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# Explanation Effects Override Formal Category Definitions In Clinical Experts' Diagnostic Judgments

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## Abstract

Having a plausible life-event explanation for a person's disordered symptoms leads clinicians to judge those symptoms to be less abnormal than if their cause was unknown (Ahn et al., 2003). Yet the American Psychiatric Association's official *Diagnostic and Statistical Manual of Mental Disorders* formally states that only bereavement-related life events should exclude a client from a diagnosis of depression, and this bereavement exclusion criterion is slated to be eliminated altogether from the next edition (under development) of the manual. We asked whether clinicians make diagnoses in the context of life-event explanations in direct opposition to these formal prescriptive definitions. We asked clinical psychologists to give diagnostic and other clinical judgments for realistic case study vignettes including a bereavement event, negative non-bereavement event, neutral event, or no event. Both bereavement and non-bereavement life events normalized clinicians' perceptions of depression, indicating a clear departure from both the current and proposed *DSM*.

**Keywords:** explanation; categorization; diagnosis; reasoning; judgment; expertise

## Introduction

Do clinicians interpret symptoms within the explanatory context of life events even when their official diagnostic system explicitly specifies that they should not? Past research has shown that students and clinical psychologists systematically take causal life-event context into account when judging the psychological abnormality and need-for-treatment of artificial, hypothetical case vignettes (e.g., Ahn et al., 2003; Kim & LoSavio, 2009; Meehl, 1973). For example, people were shown the hypothetical case of a person who has insomnia, trouble remembering the names of objects, and episodes of extreme anxiety. Those study participants who did not receive an explanation for why these symptoms had occurred rated them as quite abnormal. In contrast, those who were given a relatively plausible explanation for what precipitated those symptoms (e.g., workload stress caused the frequent insomnia, etc.) rated them as significantly more normal and less in need of psychological treatment. Life event causes normalized symptoms more than biological causes (Ahn et al., 2003), and externally-controlled life events reduced perceptions of the need for treatment more than internally-controlled life events (Kim & LoSavio, 2009). However, in past work, case vignettes were synthesized from multiple unrelated disorders, and thus did not bear a clear resemblance to any one real disorder. An important question therefore remains

regarding the degree to which explanatory context would affect diagnostic and clinical reasoning for "real" disorders.

Formal category definitions for psychological abnormality have already been established in the *Diagnostic and Statistical Manual of Mental Disorders* (henceforth *DSM-IV-TR*; 4<sup>th</sup> Edition, American Psychiatric Association, 2000), and are widely known and used by licensed clinical practitioners.<sup>1</sup> In particular, the strength of the influence of explanations on clinical judgments is unknown for cases wherein taking explanatory life-event context into account would run directly contrary to *DSM* specifications.

To give an illustrative example, suppose that a person has been showing depressive symptoms following a personally catastrophic financial loss. Would expert clinicians judge that person to be any less disordered than someone showing the same symptoms following no particularly noteworthy event? The diagnostic criteria for depression in the current *DSM-IV-TR* and the February 2010 in-progress proposal for the upcoming 5<sup>th</sup> edition of the manual (*DSM-5*; APA, 2010; <http://www.dsm5.org>) do not distinguish between these two cases; the formal recommendation of the American Psychiatric Association is to treat both cases identically in diagnosis, ignoring contextual differences. This deliberate removal of explanatory context is characteristic of the diagnostic criteria for the vast majority of disorders listed in the manual (Horwitz & Wakefield, 2007).

On the flip side, consider the introduction sections of the very same *DSM-IV-TR* and proposed *DSM-5* (Stein et al., 2010), in which the intended guiding philosophy of the manuals is described. The introduction sections of both versions explicitly state that significant life events *should* be taken into consideration when identifying a set of behaviors that correspond to a mental disorder, recognizing that psychological distress reflects relatively normal mental health under stressful circumstances (Horwitz, 2007). This apparent internal ambivalence (between intended guiding philosophy and actual diagnostic criteria) in the *DSM-IV-TR* and the proposed *DSM-5* is illustrative of a longstanding ongoing debate regarding the proper role of explanatory life events in assessment. In clinical science, the debate has

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<sup>1</sup> The disorders and diagnostic criteria contained in the *DSM* system are determined by a "task force" comprised of a large set of widely acknowledged experts in the field. The manual serves as the core basis for communication among researchers and clinicians in a number of countries, and is considered the authoritative basis for psychiatric diagnoses by health insurance companies in the U.S., the country from which our participant sample was drawn.

focused on developing a normative model of diagnosis, with the goal of identifying the optimal and correct way of making judgments about psychopathology (Maj, 2008). It is also critical, however, to understand what clinicians' intuitions are in making such judgments. Nosologies of disordered behaviors, such as the *DSM-IV-TR* and the proposed *DSM-5*, have perhaps the most obvious direct impact on how diagnoses are made. However, it is clinicians' own intuitions that will ultimately affect how they choose to use those nosologies.

In the current study, we pitted the influence of explanatory causal events against specific, formal diagnostic recommendations in the *DSM-IV-TR* and the proposed *DSM-5*. As a case in point, we focused on intuitions about the so-called ***bereavement exclusion criterion*** (Wakefield, Schmitz, First, & Horwitz, 2007; Zisook, Shear, & Kendler, 2007) in the diagnosis of depression. In the *DSM-IV-TR*, people whose symptoms result from bereavement are excluded from a depression diagnosis. According to Wakefield (2011), this exclusion reflects a longstanding clinical consensus, traceable through centuries of Western medicine, that bereavement-induced depression indicates "normal grief" and not psychopathology. However, recent epidemiological evidence has suggested that the course of depression does not differ depending on how it was caused (Kendler, Myers, & Zisook, 2008; Wakefield et al., 2007). On the basis of such data, the *DSM-5* task force recently announced plans to completely remove the bereavement exclusion criterion from the definition of depression, such that the presence or absence of any life events (bereavement or otherwise) should not affect the diagnostic decision.

In other words, the *DSM-IV-TR* states that only a bereavement life event should explain away depression symptoms, the proposed *DSM-5* states that no life events should explain away depression symptoms, and previous work in cognitive science (e.g., Ahn et al., 2003; Kim & LoSavio, 2009) has indicated that clinicians considering artificial disorders believe that any plausible negative life event should explain away disorder symptoms. The critical question is what clinicians actually believe when considering realistic cases of real-life disorders that pit formal *DSM* specifications against life event explanations.

### Alternate Hypotheses

To examine this issue, we presented expert clinical psychologists with realistic case studies of depression including either a bereavement life event, a strongly negative, non-bereavement life event, neutral information that does not help to explain the symptoms, or no life event.

One hypothesis is that the influence of explanatory events is strong enough to override the formal recommendations of the *DSM-IV-TR* and proposed *DSM-5*. If so, then clinicians assessing cases with explanatory life events (regardless of whether they specifically involve bereavement or not) will perceive cases as less in need of a depression diagnosis than clinicians seeing the same cases without the life events or with non-explanatory filler events.

An alternative hypothesis is that expert clinicians' knowledge of formal diagnostic recommendations and years of training to diagnose using the *DSM* system would result in an override of the influence of explanatory events. If this is the case, then either of the following may occur. If clinicians adhere to the familiar, prescribed *DSM-IV-TR* recommendations, then they will only perceive cases as less in need of a depression diagnosis in the case of bereavement life events, but not in the case of non-bereavement negative life events. Alternatively, if they intuitively agree with the most recent *DSM-5* proposal, then there will be no effect of explanation for bereavement life events or negative, non-bereavement life events, compared to control events.

### Ecological Validity

Because a key goal of our study was to determine how explanation influences judgments in a real-life domain, we took several steps to increase the ecological validity of our study, while still attempting to maximally retain the experimental control characterizing previous work. First, we recruited currently practicing, licensed, expert clinical psychologists to participate, as they would be highly familiar with both the *DSM* system and the task of mental disorder diagnosis and clinical assessment.

Second, our approach was to use realistic case-based tasks rather than more artificial or abstract reasoning tasks. As is exemplified by the *DSM* itself, a broad rule for diagnosis in general may not always be followed when a specific disorder is at hand and a set of diagnostic and exclusionary criteria is specified. By focusing on the bereavement exclusion, we could measure the influence of explanations when in opposition to formal *DSM* category definitions.

Finally, to our knowledge, the normalizing influence of explanation on an actual diagnostic judgment has never previously been tested. Therefore, we asked clinicians to answer a straightforward diagnosis question for each case. We also asked them to make three additional judgments regarding the symptoms' abnormality, cultural acceptability, and statistical commonality. This last set of questions allowed us to cast a broader net for corroborating evidence. In particular, the abnormality judgment enabled us to more directly assess clinicians' own intuitions about the psychological abnormality of behaviors, as opposed to their knowledge of psychological abnormality as defined by the *DSM-IV-TR*.

## Method

### Participants

Seventy-three clinicians participated in response to a mailed postcard. Postcards were initially mailed to 350 clinical psychologists randomly selected from various national and state psychology board databases. Of these, 35 postcards were returned to us by the postal service because the clinician had moved, yielding a voluntary response rate of 23.2%. We pre-verified that each invited clinician had completed a Ph.D. in clinical psychology, was currently

practicing, and held a current license in good standing. Participants received a \$25 gift card to a major online retailer. One participant did not complete a number of the key dependent measures and was excluded from analysis.

The 72 remaining participants had a mean of 24.3 years of experience ( $SE=1.4$ ) and spent a mean of 21.9 hours seeing patients per week ( $SE=1.2$ ). Thirty-seven identified their primary theoretical orientation as cognitive, behavioral, or cognitive-behavioral, 13 psychoanalytic or psychodynamic, 16 eclectic, and 6 “other.” Clinicians estimated the mean age of their patients to be 33.9 years old ( $SE=1.8$ ), with 83.8% of patients having an Axis I diagnosis ( $SE=3.1\%$ ) and 25.8% ( $SE=3.1\%$ ) having an Axis II diagnosis. One clinician’s responses to the questions regarding percentages of Axis I and Axis II diagnoses were non-numerical and thereby not included in the above means. Thirty-three participants were male and 38 were female (1 declined to report gender). Six identified their ethnicity as Hispanic or Latino/a (5 declined to report ethnicity). Sixty-two self-identified as White, 3 as Asian, 2 as African American, 1 as Native American, 1 as both Native American and White and 2 as both White and Asian (1 declined to report race).

## Materials

Four case study vignettes, two male and two female, were created in a style similar to cases of depression in the *DSM-IV-TR Casebook* (Spitzer, Gibbon, Skodol, Williams, & First, 2001). Each vignette consisted of two full paragraphs.

The first paragraph described some background information about a person, including an additional event. For each vignette, we created three different events that could be interchangeably placed in this paragraph. Two were explanatory, causal events and one was a control event. In the first type of causal event (Cause-Bereavement, henceforth), the person was described as experiencing the death of a close family member or friend. The second type of causal event (Cause-Non-bereavement, henceforth) involved divorce, job loss, or serious injury or illness sustained by the character or a loved one. The control event (Control-Filler, henceforth) consisted of relatively neutral additional information that matched the causal events in length, but did not explain the person’s behaviors. We also created a second control, in which no event of any kind was added (Control-No event, henceforth). Table 1 depicts a complete set of materials for one vignette.

In each vignette, the second paragraph described the person’s current behaviors, which were always held constant. Each person was described as experiencing four symptoms of depression as listed in the *DSM-IV-TR* and *DSM-5*; one of those symptoms was always *depressed mood*, widely considered the hallmark of depression and one of the required symptoms for diagnosis. The time course of the symptoms as stated in the paragraph always exceeded *DSM-IV-TR* and *DSM-5* requirements for diagnosis (2 weeks), while remaining within the allowable time frame for applying a bereavement exclusion (2 months). The

paragraph describing these behaviors was approximately matched for length across the four vignettes.

## Procedure

Participating clinicians completed the task online via Qualtrics ([www.qualtrics.com](http://www.qualtrics.com)), an internet-based survey software package. Each clinician saw all four vignettes. All four event types were also seen by all participants, one event type per vignette.

Event type was rotated across vignettes and between participants, such that each of the four vignettes was presented equally frequently with each of the four event types overall. Furthermore, each event type and vignette was presented equally frequently in the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> positions (regarding presentation order) across participants.

Table 1: Sample Vignette (“Andrew”)

Component	Text
Background	Andrew has been married to Karen for 5 years, and they have a son together named Eric. Although they did occasionally get into arguments during their first few years together, Andrew and Karen generally got along well and were a happily married couple.
Event Type	<p><b>Cause-Bereavement</b></p> <p>One day, while at work Andrew received a call from the hospital, informing him that his wife had gone into cardiac arrest. The doctors tried their best, but she passed away in the emergency room.</p> <p><b>Cause-Non-bereavement</b></p> <p>One day, they got into a verbal argument, during which Andrew was stunned to discover that Karen had been having an affair. A few days later, Karen filed for divorce.</p> <p><b>Control-Filler</b></p> <p>There is a small community center located down the street from their house. Andrew and Karen often take turns bringing Eric there to participate in a variety of activities.</p> <p><b>Control-No event</b> (No additional text)</p>
Current Behaviors	For the past several weeks, Andrew has been feeling really down. He has lost interest in his weekly golf matches and makes excuses to avoid attending any social activities. These days, Andrew listlessly picks at his food. As a result, he has lost quite a bit of weight. His co-workers report that he constantly fidgets with his hands, picking his fingernails, seemingly unable to hold still.

For each vignette, four separate ratings were obtained from each participant: (1) a **diagnosis judgment** (“should [Andrew] be diagnosed with depression?” on a scale of 1-9, where 1=definitely no and 9=definitely yes); (2) an **abnormality judgment** (“how normal or abnormal are [Andrew]’s current behaviors?” on a scale of 1-9, where 1=very normal and 9=very abnormal); (3) a **cultural acceptability judgment** (“how acceptable or unacceptable are [Andrew]’s current behaviors in U.S culture?” on a scale of 1-9, where 1=completely acceptable and 9=completely unacceptable); and (4) a **statistical commonality judgment** (“how common or rare are [Andrew]’s current behaviors in the U.S population?” on a scale of 1-9, where 1=very common and 9=very rare).

The study was presented in three separate sections. In the first section, the vignettes were presented sequentially. Half of the participants made the diagnosis judgment first below each vignette; the rest made the abnormality judgment first. In the second section, the vignettes were re-presented with the other question (abnormality or diagnosis) not presented in the first section for that participant. In the third section, the vignettes were re-presented and participants were asked to make both the cultural acceptability judgment and statistical commonality judgment below each vignette (order counterbalanced between participants). People could edit their responses, but once they advanced to the next vignette, they could not go back; this was clearly stated up front in the instructions. Finally, each clinician was asked about his or her clinical background and experience (see above).

## Results

Analyses were conducted at the  $\alpha=.05$  level except as otherwise specified. There were no effects or interactions involving vignette or question order, so these are not discussed further.

### Diagnosis Judgments

A (Condition: Cause-Bereavement, Cause-Non-bereavement, Control-Filler, and Control-No event) repeated-measures ANOVA revealed a main effect of Condition ( $F[3,213] = 24.61$ ;  $MSE = 3.91$ ;  $p < .001$ ;  $\eta^2 = .26$ ; Fig. 1). A set of six Bonferroni-corrected paired-sample  $t$ -tests ( $\alpha=.008$ ) was conducted to test whether the presence of life events influenced diagnosis judgments, and to determine whether clinicians distinguished between the two Cause conditions (Bereavement versus Non-bereavement) or between the two Control conditions (Filler or No event). In all four pairwise comparisons between Cause conditions and Control conditions, clinicians reliably advocated a diagnosis of depression more strongly in the Control conditions than in the Cause conditions (all  $t[71] \geq 3.72$ ; all  $p < .001$ ; all  $\eta^2 \geq .16$ ), demonstrating that explanations robustly influenced diagnosis judgments. Only 14 of the 72 clinicians were uninfluenced by the Non-bereavement life event (relative to no event) in making their judgments, in accord with *DSM-IV-TR* specifications. A small minority of clinicians ( $N=12$ ) gave higher diagnosis ratings in the Non-

bereavement condition relative to no event, but overall, nearly 4 times as many clinicians gave lower diagnosis ratings in the Non-bereavement condition than in the No event control ( $N=46$ ). The comparison between the two Cause conditions approached significance ( $t[71] = 2.68$ ;  $p = .009$ ;  $\eta^2 = .09$ ) at the Bonferroni-corrected alpha level, either because of practice and familiarity with the *DSM-IV-TR* or because clinicians truly find bereavement to be the most compelling explanation for depression (or both). However, the fact remains that both Cause conditions elicited lower diagnosis ratings relative to both Control conditions. Clinicians did not reliably differentiate between the two Control conditions ( $t[71] = 2.32$ ;  $p = .023$ ;  $\eta^2 = .07$ ).

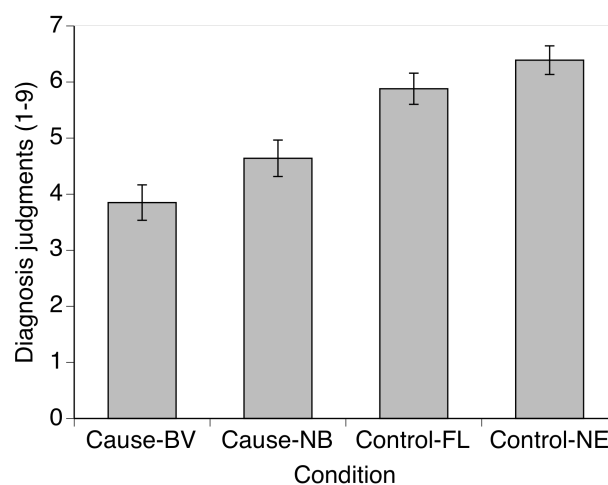


Figure 1. Diagnosis judgments. Higher bars indicate stronger affirmation of depression diagnoses. Abbreviations: Cause-BV (bereavement), Cause-NB (non-bereavement), Control-FL (neutral filler), Control-NE (no event).

### Abnormality Judgments

Identical analyses were conducted for the abnormality judgments. A repeated-measures ANOVA also uncovered a main effect of Condition ( $F[3,213] = 121.52$ ;  $MSE = 1.88$ ;  $p < .001$ ;  $\eta^2 = .63$ ; Fig. 2). Across the same four pairwise comparisons, clinicians judged behaviors to be less abnormal in the Cause than Control conditions (all  $t[71] \geq 10.37$ ; all  $p < .001$ ; all  $\eta^2 \geq .60$ ). Clinicians did reliably differentiate between the two Cause conditions ( $t[71] = 3.02$ ;  $p = .004$ ;  $\eta^2 = .11$ ); bereavement events made depression symptoms seem less abnormal than did non-bereavement events. Clinicians did not differentiate between the two Control conditions ( $t[71] = 0.46$ ;  $p = .646$ ;  $\eta^2 < .01$ ).

### Cultural Acceptability Judgments

For cultural acceptability judgments, there was a main effect of Condition ( $F[3,213] = 30.13$ ;  $MSE = 2.23$ ;  $p < .001$ ;  $\eta^2 = .30$ ; Fig. 3). Clinicians judged behaviors to be less acceptable in U.S. culture in the Control than Cause conditions (all  $t[71] \geq 4.87$ ; all  $p < .001$ ; all  $\eta^2 \geq .25$ ). As in the Abnormality judgments, they differentiated between the

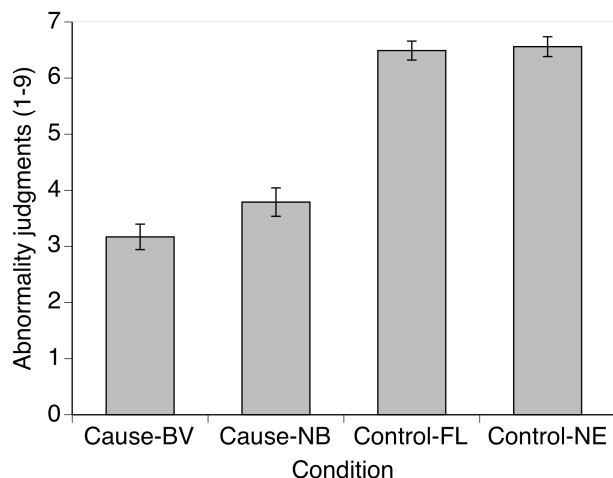


Figure 2. Abnormality judgments. Higher bars indicate judgments of greater abnormality.

two Cause conditions, such that bereavement events rendered depression symptoms more culturally acceptable than did non-bereavement events ( $t[71] = 2.95$ ;  $p = .004$ ;  $\eta^2 = .11$ ). Clinicians did not distinguish between the two Control conditions ( $p = 1.000$ ).

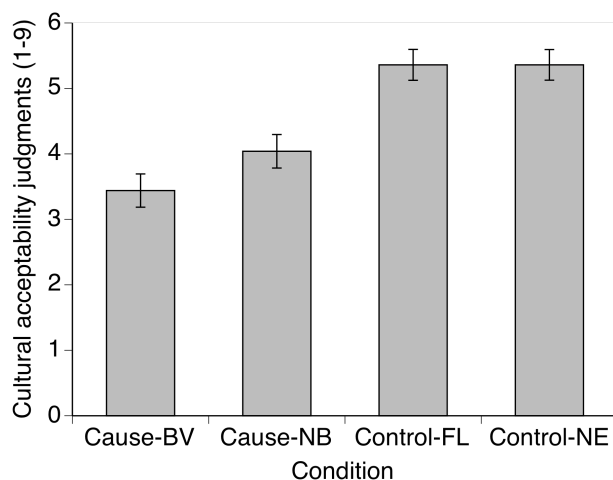


Figure 3. Cultural acceptability judgments. Higher bars denote judgments of greater unacceptability in U.S. culture.

### Statistical Commonality Judgments

Finally, there was a main effect of Condition ( $F[3,213] = 17.25$ ;  $MSE = 1.78$ ;  $p < .001$ ;  $\eta^2 = .20$ ) for statistical commonality judgments (Fig. 4). Clinicians judged behaviors to be more statistically rare in the Control than Cause conditions for all four paired comparisons (all  $t[71] \geq 3.96$ ; all  $p \leq .001$ ; all  $\eta^2 \geq .18$ ). They did not reliably differentiate between the two Cause conditions ( $t[71] = 1.36$ ;  $p = .178$ ;  $\eta^2 = .03$ ) or the two Control conditions ( $t[71] = .07$ ;  $p = 0.945$ ;  $\eta^2 < .01$ ).

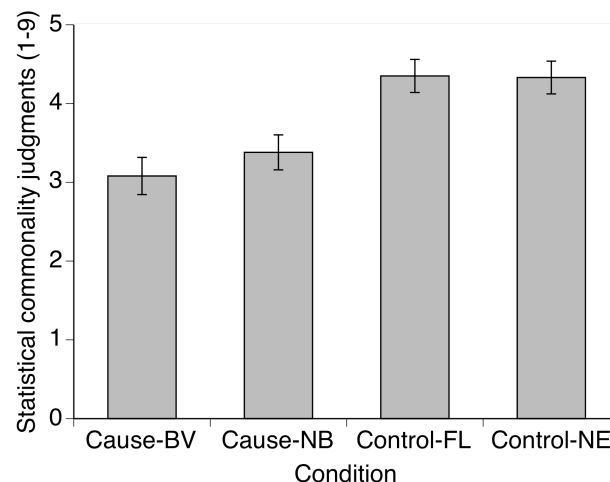


Figure 4. Statistical commonality judgments. Higher bars indicate judgments of greater statistical rarity of behaviors.

## Discussion

Currently practicing, experienced clinical psychologists were strongly influenced by explanations in making diagnostic, abnormality, cultural acceptability, and statistical likelihood judgments. Specifically, having a plausible, negative life-event explanation for depressed behaviors led clinicians to downgrade the appropriateness of a disorder diagnosis and to perceive the behaviors as less abnormal, more culturally acceptable, and more common. These effects occurred across two different types of causal life events (bereavement and non-bereavement) and two different control events (neutral and no information).

Perhaps of greatest practical importance is our finding that non-bereavement events and bereavement events both reduced clinicians' endorsement of a depression diagnosis, overriding both *DSM-IV-TR* and *DSM-5* specifications. The *DSM* system does not directly specify criteria for judging cultural acceptability or statistical commonality per se; its official recommendations explicitly pertain to diagnosis (which, in turn, is simply a formalized definition of abnormality). Yet explanations influenced clinicians' straightforward diagnosis judgments, for which the contrast with the *DSM* is clear. We take this finding to indicate that the influence of explanation on categorization (diagnosis) and other clinical judgments is strongly cognitively compelling even in real-world categories when conflicting influences are present. Thus, our data suggest that prior results showing the influence of life-event explanations on clinicians' abnormality judgments are not likely to be the product of demand characteristics of artificially manipulated experiments. In our study, real-world requirements failed to override the powerful contextual influence of explanation.

### Implications for Clinical Science

As we previously mentioned, it has now been relatively well established by clinical epidemiological work that the symptomatology of depression does not differ when caused



by bereavement versus non-bereavement life events (Kendler et al., 2008; Wakefield et al., 2007). However, there remains marked disagreement as to how such findings should affect specifications for depression in the *DSM-5*.

One view is that the bereavement exclusion criterion for depression should be expanded into a broader exclusion criterion for strongly negative life events. Those subscribing to this view argue that even the most extreme behaviors may, in many cases, turn out to be culturally accepted, normal and reasonable responses to tragic or traumatic events (Horwitz & Wakefield, 2007; Lifton, 1988; Wakefield et al., 2007), and that these behaviors cannot be appropriately assessed in a vacuum. Proponents of this view have argued that if a tragic life event precipitates a person's experience of depressive symptoms, then this experience is quite normal in our society, and therefore should not be labeled as disordered. This viewpoint appears to be overwhelmingly shared by the clinicians in our study.

The major alternative view in the clinical literature is that if the effects of bereavement and other negative life events cannot be distinguished from one another, then the validity of an exclusion criterion is no longer supported, and therefore should be removed from the *DSM* (Kendler et al., 2008). Again, interestingly, this viewpoint is reflected in the proposed *DSM-5* as of February 2010. The status of the bereavement exclusion criterion in the definition of depression has interesting implications for clinical epidemiology. Removing it from the nosology, as the *DSM-5* work group has proposed, would significantly expand the range and number of cases officially considered to be clinical depression, whereas retaining it or even expanding it to include other significant life events, as some theorists have proposed (Horwitz, 2007; Wakefield et al., 2007), would drastically reduce the range and number of cases, potentially resulting in undertreatment (Maj, 2008).

As we have suggested, however, the intuitions of clinicians themselves, to the degree that they affect their actual diagnoses, may also play an important role in shifting the apparent prevalence of depression, regardless of its ultimate *DSM-5* definition. Recently, Whooley (2010) reported the practical consequences of what he called a *sociological ambivalence* held by practicing clinicians toward the *DSM-IV-TR*. His research demonstrated that even clinicians who wish to adhere to the *DSM-IV-TR* in principle nonetheless routinely implement informal "workarounds" to allow them to apply their own clinical judgment (e.g., essentially ignoring many of *DSM-IV-TR*'s 297 diagnostic categories, fudging *DSM-IV-TR* category codes, and negotiating the diagnosis with the client), effectively undermining the influence of the *DSM-IV-TR* in practice. Given our results, we predict even greater future circumvention of the *DSM-5* in the diagnosis of depression.

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