The Role of Substance Use in Families’ Attributions and Affective Reactions to Their Relative With Severe Mental Illness

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Abstract: This study compared relatives’ attributions and affective reactions toward patients with severe mental illness (SMI) only (N = 32) and patients with dual SMI and a substance use disorder (N = 36). Family members of patients with dual disorders perceived their ill relatives to have greater control over the causes of their psychiatric symptoms and to be more responsible for their symptoms than did family members of patients with SMI only. Key relatives of dual-diagnosed patients also reported more negative affect toward the patient than did key relatives of patients with SMI only, but the two groups did not differ in their level of positive affect. Consistent with attribution theory, severity of patients’ substance abuse was positively associated with relatives’ attributions of controllability, which, in turn, were positively associated with judgments of responsibility. Furthermore, judgments of responsibility were positively related to negative affect and inversely related to positive affect.

Key Words: Dual diagnosis, drug abuse, schizophrenia, bipolar disorder, caregivers.

(J Nerv Ment Dis 2007;195: 307–314)

There is a high prevalence of substance use disorders in people with severe mental illness (SMI; i.e., dual diagnosis). For example, in the Epidemiological Catchment Area Study, the lifetime prevalence of substance use disorders was 47% for individuals with schizophrenia and 61% for those with bipolar disorder (Regier et al., 1990). In the National Epidemiologic Survey on Alcohol and Related Conditions, the lifetime prevalence of alcohol use disorders and drug use disorders among persons with bipolar disorder was 58% and 38%, respectively (Grant et al., 2005). There is some evidence that dual diagnosis is related to family disruptions. Patients with schizophrenia who also used drugs reported more problems in their interpersonal and family relationships than did patients with schizophrenia only (Salyers and Mueser, 2001), and those with a dual diagnosis reported greater dissatisfaction with their family relationships and a greater interest in family therapy than individuals with SMI only (Dixon et al., 1995). Drug and alcohol use has also been associated with hostility and critical attitudes on the part of the family members of individuals with schizophrenia (Barrowcough et al., 2005; Lopez et al., 1999). The literature, however, tends to be descriptive, with little assessment of what might lead to dissatisfaction or negative family environments (Alterman et al., 1980; Kashner et al., 1991).

A better understanding of the family environment of individuals with dual disorders is needed, as research has shown that family factors play an important role in the course of SMI. Investigators have consistently found that expressed emotion (EE), a measure of critical and emotionally overinvolved attitudes on the part of family members toward a patient with mental illness, is related to psychiatric outcomes (Butzlaff and Hooley, 1998). Patients who return to households marked by high EE are more likely to relapse than those who return to households marked by low EE. This relationship has been documented in the study of schizophrenia (Butzlaff and Hooley, 1998), schizoaffective disorder (Priebe et al., 1989), bipolar disorder (Miklowitz et al., 1988), and alcoholism (Fichter et al., 1997). Prosocial family functioning has also been found to be related to clinical outcomes. Specifically, family warmth is associated with less risk for relapse in schizophrenia (Bertrand et al., 1992; Ivanovic et al., 1994; Lopez et al., 2004). There is, however, a limited understanding of why family members develop positive or negative attitudes, and the role of drug and alcohol abuse has largely been ignored as a contributing factor to family affect among individuals with SMI.

Attribution Theory

Attribution theory may provide one explanation for why some key relatives react as they do to their ill relative. Several studies have examined the attributions relatives make regarding disruptive or problematic patient behaviors in an attempt to understand family reactions more generally and the
construct of expressed emotion more specifically. According to Weiner’s (1995) attribution theory, relatives’ perceptions of a patient’s ability to control the cause of symptoms and problem behaviors play an important role in determining how they react to the patient. If a family member perceives the cause of a negative behavior as controllable, judgments of responsibility for that behavior are likely to follow. Research suggests that perceptions of controllability are related to both the emotional and behavioral reactions that follow an event or a particular outcome (Weiner, 1986, 1993). If the cause is found to be controllable and a judgment of responsibility is assigned, anger is elicited, and no help is given. If the cause is determined to be uncontrollable and the person is seen as not responsible for the actions, feelings of pity and sympathy are elicited, and help is offered (Figure 1). From this perspective, support and caring on the part of the relative may stem from causal beliefs that the patient has no control over and is not responsible for his or her symptoms and problem behaviors. On the other hand, criticism and hostility from the relative may originate from causal beliefs that the patient has control over and is responsible for his or her symptoms.

Attribution Theory and Severe Mental Illness

There is growing evidence that an attributional model is applicable to relatives’ emotional reactions to a patient with SMI (Barrowclough and Hooley, 2003). Several investigators have examined the relationship between attributions and EE in schizophrenia and depression and have found that high EE family members judge their ill relative to have more control over their behavior than do low EE family members (Barrowclough et al., 1994; Brewin et al., 1991; Hooley and Campbell, 2002; Weisman et al., 1998). In contrast, familial warmth is inversely related to attributions of controllability (Barrowclough et al., 1994; Hooley and Campbell, 2002; Lopez et al., 1999, 2004).

It is important to note that these findings only apply to relatives who are low in emotional overinvolvement. Research suggests that attributional processes for high emotionally involved relatives may differ from those of high EE relatives. Specifically, attributions of controllability appear to be related to the criticism/hostility aspect of EE, but not to the emotional overinvolvement dimension of EE. In fact, relatives who are high in emotional overinvolvement make attributions similar to those made by low EE relatives (Barrowclough et al., 1994; Brewin et al., 1991; Lopez et al., 1999).

Few studies have examined the relationship among drug use, attributions, and affective reactions. Lopez et al. (1999) found that patients’ use of street drugs was positively related to both family members’ attributions of controllability and their level of criticism. Similarly, Barrowclough et al. (2005) found that caretakers of patients with dual disorders blamed their ill relative more for their problems and made more hostile remarks about them than did caretakers of those with a single diagnosis. The two groups, however, did not differ in their level of criticism or EE.

Attribution Theory and Alcohol/Substance Use Disorders

Although the World Health Organizations Expert Committee on Mental Health has defined alcohol and drug abuse as diseases, several studies show that the general public does not view them in this manner and may not be as tolerant of addiction as they are of other diseases. Although Weiner’s attribution theory has not been applied to substance use, there are key findings that are relevant to the theory. One set of results indicates that those who hold a medical view of substance abuse are less likely to hold the person responsible for his or her behavior than those who hold a moralistic view (Aubert and Messinger, 1965; Orcutt, 1976; Pattison et al., 1968). In addition, public surveys assessing opinions about alcohol abuse reveal that the majority of people have ambivalent feelings about alcoholism. They believe that addicted people are both ill and responsible for their condition (Blum et al., 1989; Caetano, 1987). Studies examining deviant groups have consistently found that people who abuse alcohol or drugs are rated as among the most deviant, most responsible for their condition, and most intolerable of all the deviant groups under study (Ries, 1977; Rivers et al., 1986; Simmons, 1969).

Main Objective and Hypotheses

Despite the high prevalence of dual diagnosis, little is known about families’ reactions to their ill relatives with a dual diagnosis. The overall objective of this study is to apply Weiner’s conceptual framework to gain a better understanding of how families relate to their ill relatives with both SMI and an alcohol or drug use disorder. Three specific hypotheses were tested. Based on previous findings that people who abuse alcohol or drugs are thought to be in control of and responsible for their negative behaviors (Caetano, 1987), we hypothesized that relatives of patients with substance use diagnoses would perceive the causes of the patients’ symptoms of mental illness (not substance abuse) as more controllable and hold the patients as more responsible than relatives of patients with no substance abuse diagnosis. Following attribution theory and previous research indicating greater hostility in relatives of patients with a dual diagnosis (Barrowclough et al., 2005), we hypothesized that relatives of patients with substance use disorders would report more negative affect and less positive affect toward the patient than relatives of patients with no substance use problems.

Last, Weiner’s attribution-emotion model was tested in the context of dual diagnosis. Specifically, it was proposed that the severity of substance use would be positively related to attributions of causal controllability. We expected that the more a patient abuses substances, the more the key relative will judge the cause of the psychiatric symptoms as controllable. This in turn would be associated with family members’ perceptions that their ill relatives are responsible for their symptoms. And finally, it was proposed that attributions of
responsibility would play a critical role in shaping both the positive and negative affective reactions that follow. We expected attributions of responsibility to be inversely associated with positive affect and positively associated with negative affect.

**METHOD**

**Participants**

Thirty-two individuals with SMI only and 36 individuals with both SMI and a substance use disorder participated in the study. A family member or significant other also participated for each patient. Patients were recruited from the UCLA Affective Disorders Clinic, the UCLA AfterCare Clinic, the San Fernando Mental Health Clinic, and Pacific Clinics in Santa Fe Springs. All of these recruitment sites are in the Los Angeles metropolitan area.

To be included in the study, participants had to meet criteria for a DSM-IV diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder, be between the ages of 18 and 60, be English-speaking, show no evidence of organic impairment or mental retardation, and be capable of giving informed consent. Additionally, they had to be living with or in significant contact with an English-speaking family member or significant other who was also willing to participate in the study. Participants were asked to identify the family member with whom they spent the most time. Sixty-eight informants participated, including 30 mothers, five fathers, eight siblings, 14 spouses, four children, three grandparents, one aunt, and three significant others who had been dating the patient for at least 2 years. Six potential participants we approached did not participate in the study (two did not have family contact, three did not want to participate in research, and one consented but his family member did not wish to participate).

Of the 36 dual diagnosis patients, four met criteria for substance abuse, and 32 met criteria for dependence. Thirteen participants were polysubstance abusers, and the substances abused were as follows: 16 abused alcohol; 15 abused cannabis; eight abused amphetamines; four abused cocaine or crack; and six abused sedatives, prescription opiates, or over-the-counter drugs. Sixteen of these individuals met criteria for a psychiatric illness prior to a substance use disorder, 16 met criteria for a substance use disorder prior to a psychiatric illness, and four reported a concurrent onset of both psychiatric illness and a substance use disorder. See Table 1 for patients’ and relatives’ demographics.

**Procedures**

Following consent, patients completed an interview that took approximately 2 hours and for which they were paid $20. The relative’s interview took approximately 1 hour, for which he or she was paid $10.

**Patient Measures**

**Structured Clinical Interview for DSM-IV**

The psychosis and affective disorders sections of the Structured Clinical Interview for DSM-IV (SCID; First et al., 1996), a standardized diagnostic interview, were used to confirm diagnosis. Current alcohol and drug use disorders were also evaluated. The three SCID interviewers had completed a Training and Quality Assurance Program through the UCLA Diagnostic and Psychopathology Unit. Training consisted of two phases. Initially, an interviewer rated six training videos and obtained an overall $\kappa$ of .75 with the criterion rater. The second phase of training required the trainee to conduct a minimum of four live interviews. To be considered reliable, the rater had to demonstrate an overall $\kappa$ of .75 on specific symptoms and 90% accuracy in diagnosis.

**Brief Psychiatric Rating Scale**

The Brief Psychiatric Rating Scale (BPRS; Lukoff et al., 1986) consists of 24 items that evaluate a broad range of psychiatric symptoms. Items were rated on a 1 (absent) to 7 (extremely severe) scale and were based on both patient report and clinical observation of behavior during the interview. BPRS raters completed a training workshop on the administration and coding of the interview. Raters were considered reliable when they obtained a minimum intraclass correlation coefficient of .80 with the criterion rater (based on eight ratings).

**Alcohol Use Scale/Drug Use Scale**

The Alcohol Use Scale/Drug Use Scale (Drake et al., 1996) were used to rate participants’ alcohol and drug use. Both of these scales consist of 1 item and measure levels of use over the past 6 months using the following anchor points: 1 for abstinence, 2 for use without impairment, 3 for abuse, 4 for dependence, and 5 for dependence with institutionalization. Ratings were made based on information provided through patient assessments, chart notes, and case managers. However, raters were blind to both SCID diagnoses and family interviews. The higher score of the two scales was used to determine overall severity of use.

**Relative Measures**

**Attributions of Symptoms**

This scale is a modified version of a measure developed by Harrison and Dadds (1997). The original scale assessed how controllable relatives perceive 29 symptoms and associated problem behaviors of serious mental illness. Relatives made behavioral controllability ratings on a 0 (not at all controllable) to 5 (completely controllable) scale only if the patient exhibited that symptom or behavior in the past month. For the current study, this scale was modified with the aim of more closely approximating Weiner’s attribution theory that focuses on causal controllability and attributions of responsibility, not behavioral controllability. Accordingly, we kept the behavioral controllability index of the original scale to assess whether our findings are consistent with findings from the original version of the measure, and we added three questions for each item. First, relatives were asked to identify the cause of each symptom and then rate how controllable the cause was on a 0 (not at all controllable) to 5 (completely controllable) scale. Responsibility ratings were also added to each item using a 0 (not at all at fault) to 5 (entirely at fault) scale. Third, relatives reported “how important is it to you that this behavior be different?” on a 0 (not at all important)
to 5 (extremely important) scale. In summary, each identified symptom was first assessed for cause and then rated for causal controllability, behavioral controllability, responsibility, and importance. Only symptoms that received a three or greater on importance were considered in this study. Responses to each of the domains (causal controllability, behavioral controllability, and responsibility) were averaged to yield a single score of each domain for each relative.

### Affect Questionnaire

This questionnaire is based on a measure of affect that assessed five positive and five negative emotions toward an ill relative (Weisman and Lopez, 1997). The scale was modified so that the emotions measured would be more reflective of affect related to attribution theory. Relatives were asked to rate four favorable emotions (sympathy, concern, sorry for, and compassion) and four unfavorable emotions (anger, annoyance, bother, and irritation). Ratings were made on a 10-point Likert scale where 1 = no feeling of the stated emotion and 10 = very much feeling the stated emotion. Responses to the unfavorable emotions were averaged to yield a single score of negative affect for each relative, and responses to the favorable emotions were averaged to form a single score of positive affect for each relative. Weisman and Lopez (1997) reported the Cronbach $\alpha$ to be .70 for favorable emotions and .87 for unfavorable emotions. In the present study, the Cronbach $\alpha$ was .68 for positive affect and .92 for negative affect.
RESULTS

Demographic Characteristics

Shapiro-Wilks W tests were used to determine that all measures were normally distributed. Several analyses were conducted to assess the comparability of the nonsubstance-abusing and substance-abusing samples on demographic and illness variables (see Table 1 for means and SDs). Chi-square analyses showed that the two groups did not differ in regard to relatives’ age, gender, ethnicity, or marital status. However, relatives of patients with substance use disorders were significantly less educated ($t = 2.23, p < 0.05$) than relatives of patients with SMI only.

Patient variables were also compared. No significant differences were found regarding patients’ age, psychiatric diagnosis, age of onset, number of hospitalizations, or medication compliance in the past month. Current illness severity was measured using BPRS factors: mania/excitement, negative symptoms, positive symptoms, and depression/anxiety (Ventura et al., 2000). Factor scores were calculated by averaging the items that comprise each factor. $t$ Tests showed that factor scores were not significantly different for the two groups except for the depression/anxiety factor. Patients with dual disorders ($M = 3.15, SD = 1.38$) were significantly more depressed/anxious than patients with SMI only ($M = 2.41, SD = 1.09, t = 2.46, p < 0.02$).

Patients’ Substance Abuse and Key Relatives’ Attributions and Affect

Dual-Diagnoses Versus Nondual-Diagnoses Groups

Between-group (substance abuse disorder versus no substance use disorder) comparisons on the various family measures were conducted using the individual relative as the unit of study. $t$ Tests were used to compare the two groups on all attribution and affective reaction measures. Means and SDs for all scales are reported across the two groups in Table 2.

One of the main goals of the study was to determine whether family members made different symptom attributions depending on whether or not their relative met criteria for an alcohol or drug use disorder. Symptom attributions were based on symptoms exhibited by the patient in the past month according to the relative. $t$ Tests showed that relatives of patients with substance use disorders reported more symptoms, and therefore made more attribution ratings ($M = 10.28, SD = 5.05$), than did relatives of nonsubstance abusers ($M = 6.06, SD = 4.10, t = 3.75, p < 0.01$). The number of attributions made by relatives of dual-diagnosis patients ranged from 1 to 19. The range of attributions made by relatives of patients with SMI only was 1 to 15.

$t$ Tests indicated that relatives of dual-diagnosis patients assigned greater causal controllability to the patients’ symptoms than relatives of nonsubstance abusers ($t = 3.20, p < 0.01$). They also perceived the symptoms to be more controllable ($t = 2.76, p < 0.01$) and judged the patients to be more responsible for their symptoms ($t = 2.74, p < 0.01$) than did relatives of patients with SMI only. The two groups were also compared on measures of affective reactions. Relatives of dual diagnosis patients reported more negative affect toward the patient ($M = 4.68, SD = 3.25$) than did relatives of SMI-only patients ($M = 3.00, SD = 2.29, t = 2.49, p < 0.02$). Positive affect did not significantly differ between the two groups ($t = 1.48, p = 0.14$).

Correlations of Severity of Substance Use

Pearson correlations between severity of substance use and family attributions and affective reactions were computed (Table 3). As predicted, severity of substance use was significantly associated with relatives’ attributions about the psychotic symptoms. Severity of use was positively associated with attributions of causal controllability ($r = .30, p < 0.02$), behavioral controllability ($r = .29, p < 0.02$), and responsibility ($r = .30, p < 0.02$). A positive association between severity of use and relatives’ negative affect was also found ($r = .25, p < 0.05$). No association was found between severity of use and positive affect. Given that patients who abused substances differed from those who did not on relatives’ education and patients’ scores on the depression/anxiety factor of the BPRS, we ran partial correlations between severity of substance use and family attributions and affective reactions controlling for these variables. The results were very similar to the zero-order correlations (Table 3).

Test of Weiner’s Attribution-Emotion Model

As hypothesized, relatives’ attributions of controllability were significantly related to attributions of responsibility (Table 3). Both attributions of causal controllability ($r = .51, p < 0.01$) and behavioral controllability ($r = .46, p < 0.01$) were associated with attributions of responsibility. It was

<p>| TABLE 2. Means and SDs of Attributions and Family Affect for All Relatives and Across Nonsubstance Use Disorder and Substance Use Disorder Groups |
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<tr>
<th></th>
<th>All Relatives Mean (SD)</th>
<th>No Substance Use Disorder Mean (SD)</th>
<th>Substance Use Disorder Mean (SD)</th>
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<tr>
<td>Number of attribution ratings</td>
<td>8.29 (5.06)</td>
<td>6.06 (4.10)</td>
<td>10.28 (5.05)</td>
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<td>Causal controllability</td>
<td>2.45 (1.16)</td>
<td>2.00 (1.24)</td>
<td>2.85 (0.93)</td>
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<td>Behavioral controllability</td>
<td>2.55 (1.12)</td>
<td>2.17 (1.25)</td>
<td>2.89 (0.89)</td>
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<td>Responsibility</td>
<td>2.05 (1.19)</td>
<td>1.65 (1.13)</td>
<td>2.41 (1.13)</td>
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<tr>
<td>Negative affect</td>
<td>3.89 (2.94)</td>
<td>3.00 (2.29)</td>
<td>4.68 (3.25)</td>
</tr>
<tr>
<td>Positive affect</td>
<td>7.84 (1.89)</td>
<td>8.20 (1.87)</td>
<td>7.52 (1.88)</td>
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*p < 0.02; **p < 0.01.
expected that attributions of responsibility would be positively related to negative affect and inversely related to positive affect. The hypotheses were supported as attributions of responsibility were significantly associated with negative affect ($r = .50$, $p < 0.01$) and positive affect ($r = - .30$, $p < 0.02$).

**DISCUSSION**

The findings indicate that substance abuse in persons with SMI is associated with families’ attributions and affective reactions. This relationship is robust because it was found across two independent measures of substance abuse (presence or absence of a substance use disorder and severity of substance abuse) and across multiple measures of relatives’ attributions. In addition, these findings support and extend parts of Weiner’s attribution theory to family reactions of patients with a dual diagnosis.

Overall, relatives in this study have a positive emotional stance toward their ill relative. They report considerable positive affect ($M = 7.84$) and limited negative affect ($M = 3.89$). Moreover, they view their ill relatives as generally not responsible for their symptoms. However, in this generally positive context, results indicate that family members view their ill relatives as more responsible for their psychiatric symptoms if they abuse alcohol and drugs than if they do not abuse alcohol or drugs. All three measures of attributions revealed this group difference. Furthermore, severity of substance use was related to all three attribution measures after controlling for relative and patient characteristics (i.e., relatives’ education and patients’ level of depression/anxiety). These results are consistent with prior findings that caretakers of patients with dual disorders assigned more blame to the patient than did caretakers of those with a single diagnosis (Barrowclough et al., 2005) and prior observations based on college students and community surveys that persons with substance use problems are held more responsible for their behavior (Blum et al., 1989; Caetano, 1987). Similarly, family members who care for relatives with SMI and substance abuse disorders also tend to hold their ill relative more responsible, in this case for their symptoms associated with SMI.

The results also show that substance abuse on the part of the ill relative elicits more negative affect from relatives compared with relatives of people who do not abuse substances. These findings are consistent with the study by Barrowclough et al. (2005) that showed a relationship between substance use in SMI and hostility on the part of caretakers, as well as the study by Lopez et al. (1999) that showed a positive relationship between patients’ substance use and relatives’ level of criticism. Our findings may also provide a partial explanation for why dual-diagnosis patients reported greater dissatisfaction with their family relationships and greater interest in family therapy than did patients with SMI only (Dixon et al., 1995; Salyers and Mueser, 2001). Compared with family members of those with SMI only, family members of those with a dual diagnosis are more likely to hold their ill relative as responsible for their negative behavior, which increases their level of criticism and hostility, and in turn may lead to greater family dissatisfaction on the part of the patient. It is notable, however, that although relatives of those with dual disorders reported greater negative affect, they averaged only a 4.7 on a 10-point scale (compared with 3.0 for the single-diagnosis group), indicating limited negative affect for both groups. The difference between the groups does not seem terribly inappropriate or surprising in reaction to having a substance-abusing relative.

Contrary to our hypothesis, substance abuse did not reduce family members’ positive affect toward their ill relative. This finding differs from previous studies examining family members’ prosocial affect and behaviors in adolescent substance abusers. These studies consistently found parents of adolescents who abuse substances to be less loving, warm, and supportive toward the adolescent than parents of adolescents who did not abuse substances (Coombs and Paulson, 1988; Needle et al., 1983; Pandina and Schuele, 1983). It is possible that there are significant differences in the circumstances in which key relatives live with adolescents who abuse substances as compared with adults who abuse substances. To some extent, adolescents are forced to be in contact with their parents, resulting in a full spectrum of positive affect levels. In adults, however, it is possible that those who do not have a positive relationship with their relatives do not maintain regular contact with them. Since this study required relatives to be in significant contact with the patient, this inclusion criterion may have excluded those relatives who have few positive feelings for their ill relative. In addition, this study included spouses and significant others who presumably have positive feelings toward the patient and have made a choice to be in this relationship. The high levels of positive affect reported in the current study by both groups of key relatives are consistent with this explanation.

A main goal of this study was to extend Weiner’s attribution-emotion model to family members’ affective reactions to their substance-abusing relatives. The model was fully supported with respect to attributions and affect. The study design did not allow for an examination of helping behavior in the model. We found that severity of use was positively associated with attributions of causal controllability. As predicted by the model, increased attributions of

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<tr>
<td>1. Causal controllability</td>
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<td>.77**</td>
<td>.51**</td>
<td>.18</td>
<td>-.31**</td>
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<tr>
<td>2. Behavioral controllability</td>
<td>—</td>
<td>.46**</td>
<td>.06</td>
<td>-.28*</td>
<td>.29**</td>
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<td>3. Responsibility</td>
<td>—</td>
<td>-.50**</td>
<td>-.30**</td>
<td>.30**</td>
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<tr>
<td>4. Negative affect</td>
<td>—</td>
<td>-.08</td>
<td>.25*</td>
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<tr>
<td>5. Positive affect</td>
<td>—</td>
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<tr>
<td>6. Severity of use</td>
<td>.29**</td>
<td>.27*</td>
<td>.28*</td>
<td>.25*</td>
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*p < 0.05; **p < 0.02.

*Partial correlations control for relatives’ education and patients’ depression/anxiety severity.
causal controllability were associated with increased judgments of responsibility. In turn, relatives’ perceptions of responsibility were inversely related to reported levels of positive affect and positively related to reported levels of negative affect.

The findings indicate that patients’ substance abuse is related to how key relatives construe and react to the symptoms of their ill relatives. On the one hand, one could hypothesize that the observed differences are a function of social cognitive biases on the part of family members who live with ill relatives who abuse drugs or alcohol. Because substance abuse is salient, it may attract more attention than other factors associated with severe mental illness, such as genetics, stress, or medication nonadherence. Research shows that salience impacts judgment by exaggerating attributions of causality (Fiske and Taylor, 1991). Furthermore, there is some evidence that salience is mediated by visual recall (Fiske et al., 1982). The rituals and paraphernalia associated with substance use are vivid and may be visually stimulating to relatives who observe this behavior, leading to greater recall. These social cognitive explanations are offered as hypotheses to be tested in future research, as they were not examined in the present study.

Another plausible explanation for the observed differences in key relatives’ attributions and affective reactions is that for patients who abuse drugs and alcohol, substance use may have actually contributed to an exacerbation of the psychiatric symptoms, and therefore the symptoms are legitimately more controllable. One way to test this plausible explanation is to examine the temporal relationship between the onsets of the two disorders and the key relatives’ attributional patterns. Specifically, those for whom the substance abuse disorder occurred first might elicit more controllable family attributions than those for whom substance abuse presented itself after the mental illness. To examine this hypothesis, we broke down the 37 dual-diagnosis patients into two groups, substance abuse onset prior to mental illness onset ($N = 17$) and mental illness onset prior to substance abuse onset ($N = 16$). The four patients who reported concurrent onset of mental illness and substance abuse were excluded from this analysis. We found no significant differences comparing measures of relatives’ attributions and affect across these two groups, indicating that the order of onset of the substance abuse disorder and the mental disorder is not related to key relatives’ attributions in these data. Direct tests of the accuracy of key relatives’ attributions and social cognitive biases such as salience or vividness are needed.

A limitation of this study is that it is unclear if relatives’ attributions are causes or consequences of their affective responses. Although there is strong evidence that attributions lead to emotional reactions, it is also possible that relatives’ emotions lead to the attributions they make. For example, family members who have positive feelings toward their ill relative at the onset of the disorder may draw different conclusions about the causes of problem behaviors than those relatives who have negative feelings toward their ill relative. The cross-sectional design of this study does not allow for an examination of the causal relationship between relatives’ attributions and affect. Another possible limitation of the study is that we made substantial changes to both the attribution and affect measure in an effort to test directly key aspects of Weiner’s attribution theory. These changes may have affected the psychometric properties of the instruments, although the intercorrelations suggest that the measures map on well to attribution theory. Lastly, different informants (i.e., parents, spouses, siblings) participated in the study. This variation in informants may contribute to variability in attributions and affect.

One could argue that the three attribution measures (causal controllability, behavioral controllability, and responsibility) are actually assessing one general construct of controllability, not unlike what has been assessed in prior research. The significant correlations between these three assessments of attributions are consistent with this interpretation. However, the fact that the associations between attributions of responsibility and negative affect are significantly different than the associations between causal controllability and negative affect and behavioral controllability and negative affect ($p < 0.01$) argues against this interpretation. In fact, these findings not only support Weiner’s theory but also point out the differential relationship between causal controllability and responsibility attributions. Thus, there is mixed evidence that the three attribution indices are measuring the same construct.

Previous research has shown the utility of relatives’ attributions in predicting relapse in schizophrenia (Barrowclough et al., 1994; Lopez et al., 1999). An important area of future research would be to examine the impact of relatives’ attributions and affect on the clinical course of illness for those with dual diagnosis. The effect of family variables on both psychiatric symptoms and substance use should be investigated. Longitudinal or experimental designs would also aid in better understanding the causal relationship between relatives’ attributions and their affective reactions to their relatives with a dual diagnosis.

Clearly substance abuse matters in how family members view and react to their ill relative. Our findings highlight the importance of proper diagnosis of substance use, not only for diagnostic and treatment purposes, but also as a way to gain better insight into potential family processes. Findings from this study may help inform methods of treatment of dual diagnosis. Understanding the relationships between substance use, attributions, and family affect is of interest because it can help determine the content and direction of interventions to foster both individual and family functioning.

CONCLUSION

We are not suggesting that family members should believe that their substance-abusing relatives have absolutely no control over their negative behaviors. In fact, it is possible that the key relatives’ attributional and affective stance together represent a reasonable response that may be helpful in getting their ill relative into treatment. The potential disadvantage of such a position, however, is that it can lead to stress, which, as suggested by the EE literature, may result in increases in both psychiatric symptoms and substance use.
The optimal stance may be for family members to “maintain a delicate balance between perceiving some control while recognizing that some of the odd or disruptive behavior is an inevitable side effect of a genuine illness” (Weisman et al., 1993, p. 606). Attribution theory can serve to inform psychoeducational approaches to help families adopt this optimal stance in caring for their ill relatives with both a serious mental illness and a substance abuse disorder.

REFERENCES


Drake RE, Mueser KT, McGhoo GJ (1996) Clinical rating scales: Alcohol Use Scale (AUS), Drug Use Scale (DUS) and Substance Abuse Treatment Scale (SATS). In I Serer, S Dickey (Eds), Use Scale (AUS), Drug Use Scale (DUS) and Substance Abuse Treatment Scale (SATS). New York: Consulting Psychologists Press.


