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Clinical Psychology Review 25 (2005) 67–95

CLINICAL PSYCHOLOGY REVIEW

Possible mechanisms for why desensitization and exposure therapy work

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Received 20 May 2004; received in revised form 8 July 2004; accepted 25 August 2004

Abstract

Rosen and Davison [Rosen, G.M. and Davison, G.C. (2003). Psychology should list empirically supported principles of change (ESPs) and not credential trademarked therapies or other treatment packages. Behavior Modification, 27, 300–312] recommended that empirically supported principles be listed instead of empirically supported treatments because the latter approach enables the creation of putatively new therapies by adding functionally inert components to already listed effective treatments. This article attempts to facilitate inquiry into empirically supported principles by reviewing possible mechanisms responsible for the effectiveness of systematic desensitization and exposure therapy. These interventions were selected because they were among the first empirically supported treatments for which some attempt was made at explanation. Reciprocal inhibition, counterconditioning, habituation, extinction, two-factor model, cognitive changes including expectation, self-efficacy, cognitive restructuring, and informal network-based emotional processing explanations are considered. Logical problems and/or available empirical evidence attenuate or undercut these explanations. A connectionist learning-memory mechanism supported by findings from behavioral and neuroscience research is provided. It demonstrates the utility of preferring empirically supported principles over treatments. Problems and limitations of connectionist explanations are presented. This explanation warrants further consideration and should stimulate discussion concerning empirically supported principles.

Keywords: Systematic desensitization; Exposure therapy; Learning-memory mechanism

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doi:10.1016/j.cpr.2004.08.005

1. Possible mechanisms for why desensitization and exposure therapy work

Psychologists seem to agree, and our professional ethics require, that only reliable and valid psychological tests should be used. The new ethics code states that "Psychologists use assessment instruments whose validity and reliability have been established for use with members of the population tested" (APA, 2002, p. 1071). Less agreement exists regarding psychotherapy. The extent to which interventions are to be based on and informed by scientific research is one of the primary professional issues facing psychologists today. The effort to establish empirically supported treatments (ESTs) represents an important attempt to identify interventions that meet minimal scientific standards (cf. Sanderson, 2003) but has met with serious opposition (Hebert, 2003). One reason for opposing ESTs is that they do not provide an explanatory context in which to place and understand a client's presenting problem. Theories of psychotherapy and personality have proliferated to address this explanatory need. Absence of empirical support about these theories, and many interventions based on them, does not diminish the need for an explanatory context. Psychologists can opt not to administer tests if no reliable and valid test is available for a specific purpose, but they cannot avoid the need to understand their client's presenting problem and consequently they turn to the theoretical tradition in which they were trained even if that position has limited or no empirical evidence to support its validity or the effectiveness of interventions based on it. The need to explain seems to take precedence over the desire for empirical support. The substantial and generally recognized gap between the science and practice of clinical psychology demonstrates that empirical evidence of outcome alone is insufficient to persuade clinicians to use ESTs let alone limit their practice to them. Effectiveness of efforts to persuade clinicians to adopt ESTs may depend substantially on the extent to which science can explain why ESTs work and thereby provide clinicians with an empirically supported explanatory context in addition to effective interventions. This is reason enough to engage the explanatory discussion initiated here.

Rosen and Davison (2003) objected to the current practice of listing ESTs because adding one or more functionally inert components to an existing intervention based on sound psychological science can both meet EST requirements and be perceived as a new therapy. This creates two problems. First, yet another "new" therapy appears to have been developed that in fact succeeds because its active ingredients are those of an already established therapy. Second, causal attribution is frequently made to the new elements. Rosen and Davison illustrated these problems with a hypothetical intervention called "Purple Hat Therapy" (PHT), where the therapist asks the client to wear a large purple hat while receiving exposure therapy for a phobia. PHT will be more effective than a control treatment because it entails exposure therapy but PHT proponents will attribute curative powers to wearing the hat and then establish seminars and proprietary rights to training therapists in this new therapy. Rosen and Davison cited Eye Movement Desensitization and Reprocessing (EMDR) as a PHT because: (a) EMDR is superior to control conditions thereby establishing it as an EST, (b) causal attribution has been claimed for the eye movement component despite a lack of evidence showing it to incrementally add to clinical outcome, and (c) a burgeoning proprietary training system has also been developed to promote EMDR. The potential for psychotherapies to proliferate without limit is clear. It is possible that the panoply of present-day psychotherapies may exist for these reasons. Rosen and Davison proposed that listing Empirically Supported Principles (ESPs) rather than ESTs may solve this problem and return our attention to matters of explanation as well as prediction. Their recommendation is