kurland and Gaulin (2005). For example, Essock-Vitale and McGuire (1985) did in-depth interviews in which one of the focal topics was helping behavior. The subjects sorted helping behaviors into major and minor instances, weighing both the amount of help received and the difficulty of giving it. They reported both help given and received, so that reciprocity could be assessed as a motivating factor, in addition to the degree of kinship. When performing tests of the SNH, one might want to add interview questions about the kind of help given to depressives, especially whether depression elicits novel forms of investment. Helpers should be asked if they ended up being led to help in ways that they were accustomed to prior to the depression, or in new ways that seemed designed to help the recipient expand their socioeconomic activities beyond former boundaries.

Evolutionary psychological studies of factors mediating love relationships and mate retention also may provide helpful models for studying SNH predictions. For example, interpersonal dependency levels are predicted by the SNH to modulate both the likelihood of a person using depression to elicit help and their likelihood of receiving it. Depression should work poorly as an engine for garnering investment and change if the critical social relations are easily broken and replaced. Ellis et al. (2002) developed a ‘Trait-Specific Dependence Inventory Index’ (TDSI), intended to assess the major dimensions on which current and potential mates are evaluated and beliefs about how easily the ‘outcomes’ obtained from a person's current relationship could be met by alternative partners or relationships on each dimension. Note that mates are a special and important class of social partner, of course. A modified form of the TDSI could be given to multiple social partners of depressives versus non-depressed controls, and pooled scores associated with the likelihood that major depression is used to address a mismatch, as well as its duration and intensity. The TDSI should also predict how much help is given to depressed individuals by the different individuals in their social network.

Other predictions of the SNH could be tested by interviewing the social partners of depressives. For example, when help is given to a depressive, it might be in spite of the fact that the usual feelings of love and closeness to them, which might have played a major role in mediating helping prior to the depression, are temporarily reduced; this would be symptomatic of the extortionary process the SNH claims that major depression activates. Also, in social relationships founded mainly on reciprocity, expectations of immediate reciprocity should be diminished in the context of helping a depressed partner, while expectations of long-term reciprocity are maintained or increased.

Literature

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Feedback is welcome. I'll use it to expand and revise SNH predictions. Page last updated 04/11/2008. -- PJW