THE ABSTINENCE VIOLATION EFFECT IN BULIMIA NERVOSA

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Abstract — Bulimia nervosa often follows a chronic and relapsing course. To understand relapse in this disorder, we highlight cognitive processes underlying the binge/purge cycle. Links are drawn between cognitions, causal perceptions, and the binge/purge cycle in a reformulation of the abstinence violation effect with a special focus on attributions. This reformulation is then applied to the lapse-relapse transition in bulimia nervosa. Finally, theoretical and clinical implications of the reformulation are presented.

Accumulating evidence suggests that bulimia nervosa can run a chronic and relapsing course (Heatherton & Baumeister, 1991; Herzog, Keller, & Lavori, 1988; Keller, Herzog, Lavori, Bradburn, & Mahoney, 1992; Mitchell, Davis, & Goff, 1985; Mitchell et al., 1989; Swift, Ritholz, Kalin, & Kaslow, 1987). Women with bulimia nervosa exhibit problematic and distorted thinking styles and beliefs that may be causally linked to both the maintenance of their symptoms and to the relapse process (Fairburn, 1985; Garner & Bemis, 1985; Jansen, Merckelbach, Oosterlaan, Tuiten, & van den Hout, 1988; Johnson & Conners, 1987; Orleans & Barnett, 1984; Ruderman, 1985). For example, in bulimic subjects, Mizes (1988) has identified unrealistic goals concerning dieting and weight control, and cognitive distortions such as overgeneralization and selective abstraction.

Behaviorally, women with bulimia nervosa fluctuate between strict self-control (restrained eating) and the loss of control evident during the binge/purge cycle. The cognitions that define the relation between restraint and the onset of bingeing are critical mediators of the lapse–relapse transition. In addition to these cognitions, negative affect is often associated with the initiation of bingeing (Davis, Freeman, & Garner, 1988; Grilo, Shiffman, & Wing, 1989; Heatherton & Baumeister, 1991; Heatherton, Polivy, Herman, & Baumeister, 1991; Mizes, 1985; Ogden & Wardle, 1991).

Once the restraint rule has been broken, a number of explanatory cognitions and associated emotions can emerge. We suggest that an examination of these potential explanations may aid in predicting when a lapse will evolve into a full blown relapse and when control will be reinstated effectively. We also argue for this examination to occur within the context of an attributional reformulation of the abstinence violation effect.

There has been a significant amount of research produced recently that supports a causal relationship between attributions and emotions. For example, while Lazarus and his colleagues (Lazarus, 1991a, 1991b; Lazarus & Smith, 1988) stress the importance of primary appraisal processes, they do acknowledge attributions as secondary...
appraisal mechanisms that have an important impact on emotions. They cite, for example, the relationship between blaming someone for an aversive outcome and anger. Baumgardner and Arkin (1988) have demonstrated that causal explanations attributing success to internal factors enhance positive affect, and that attributions for failure to external factors diminish negative affect. Weiner and his colleagues have also documented links between attributional dimensions and emotions (e.g., Graham & Weiner, 1986, 1991; Weiner, 1986, 1988). Along with Lazarus and colleagues, Weiner also suggests a link between anger and causes perceived as controllable.

The manner in which an abstinence violation effect may be salient in the behavioral chain of bulimia nervosa is likely to depend upon the stage of the change process shown by the individual (Prochaska, DiClemente, & Norcross, 1982). An untreated bulimic woman, probably at the precontemplation stage of the change process as described by Prochaska et al., has rigid restraint rules and views a bite of a forbidden food as a lapse, that is, an abstinence violation. Causal searches and attributions undoubtedly occur at this stage, but exist within a broader context of distorted cognitions. Severely restrained eating may precede binge eating (Polivy & Herman, 1985; Wardle, 1980) and it is unrealistic for those women to expect complete abstinence from high-risk foods, therefore exacerbating the risk of lapsing and experiencing an abstinence violation. Further along the change process is the bulimic woman in recovery, that is, in the maintenance stage. Presumably she has modified her dietary restraint and normalized her eating patterns and distorted cognitions about food. At this stage, the lapse or abstinence violation is not likely to be defined by a bite of a forbidden food; more likely the rule will have become more abstract, perhaps related to perceived calorific value. As such overeating, or the beginning of a binge, is the violation.

THE RELAPSE PROCESS

Marlatt and Gordon (1985) were among the first to formulate a coherent view of the processes governing relapse among various types of addicts. They did so in the context of the relapse prevention model, a set of self-management procedures designed to maintain the initial changes in behavior induced by therapy. These relapse prevention procedures, within the context of cognitive behavior therapy programs, have been extended to the treatment of bulimia (Johnson & Conners, 1987) with successful results (Agras, 1987, Agras, Schneider, Arnow, Raeburn, & Telch, 1989; Fairburn, 1988; Telch, Agras, Rossiter, Wilfley, & Kenardy, 1990; Wilson, 1992; Wolf & Crowther, 1992).

An additional application of the relapse prevention approach focuses on the implications of conceptualizing the relapse process as an affective/cognitive/behavioral chain that culminates in the behavior of central interest in bulimia, the binge eating and subsequent purging behavior; the relapse (Ward & Hudson, 1992). Moreover, we are specifically concerned about the abstinence violation effect as the mediator in the transition from a lapse to a full relapse.

The abstinence violation effect is said to be a cognitive/affective reaction to a lapse (Marlatt & Gordon, 1985). Marlatt defines a lapse as an initial violation of an abstinence rule, which usually forbids or restricts the use of a substance (in the cases of eating disorders and substance abuse), or the occurrence of some undesired activity.
(e.g., proscribed sexual behaviour). In the particular circumstances of bulimia a lapse (perhaps eating a small amount of a restricted food such as chocolate) is distinguished from a relapse, where the woman continues to eat and so ends up bingeing and perhaps purging or vomiting. If the response to the lapse or initial indiscretion is an abstinence violation effect, this serves to increase the probability of a full-blown relapse. The abstinence violation effect has two major components; an attribution as to the cause of the lapse, and an affective reaction to this attribution (Marlatt & Gordon, 1985).

There is a developing literature that provides both some, as yet limited, evidence for the existence of the abstinence violation effect, and also provides some further demonstration of the link between attributions and emotions. Two of the five studies that have explicitly set out to gather evidence for the abstinence violation effect have concluded positively. Curry, Marlatt, and Gordon (1987) found participants in a smoking cessation program who relapsed following a slip reported a significantly larger abstinence violation effect, than those who resumed compliance with their abstinence rules. Collins and Lapp (1991), using a Drinking Attributional Style Questionnaire and a measure of negative affect, found the tendency to attribute causes of drinking-related events to internal, stable, and global characteristics, in association with negative affect, predicted higher levels of alcohol consumption and related problems in social drinkers. Two studies have found no evidence for the abstinence violation effect (Birke, Edelman, & Davis, 1990; Ogden & Wardle, 1991) in drug users and dieters, respectively, but unfortunately are methodologically flawed, measuring attributional style rather than event specific attributions. The final study (Schoeneman, Hollis, Stevens, Fischer, & Cheek, 1988) compared relapsed smokers with those who had lapsed but returned to abstinence and found that while relapsers were more likely to ascribe lapses to characterological causes, there was no difference between the two groups on the attributional dimensions or emotion scales.

The essence of the abstinence violation effect construct is that how the individual views the initial lapse is predictive of his or her ability to successfully resume compliance with the restraint or abstinence rules. A lapse, in someone restraining some aspect of their behavior, is evaluated particularly in terms of individual responsibility. If the lapse is seen as being caused by external, unstable, or specific factors, the abstinence violation effect will be minimal and thus the probability of a full-blown relapse is low. If, on the other hand, causal attributions are made to internal, dispositional factors such as “I have no will power”, then a negative emotional reaction (made worse by unfavorable comparison to self-standards) and loss of control is likely to be experienced. Marlatt argues that the abstinence violation effect is a dimensional construct. The greater the extent to which attributions are made to internal, dispositional factors, the more intense the abstinence violation effect is likely to be, and consequently the greater the probability of relapse.

The importance of the abstinence violation effect is via its effects on motivation. Aversive emotional states energise overlearned responses, such as old addictive behaviors. The cognitive dissonance induced leads to the reconstruing of the self as an addicted person with little control. This leads to decreases in self-efficacy and future expectations of coping. All of these processes makes a full relapse more probable. For the individual with bulimia who experiences a lapse, whether she continues on to binge or attempts to control her eating depends on the intensity of the resulting abstinence violation effect. As such it is likely to be a critical part of the phenomenology of bulimia.
The most substantial problem with Marlatt's Abstinence Violation Effect as currently conceptualized is its reliance on Weiner's earlier work (Weiner, 1972) which means causes are defined on an a priori basis (e.g., luck, effort, ability, or personality) rather than being construed as lying along dimensions such as locus, stability, and controllability (Weiner, 1986). The use of this now-outdated version of attributional theory is important for two reasons. First, the relative narrowness of this older view meant that Marlatt had little choice but to broaden the theoretical base to include constructs such as objective self awareness (Duval & Wickland, 1972; Storms & McCaul, 1976), cognitive dissonance (Festinger, 1964), self efficacy (Bandura, 1977), and drive theory (Spence & Spence, 1966) when elaborating the impact of the abstinence violation effect upon addictive behavior. This diversity is now cumbersome and difficult to integrate.

Second, the use of Weiner's earlier work also means now that his more recent emphasis on the motivational and informational aspects of various affects, each linked to specific causal inferences, is not utilised. For example, shame and guilt are seen to result from different causal inferences: shame from attributions to internal, uncontrollable factors such as a lack of ability, guilt from attributions to internal but controllable factors such as a lack of effort. These two emotions, therefore, have divergent motivational consequences, both at the time they are experienced and in terms of avoiding future risks. For example, if the bulimic woman blames herself for having failed to make an effort to avoid a particularly high-risk food or high-risk situation and consequently feels guilty, then this immediate feeling may prompt her to extricate herself from the situation and thereby avoid a full relapse. Alternatively, if she sees herself as having been unable to avoid or prevent the lapse, then there is no reason to expend any effort in preventing the relapse. These emotions are likely to also exert a differential effect on future coping. If the person sees herself as having control in that a lack of effort caused the lapse, then greater effort in the future is worthwhile, but if failure is seen to be a function of personal deficiencies, then either efforts are useless (if these deficiencies are seen as unchangeable) or they need to be directed toward the development of skills (if these deficits are seen as open to change). Usually these emotions are treated as being equivalent.

The current conceptualization of the abstinence violation effect also falls short in that several different mechanisms are said to be causally linked to the effect. A discrepancy between ideal and actual behavior is said to lead to negative affect independent of attributions. Second, attributions concerning the cause of the lapse are understood to drive ongoing addictive behavior either via negative affect (drive/energy view of emotions) or as a consequence of low self-efficacy expectations (a cognitive pathway view of emotions), or possibly by both. Weiner's (1986) recent reformulation of attribution theory does not have this limitation and can be used more satisfactorily in reformulating the abstinence violation effect.

Finally, Weiner's more recent and comprehensive attributional perspective (Weiner, 1986) suggests a greater range of attribution-relapse links or behavioral possibilities that are relevant not only to conceptualizing the relapse process, but also to treatment and the clinical efforts aimed at preventing relapse.

None of these comments diminish the heuristic value of the original abstinence violation effect construct; they serve only to strengthen our conviction that its value.
would be enhanced by a reformulation within more recent attributional position. A brief outline of Weiner's (1986) attributional theory is needed.

**WEINER'S REVISED ATTRIBUTIONAL THEORY**

The role causal attributions have on expectations, and therefore future events such as relapse, is central to the abstinence violation effect. Attributions are naive causal explanations that occur after a negative, unexpected or important outcome (Weiner, 1986) and are seen to differ along the dimensions of stability, locus, and controllability.

Stability refers to whether or not the identified cause is seen as enduring. For example, attributing behavior to a lack of ability involves accepting that the cause of the behavior is a stable, relatively unalterable factor. This stability dimension acts as a magnifier, potentiating the affect determined by each of the remaining two dimensions. To simplify discussion we will focus less on stability beyond noting that more stable causes produce greater affective responses.

Locus of control refers to whether the cause is seen as internal to the person (e.g., a disease or lack of ability) or as externally imposed (e.g., luck or someone else). Controllability concerns the person's sense that the cause was able to be influenced by effort. These various attributions both enable the person to understand and predict the world, and generate different emotional reactions. The links between different causal ascriptions and different emotions is central to the abstinence violation effect.

For a recovering bulimic, who is strongly motivated to adhere to her abstinence rules such as “not bingeing” the most likely way to an emotional response is via a causal search, that is, an attribution dependent affect. This is central to the abstinence violation effect in that, provided a person is restraining such behavior, a lapse is both important and negative. However, the lapse itself does not directly determine affect; it is the attributions regarding the cause of the lapse that are uniquely related to particular, differentiated, emotional reactions.

The links between attributions on the one hand and emotional sequelae on the other, are not, however, straightforward. First, there exist the four possibilities defined by the two major dimensions that we are considering; locus and controllability. Weiner suggests that the causal locus (internal vs. external) influences self-esteem such that when a negative outcome is ascribed to an internal cause, this decreases perceptions of self-worth. If the causal locus is seen as external then self-esteem is unlikely to be affected but a sense of hopelessness may ensue. In addition, in the case of external locus there appears to be the possibility of a special case where the causal agent is another person rather than the weather or some other nonvolitional event. Here the probable resulting affect is anger with the possibility of the relapse being retributive.

Guilt is linked to controllability in that if the person sees themselves as having been able to control a negative outcome (i.e., internal and controllable attribution), then they will accept personal responsibility for a failure to avoid the outcome; that is, they will blame themselves and feel guilty because they could have controlled the outcome. If, however, a negative outcome is seen as being caused by factors internal but uncontrollable (e.g., personal deficiencies), then shame is experienced.

Differential motivational consequences occur with shame and guilt due to the different loading upon the controllability dimension. Where a person experiences
guilt they see themselves as having had control over the cause of the negative outcome and thus can be expected to prompt attempts to reduce the future probability of the event. Shame, on the other hand, which results from perceiving the cause of failure to be personal but uncontrollable (e.g., lack of ability), generates little motivation for change as there is perceived to be no chance of improvement.

While our focus is very much upon attributionally determined emotions, it is important to note that Weiner's model also proposes a nonattributional pathway from event to emotion. This probably corresponds to a simple appetitive lapse, well-documented for alcohol and other drugs (Niaura et al., 1988; Stewart, deWit, & Eikelboom, 1984). Weiner (1986) distinguishes between relatively simple, undifferentiated emotions, such as joy or pleasure, that do not result from a causal search and consequent attributions; in other words, these emotions are directly determined by the event without significant cognitive mediation. More specifically, the lapse occurs in the quest of positive reinforcement. The bulimic woman, relapsing in positive emotional situations (Hsu, 1990), simply gives in to an urge to binge for its pleasurable or hedonic effects. It is possible that cues previously associated with binging elicit a positive motivational state similar to that elicited by binging itself (Niaura et al., 1988). Following these appetitive lapses, there is no causal search, the emotions experienced are simple and positive, the behaviors are unlikely to be seen as a lapse; therefore, no abstinence violation effect would occur, but the risk of relapse remains significant.

A REFORMULATION OF THE ABSTINENCE VIOLATION EFFECT

Reformulating the abstinence violation effect in terms of Weiner's recent version of attribution theory (Weiner, 1986) allows a clearer picture of the process and has beneficial implications for treatment.

As in the case of the earlier relapse formulations, when a lapse occurs (e.g., the initiation of a binge), and is seen by the bulimic person as negative and important, an attributional search occurs. The particular causal attributions made are reflected in the different emotional and motivational possibilities mentioned above. These are summarised in Table 1.

If the cause is perceived as internal, and controllable (e.g., a lack of personal effort) the bulimic woman may be expected to experience guilt and lowered self-esteem, yet she is likely to remain hopeful and continue to adhere to her eating goals. If, on the other hand, the cause of the lapse is perceived as internal and uncontrollable (e.g., the result of a lack of willpower, "addictive" personality, or lack of character), the person is likely to believe that effort is likely to be of little use, will experience shame, helplessness, and diminished self-esteem, and will give up attempting to cope; thus a full blown relapse is more probable.

If the cause of the lapse is seen as external but controllable (e.g., a high-risk situation that was avoidable, such as being over-hungry and alone in the house), then the resulting affect is likely to be guilt. Once again, guilt is likely to motivate the bulimic woman to avoid relapsing. If the cause of the lapse is seen as external but uncontrollable (unfortunate and unavoidable, such as work or interpersonal stress), it is likely that hopelessness, or anger if someone else is blameworthy, will be the consequent emotional state. In these circumstances the bulimic woman will see no point in making an effort to avoid a relapse. As such a relapse is facilitated.

These attributional scenarios summarise the general set of possibilities involved in the reformulated abstinence violation effect. It is worth noting that Weiner (1986)
Table 1. Attribution-affective links

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Illustrative cause</th>
<th>Affect</th>
<th>Risk of relapse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal controllable</td>
<td>&quot;It's my fault. I didn't stick to three meals a day.&quot;</td>
<td>Guilt</td>
<td>Decreased</td>
</tr>
<tr>
<td>Internal uncontrollable</td>
<td>&quot;I'm a failure. All I have to do is take one bite and I don't have the will-power to fend off a binge.&quot;</td>
<td>Shame, Hopelessness?</td>
<td>Increased</td>
</tr>
<tr>
<td>External controllable</td>
<td>&quot;I'm at a party with tons of junk food, I had a good dinner but I could have stopped there.&quot;</td>
<td>Guilt</td>
<td>Decreased</td>
</tr>
<tr>
<td>External uncontrollable</td>
<td>&quot;There are fast food shops everywhere. How could I be expected to not want to binge?&quot;</td>
<td>Hopelessness, Powerlessness, Disempowered</td>
<td>Increased</td>
</tr>
<tr>
<td>Nomperson cause</td>
<td>&quot;He knows I binge when I get upset, he started the argument just to get me stressed out.&quot;</td>
<td>Anger</td>
<td>Increased</td>
</tr>
<tr>
<td>Person cause</td>
<td>&quot;This tastes/feels good.&quot;</td>
<td>Joy Pleasure</td>
<td>Increased</td>
</tr>
</tbody>
</table>

argues that locus, controllability and stability are best thought of as dimensions rather than categories, so that the degree to which attributions reflect locations along these dimensions will influence the affective response and produce variation. As such, and indeed as Marlatt argues, the intensity of the abstinence violation effect will be greater if an attribution is made to factors that are stable, internal, and global and perceived to be uncontrollable; the abstinence violation effect is a dimensional construct, with more intense abstinence violation effects being associated with a greater probability of relapse.

Together with the concept of appetitive lapses, the reformulated abstinence violation effect construct provides a comprehensive overview of the risk of relapse in bulimic women as related to cognitive factors. The reformulated construct both unifies and is more parsimonious. Provided the lapse does not occur purely to experience the positive effects, a bulimic woman in recovery will attempt to explain why she has lapsed because it is viewed as an important, negative event given her beliefs about normalized eating and weight stabilization. The kind of explanation or attribution she makes will affect whether they attempt to cope or progress to a full relapse. Thus, the abstinence violation effect occurs as a consequence of unhelpful attributions. Causal attributions for negative outcomes to internal causes typically results in low self-esteem in addition to negative affect. Similarly, perceptions of external locus of causality result in negative affect. This is consistent with the observation that there are rapid fluctuations in mood throughout the binge/purge cycle (Davis, Freeman, & Garner, 1988). Attribution theory would predict that what precedes many of these affective changes are attributional searches. In situations where binging, postbinging, purging, and postpurging are viewed as distinct, salient, and negative events, it is likely that they would be followed by an attributional search for explanations, and, further, that across the binge/purge cycle these attributions may systematically change, particularly with respect to perceptions of controllability.

CONCLUSIONS

An important part of theory appraisal involves conceptual elegance, explanatory depth, as well as heuristic value and integration across psychological domains (Haig,
We believe the reformulated abstinence violation effect construct is broader, more integrated, and more parsimonious than its previous conceptualization in that the revision increases the number of attributional pathways to relapse and reduces the number of concepts used in formulating the abstinence violation effect and in the discussion of its impact on addictive behavior. In addition, attribution theory specifies clear links between cognition, emotion, and behavior that predict failure to cope entirely as a consequence of specific attributions and the related range of emotional possibilities, each with different implications for outcome. It therefore represents a theoretical advance over the earlier version.

It also has advantages for clinical work with people with bulimia particularly with respect to assessment. The needed changes in causal ascriptions, in order to motivate adaptive coping, are clear. If an individual is still making uncontrollable attributions in response to a lapse, she remains exceptionally vulnerable to relapse. Similarly, the affective reactions at the various critical points in the relapse process may be markers for the underlying unhelpful attributions and adaptational demands (Lazarus, 1991a, b; Lazarus & Smith, 1988; Weiner, 1986), and therefore these can assist in focusing the restructuring process using attributional therapy (e.g., Fosterling, 1986; Weiner, 1988). For example, using Weiner's position regarding controllability, women experiencing guilt as a consequence of eating a forbidden food are likely to be making different causal judgements to someone experiencing shame. As a consequence, the cognitive restructuring focus is likely, indeed ought, to be different; shame is associated with uncontrollability that in itself needs to be examined, whereas guilt reflects beliefs about effort. Similarly, we argue that anger is likely to be the result of an external/person/controllable cluster, and that this has significant implications if the anger, or its mode of expression, is seen as inappropriate.

The use of this investigative process in the reverse direction may also be helpful. Johnson and Conners (1987) have found that people with bulimia nervosa are often confused about feelings. As such it may be possible to use attributions to help identify relevant emotions, particularly refining negative affect into more differentiated and useful forms.

Our model highlights the clinical importance of predicting, anticipating, and assessing lapses during the relapse prevention phase of treatment. Knowing not only which particular causes are acknowledged by the patient but, more importantly, the manner in which these load upon the attributional dimensions is critical information. With this information the therapist can work with the bulimic woman to alter these causal attributions regarding the lapse and therefore enhance perceived controllability, thus empowering the patient to prevent relapse.

Finally, it seems to us that, given that bulimia involves a chain of behavior, the causal attributions and their consequent emotions may change as this chain unfolds; this process is clearly dynamic rather than static. Therefore, it is sensible to examine specific changes, in both causal attributions and emotions across the relapse sequence. As more information surfaces regarding the potentially chronic course of bulimia nervosa, it becomes clear that lapses are highly probable events and that learning and adopting positive coping expectations under these circumstances is essential to long-term treatment success. It is likely that by changing the causal attributions regarding the lapse, which usually lead to bingeing and subsequent purging, it may be possible to facilitate clinical improvement and reduce the probability of relapse.
Future research should be directed toward validating this attributional theory perspective empirically, particularly aiming to enhance the understanding the relative contribution of the appetitively driven processes and the more secondary or appraisal driven processes involving an abstinence violation effect during relapse.

REFERENCES


