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# Can Explanatory Style Be Scored From TAT Protocols?

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*Explanatory style is a cognitive personality variable reflecting how people habitually explain the causes of bad events that involve themselves. Usually measured with a questionnaire, it can also be scored from verbal material such as interviews and essays. Unexplored to date is whether explanatory style can be assessed from stories written in response to pictures. College students (N = 108) completed the Expanded Attributional Style Questionnaire (EASQ) and the Beck Depression Inventory (BDI) and responded to four Thematic Apperception Test (TAT) pictures chosen to elicit negative themes. Causal explanations were identified in the TAT protocols and reliably rated along the attributional dimensions of stability and globality. These ratings were consistent within subjects, and they correlated with the BDI. They correlated with globality as measured by the EASQ but not with stability.*

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**E**xplanatory style is a cognitive personality variable reflecting the way people habitually explain bad events involving themselves (Peterson & Seligman, 1984). Three dimensions of explanatory style have been distinguished: internality ("It's me") versus externality, stability ("It's going to last forever") versus instability, and globality ("It's going to undermine everything I do") versus specificity. A pessimistic explanatory style, in which bad events are explained with internal, stable, and global causes, has been linked to depression, poor work performance, academic failure, and physical illness (Peterson, Maier, & Seligman, 1993).

Explanatory style has typically been measured with the Attributional Style Questionnaire (ASQ; Peterson et al., 1982). This measure presents subjects with hypothetical events involving the self. Instructions ask respondents to imagine each event happening to them and then to provide, in their own words, its one major cause. Then they rate each provided cause along 7-point scales according to its internality, stability, and globality. A shortcoming of the ASQ is that the reliabilities of its three

attributional dimensions are modest at best (Tennen & Herzberger, 1985). In an attempt to improve these reliabilities, Peterson and Villanova (1988) increased the number of bad events on the ASQ from 6 to 24. Reliabilities of this Expanded Attributional Style Questionnaire (EASQ) have indeed proved more satisfactory (Peterson, 1991b).

Besides the issue of reliability, another problem with questionnaire measures of explanatory style is that some individuals of potential interest may be unwilling or unable to complete them, thus limiting research. To overcome this problem, a strategy for assessing a person's explanatory style through content analysis was developed (Peterson, Schulman, Castellon, & Seligman, 1992). In this approach, called the CAVE technique (for Content Analysis of Verbatim Explanations), researchers extract naturally occurring causal explanations in written or spoken material and then rate them along the dimensions of internality, stability, and globality. The CAVE technique is reliable, and explanatory style so assessed relates as predicted to external criteria (Peterson et al., 1993).

Compared to questionnaire measures of explanatory style, the CAVE technique is time consuming for the researcher. However, its notable virtue is that it extends greatly the sorts of research subjects who can be studied. Anyone who leaves suitable verbal material behind can be included in a study of explanatory style. Longitudinal investigations can be conducted retrospectively. Deceased individuals can "participate" in studies, as can the rich and famous.

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We have found that interviews, diaries, essays, and speeches can be scored for explanatory style with the CAVE technique, so long as bad events involving the research subject are mentioned. Although the CAVE technique has led to some intriguing results, investigations are constrained by the availability of suitable verbatim material.<sup>1</sup> Accordingly, the purpose of the present study was to explore whether stories written in response to pictures could be scored for explanatory style.

Our decision to explore the suitability of fantasy-based material was not arbitrary. Typical instructions for such techniques ask respondents to provide a narrative response, and narratives almost always contain causal accounts. Further, responses to the Thematic Apperception Test (TAT; Morgan & Murray, 1935) are frequently included in data archives (e.g., Henry A. Murray Research Center of Radcliffe College, 1988). If these protocols prove suitable as raw material for the CAVE technique, then explanatory style research can be extended in yet further directions.

We already knew that causal explanations are present in TAT protocols (Peterson et al., 1992). We did not know (a) whether these causal explanations are consistent within subjects—that is, whether they constitute a bona fide style; (b) whether they converge with a questionnaire measure of explanatory style; and (c) whether they are associated with depressive symptoms, a consistent correlate of explanatory style. If these questions can be answered in the affirmative, then we may conclude that fantasy-based material is suitable for scoring explanatory style.

One can argue that TAT protocols should be suitable for the CAVE technique, to the degree that a respondent identifies with the protagonists in TAT pictures. As individuals describe and explain bad events suggested by the pictures, their explanations might greatly resemble those that they offer for actual events in their own lives.

One can also make the opposite argument and question whether the respondent identifies with TAT protagonists so much as rationalizes his or her own emotional reaction to them (see Lindzey, 1961; Murstein, 1963). In other words, the protagonists arouse particular feelings within the respondent, who then tells a story that makes sense of this reaction. By this reasoning, how an individual responds to fantasy-based material is at best tenuously related to what is meant by explanatory style. Sweeney, Shaeffer, and Golin (1982), for example, showed that one's attributions about events that befall another person are independent of attributions about events that occur in one's own life. Perhaps causal explanations appearing in TAT protocols are similarly independent of a subject's explanatory style.

In the study reported here, we asked our research subjects to tell stories in response to four TAT cards

preselected as threatening. Because explanatory style is defined in terms of someone's explanations for bad events, we wanted to guarantee a suitable number of such events in the material to be scored. Using the CAVE procedure, we identified and rated causal attributions in the resulting TAT protocols. We determined whether these ratings were consistent within subjects and whether they were associated with scores on the EASQ and the Beck Depression Inventory (Beck, 1967).

## METHOD

### *Subjects*

Research participants were 108 introductory psychology students at the University of Michigan (36 males, 72 females) whose participation satisfied a course requirement. The average age of subjects was 18.7 years ( $SD = 1.4$ ).

### *Procedure*

Subjects participated in a single session lasting about 45 min, in groups of 15 to 20. Once assembled, subjects were given the following instructions (adapted from Tomkins, 1947):

We will show some pictures, one at a time, in a test of imagination. Your task will be to make up as dramatic a story as you can for each and to write down your story. Tell what has led up to the event in the picture, describe what is happening at the moment, what the characters are feeling and thinking, and then give the outcome. Write your thoughts as they come to mind. You will have four minutes for each picture.

Start each story on a new page. If you need more room to write, turn the page over.

Subjects were then given paper on which to write.

On the basis of previous ratings by clinical psychologists (Westen, 1989), we selected the four "most threatening" TAT pictures (cards 8BM, 13MF, 15, and 18GF). Slides were made of the pictures so that they could be projected onto a screen. One at a time, each slide was shown for 4 min, and the subjects wrote a story in response to it. After the final story was written, the subjects worked at their own pace to complete the Beck Depression Inventory and the Expanded Attributional Style Questionnaire.

Explanatory style was scored from the protocols according to the directions provided by Peterson et al. (1992). A researcher read through all the stories and identified bad events with accompanying causal explanations. These were then typed separately on individual pages. A second researcher independently read 10% of the protocols, again identifying bad events with accompanying causal explanations. Simple agreement between the two researchers was highly satisfactory: 93%. In all,

TABLE 1: Intercorrelations of Measures

	<i>TAT Stability</i>	<i>TAT Globality</i>	<i>EASQ Stability</i>	<i>EASQ Globality</i>	<i>BDI</i>
TAT stability	(.56)				
TAT globality	.70*	(.55)			
EASQ stability	.10	.06	(.87)		
EASQ globality	.20*	.20*	.63*	(.87)	
BDI	.21*	.26*	.25*	.31*	(.77)
<i>M</i>	3.57	3.82	4.26	3.92	5.82
<i>SD</i>	0.85	0.73	0.77	0.96	4.60

NOTE: TAT = Thematic Apperception Test; EASQ = Expanded Attributional Style Questionnaire; BDI = Beck Depression Inventory. Correlations given are partial correlations, holding age constant. Figures in parentheses are reliabilities, estimated by Cronbach's alpha. TAT and EASQ ratings can range from 1 to 7, higher numbers indicating greater stability or globality. BDI scores can range from 0 to 63, higher numbers indicating greater depression.

\* $p < .05$ .

494 event-attribution units were identified: 4.6 per subject, on the average. The number of units per subject ranged from 1 to 12.

The event-attribution units were presented in a random order to four undergraduate research assistants who had been instructed in the CAVE technique. They independently rated the extracted explanations for stability and globality, using 7-point scales. The stability rating reflected the degree to which the attributed cause would persist into the future. The globality rating reflected the degree to which the attributed cause would affect a wide range of outcomes. Internality ratings were not made because the events explained in the protocols did not befall the subjects themselves.<sup>2</sup> The interrater agreement, estimated by Cronbach's coefficient alpha, was satisfactory: .91 for stability and .84 for globality. Ratings were then averaged across the four judges.

To determine whether subjects were consistent in the sorts of causal explanations they offered, the subjects who made at least four attributions were identified ( $n = 74$ ). For each subject among this group who made more than four attributions, we randomly selected four attributions, to the extent possible from different protocols. Alpha coefficients were then calculated to estimate the consistency of scores across the four attributions: .56 for stability and .55 for globality. The average intercorrelations between pairs of attributions were .25 for stability and .24 for globality. These are not particularly high figures, but they do demonstrate a degree of consistency.

### Questionnaires

The Beck Depression Inventory (BDI; Beck, 1967) is a 21-item self-report questionnaire that assesses the presence and severity of common depressive symptoms. Scores on the BDI correlate well with clinical diagnosis of depression, even in a college student sample (Bumberry, Oliver, & McClure, 1978). However, the most cautious interpretation of the BDI is that it reflects general dysphoria or distress (Gotlib, 1984).

The Expanded Attributional Style Questionnaire (EASQ; Peterson & Villanova, 1988) presents respondents with 24 bad events involving themselves (e.g., you go out on a date, and it goes badly). They imagine each event happening to themselves. They provide in writing its one major cause, which they then rate on 7-point scales according to its internality, stability, and globality. These ratings are then averaged across the events, separately for the three attributional dimensions. A composite score is sometimes formed by averaging the internality, stability, and globality scores, but this strategy has been criticized (e.g., Carver, 1989). In this article, we therefore chose to examine separately the individual attributional dimensions (Peterson, 1991c).

### RESULTS

Explanatory style scores for the TAT were computed for each subject by averaging the stability ratings across all the attributions he or she made and doing the same for the globality scores. (The number of attributions made by a given subject was unrelated to the average stability and globality ratings of these attributions;  $r = .09$  in both cases.) These figures were then correlated with BDI and EASQ scores, partialing out subject age, which was negatively correlated with several of the attribution scores. The resulting partial correlations are shown in Table 1.

As can be seen, both stability and globality of explanatory style as assessed from the TAT correlated positively with the BDI. So too did explanatory style as assessed with the EASQ. However, the two measures of explanatory style converged only with respect to globality. Indeed, globality as assessed with the EASQ correlated exactly to the same extent with TAT globality and TAT stability.

### DISCUSSION

Can explanatory style be scored from TAT protocols? Our findings suggest that it can be. Causal explanations existed in TAT stories; they were reliably identified and rated along the attributional dimensions of stability and

globality; these ratings were somewhat consistent; and they correlated with depressive symptoms as theory predicts (Peterson et al., 1993). However, explanatory style scored from the TAT correlated only with the globality dimension as assessed with the questionnaire usually used to operationalize explanatory style. And the magnitude of these correlations was quite modest.

At first glance, these findings are a bit of a puzzle. Two measures, ostensibly of the same individual difference, correlated similarly and significantly with an external criterion, yet less robustly with each other. One possible explanation for this discrepancy may be that differential reliabilities of the various measures somehow led to the observed pattern of results. However, correction of the correlations in Table 1 for attenuation did not appreciably change their overall pattern.

Or perhaps the specific instructions given to subjects for responding to the TAT pictures worked against the most valid elicitation of explanatory style. Instructions adapted from Tomkins (1947) were used, which urge respondents to be as dramatic as possible. Winter and Stewart (1977) showed that such instructions can reduce the reliability of motives scored from the TAT, perhaps because they implicitly demand that subjects vary the sorts of stories they tell (Lundy, 1985). A better instructional strategy in future research might be to omit any requests for imagination or drama.

Another explanation of the apparent independence of the TAT and ASQ scores takes these results at face value and suggests that these measures tap different constructs. Indeed, previous studies comparing explanatory style as measured by a questionnaire versus content analysis have also found but modest agreement and little evidence for the discriminant validity of the stability and globality dimensions (e.g., Peterson, Bettes, & Seligman, 1985). Similar findings emerge from the research literature on cognitive complexity; different operationalizations predict the same criteria yet do not always converge with one another (Goldstein & Blackman, 1978; Scott, Osgood, & Peterson, 1979).

The same sort of conclusion emerges from reviews of TAT versus questionnaire measures of achievement motivation (e.g., Spangler, 1992). Scores relate to external criteria much as expected but not to each other. McClelland, Koestner, and Weinberger (1989) explained this pattern of results by suggesting that fantasy-based measures like the TAT allow the assessment of *implicit* motives, nonconscious needs established early in one's life. In contrast, questionnaire measures ascertain *self-attributed* motives, consciously held aspects of one's identity. It is not surprising that these different sorts of motives may be independent.

Applying these ideas to the present results, we speculate that the TAT may elicit an "implicit" explanatory

style, one's nonconscious sense of the causality inherent in the social world. The ASQ, in contrast, measures "self-attributed" explanatory style, one's conscious beliefs about personal control. We are reminded of the more general distinction between object relations and social cognition (Westen, 1991). "Implicit" explanatory style may reside in the former domain more than the latter, which means that our characterization of explanatory style as a cognitive personality variable may be too narrow.

The present data do not allow us to evaluate these speculations about the conceptual differences between ASQ and TAT measures of explanatory style. However, they do demonstrate the empirical independence of these measures with respect to predicting depressive symptoms. Multiple regression analyses found that TAT stability and EASQ stability *both* contributed significantly to the prediction of BDI scores (betas = .19 and .25, respectively,  $ps < .05$ ), as did TAT globality and EASQ globality (betas = .21 and .31, respectively,  $ps < .03$ ).

The present results suggest two conclusions, and these need to be considered simultaneously. First, explanatory style can be assessed from TAT protocols. The range of material suitable for content analysis with the CAVE procedure is thereby greatly increased. Second, the meaning of explanatory in style so assessed is unclear. Previous discussions in the explanatory style literature have focused on which attributional dimensions to include in measures (Peterson, 1991a), but perhaps we need to pay additional attention to the sort of material scored for explanatory style (cf. Blaney, Behar, & Head, 1980). Fine-grained studies are needed that compare different ways of measuring explanatory style and their relationships to external criteria. Such studies should not simply compare the ASQ to fantasy-based measures but should include as well content analyses of essays and interviews varying in their explicit request for self-attribution. The convergence of such scores with ASQ versus TAT scores might clarify some of our speculations about "implicit" explanatory style.

#### NOTES

1. An additional constraint is posed by the audience of the verbal material, which can shape an individual's accounts (cf. Schlenker, Weigold, & Hallam, 1990). We have not made a systematic study of audience effects on explanatory style. We expect that such effects may be quite complex. Audience effects on explanatory style probably do not reduce simply to considerations of social desirability; research has shown that instructions to "fake good" have no effect on responses to the ASQ (Schulman, Seligman, & Amsterdam, 1987).

2. If we had known the degree to which subjects identified with particular characters in the TAT cards, then the internality rating could have been made. An attempt was made to score internality in terms of the number of "characterological" attributions in a protocol (i.e., causal explanations in terms of personality traits), but these were rather infrequent (fewer than 10% of the total number of attributions) and, more critically, not consistent within subjects. At any rate, of the three dimensions of explanatory style, internality often proves to be the least

useful. When measured with a questionnaire, this dimension is usually the least coherent (Peterson, 1991b). Perhaps relatedly, internality also tends to show the most inconsistent relationship with external criteria such as depression (Peterson, 1991a).

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