CONSTRUCT VALIDITY OF ATTRIBUTIONAL STYLE: MODELING CONTEXT-DEPENDENT ITEM SETS IN THE ATTRIBUTIONAL STYLE QUESTIONNAIRE

N. C. HIGGINS, BRUNO D. ZUMBO, AND JANA L. HAY
University of Northern British Columbia

The format of the Attributional Style Questionnaire (ASQ) lends itself to a consideration of context-dependent item sets (CDIS) and a reevaluation of the factor structure of the questionnaire. Confirmatory factor analysis of data from 1,346 ASQ respondents revealed that adequate fit was provided by a three-factor (locus, stability, globality) attributional style model that included CDIS. The findings demonstrated that CDIS introduced extra covariation in people's responses to the ASQ events—covariation that has been accounted for in the past as person (latent) variables or not accounted for at all. The authors argue for the inclusion of CDIS in psychometric models of the ASQ and in models of other attributional style measures that have the same format as the ASQ. In addition, when measuring attributional style, one must account for the person *in* the situations that are relevant to the style—CDIS allow one to do so.

The tendency to give internal (self-oriented), stable (long-lasting), and global (broadly applicable) causal explanations for bad events, accompanied by external (other person or circumstance-oriented), unstable (short-term), and specific (limited applicability) explanations for positive events, is referred to as a depressive or pessimistic attributional style (Abramson, Seligman, & Teasdale, 1978; Peterson et al., 1982; Peterson & Seligman, 1984). Depressive attributional style includes the tendency to give external, unstable, and specific explanations for positive events (Peterson et al., 1982);

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however, explanations for positive events contribute substantially less to explaining the variance in depression measures than do explanations for negative events (Sweeney, Anderson, & Bailey, 1986). Depressive attributional style is defined as a "tendency to respond" to good and bad life events with certain kinds of causal explanations, rather than as a set of acts, because the "behavior" of making causal attributions about the life events may be situationally induced. For example, causal attributions about negative life events fluctuate over the events as a function of their perceived locus, stability, and globality. However, the premise with depressive attributional style is that some persons need relatively little situational pressure to make internal, stable, and global attributions about negative life events, whereas other individuals often require significantly more. Individuals with this style are at a greater risk for depression and other helplessness deficits than those with the opposite style (Sweeney et al., 1986). Depressive attributional style explains a substantial portion of the variance (> 48%) in measures of depression (Perloff & Persons, 1988) such as the Beck Depression Inventory (BDI) (Beck & Beck, 1972) and appears to increase the risk for depression through the negative impact of the attributions on self-esteem (locus attributions) and expectations about future events (stability and globality attributions) (Abramson et al., 1978; Peterson & Seligman, 1984).

The Attributional Style Questionnaire (ASQ) (Peterson et al., 1982) is a self-report measure of attributional (or explanatory) style. Composed of six hypothetical negative events and six hypothetical positive events sampled from the domains of achievement and affiliation, the ASQ instructs respondents to generate a cause for each event and then rate the cause along three 7-point scales representing the locus, stability, and globality causal dimensions. The ASQ scale items are anchored so that higher scores represent more internal, stable, and global attributions, whereas lower scores represent more external, unstable, and specific attributions (Peterson et al., 1982). In total, the ASQ generates 36 scores: three items (i.e., locus, stability, globality) for each of the 12 hypothetical events. The locus, stability, and globality items are summed (or averaged) across the negative events and, separately, across the positive events to create a locus, stability, and globality score for each type of event. In separate studies, alpha coefficients for scores on the ASQ scales (negative events only) were .46, .59, and .69 (Peterson et al., 1982) and .33, .59, .62 (Cutrona, Russell, & Jones, 1985) for locus, stability, and globality, respectively.

Attributional style research has focused on (a) predictive utility of the construct (e.g., Peterson, 1991), (b) identifying the origins of the differences in attributional preferences (e.g., Seligman, Abramson, Semmel, & von Bayer, 1979), and (c) developing better measures (e.g., Corr & Gray, 1996b; Crandall, Katovsky, & Crandall, 1965; Cutrona et al., 1985; Peterson & Villanova, 1988; Rotter, 1966; Xenikou, Furnham, & McCarrey, 1997). Low reliabilities of scores on the original ASQ scales and modest evidence of cross-situational consistency in attributions about the causes of life events have hampered progress in understanding the role of attributional styles in depression and other health outcomes (e.g., Arntz, Gerlsma, & Albersnagel, 1985; Bagby, Atkinson, Dickens, & Gavin, 1990; Cutrona et al., 1985; Peterson, 1991).

Debates surrounding attributional styles measured by the ASQ primarily have centered on the psychometric properties (i.e., the dimensionality) of the questionnaire. For example, it has been debated whether composite scores or individual scale scores should be used (Carver & Scheier, 1991). Furthermore, Cutrona et al. (1985) posed the question "Does attributional style exist?" because the results of their factor analyses of the ASQ led them to conclude that even focusing on consistent individuals "did not eliminate the impact of situational characteristics on causal attributions" (p. 1050). In their Study 1, Cutrona et al. were in essence recasting the dimensionality question seen several times in the literature (e.g., Bagby et al., 1990).

Our aim in the present study was to address the inconsistent findings with regard to the dimensionality of the ASQ (Peterson et al., 1982). We introduce a psychometric model of attributional style and present new evidence on the psychometric properties and dimensional structure of the ASQ. Although the ASQ is the oldest of the attributional style measures that currently exist, we focused on its psychometric properties for several reasons. First, the majority of newer measures of attributional style use a format identical to the ASQ; that is, for each of several negative and/or positive events, individuals are instructed to think of a reason why the event happened and then rate the cause on some number of rating scales corresponding to relevant attributional dimensions. Dimensional ratings are then examined for cross-situational (or cross-event) consistency. Our analysis focused on the structure of the ASQ, but our findings are applicable to those attributional style measures that have the same format as the ASQ (e.g., Feather & Tiggemann, 1984; Furnham, Sadka, & Brewin, 1992; Joiner & Metalsky, 1999; Xenikou et al., 1997). Second, the ASQ and its direct descendants (e.g., Peterson & Villanova, 1988) are still in common use in research today (e.g., Chaney et al., 1996; Corr & Gray, 1996a, 1996b; Dykema & Bergbower, 1996; Hjelle & Belongia, 1996; Johnson & Crofton, 1996; Kent & Martinko, 1995; Maher & Nordstrom, 1996; McGuigan, 1995; Sharp, Fear, & Healy, 1997).

Past studies of the ASQ have not addressed the fact that the format of the questionnaire involves local item dependence (Haladyna, 1992; Steinberg & Thissen, 1996). On the ASQ, the locally dependent item sets consist of the three questions (i.e., causal dimension scales) that are posed for each of the six positive and six negative events on the questionnaire. For the ASQ, locally dependent item sets, sometimes called testlets or context-dependent item sets (CDIS) (Haladyna, 1992), elicit person covariance *and* situation covariance.

The situation covariation refers to covariation among test items over and above that explainable by the latent (person) variable(s). More specifically, the situation covariation does not represent cross-situational consistency but rather extra covariation that is attributable to the common "stem" (or situation), that is, "within-situation consistency." For example, the situations involving an unsuccessful job search and encountering a hostile friend elicit both an explanatory "style" (i.e., consistency of attributions across the two situations) and within-situation covariation over and above the explanatory style. Henceforth, we will refer to the within-situation covariation as situation covariation or CDIS. Unlike some of the examples of CDIS provided by Haladyna (1992), in our context, the CDIS are not a nuisance factor but rather a substantively meaningful method effect that we will argue should be interpreted in attributional style measures that have a format similar to the ASQ.

In past investigations, situation covariation in responses to ASQ events has been accounted for as latent variables (e.g., Cutrona et al., 1985), if accounted for at all (e.g., Arntz et al., 1985; Hull & Mendolia, 1991). In this article, we describe the extra covariation due to the format of the ASQ as CDIS, and we test four models of attributional style suggested by past research, with and without the CDIS included in each model. Before presenting the study, we briefly introduce the psychometric model.

A Psychometric Model of the ASQ

Factor analysis using structural equation models attempts to reproduce the covariation among items comprising a scale by postulating latent variables that account for the covariation. If there is a noteworthy amount of unaccounted-for covariation over and above that attributable to the latent variables, it is commonly assumed that this is due to an insufficient number of latent variables and/or an incorrect factor patterning (i.e., some or all items do not measure on the specified factors). However, this is only true if we assume that there are no other sources of covariation in the observed data than the individual differences (latent) variables.

As Haladyna (1992) stated, concern about sources of extra covariation other than the individual differences variables has been a long-standing one in psychometrics (for example, see Cureton's [1965] discussion of a "super-item"). Haladyna also presented a thorough review of item and scale formats that can result in extra covariation (which he refers to as CDIS). A common source of this extra covariation is when a series of items are linked to a common stem or scenario, such as the format of the ASQ.

The format of the ASQ reflects the fact that its developers wanted questions to assess how much respondents used particular values of the internal versus external, stable versus unstable, and global versus specific causes for each of a number of events on the questionnaire. Each event, then, is a common stem for three causal dimensions (i.e., locus, stability, globality) and hence may introduce extra situation covariation over and above the individual differences variable of attributional style.

Implications of the CDIS. The primary issue with the CDIS is that they should not be ignored in fitting a factor analysis model. Rather, the model one specifies should reflect the possibility of CDIS by allowing for correlated errors within the set of items. One, in essence, specifies an error matrix with a pattern of off-diagonal elements that reflects situational covariation over and above that due to the latent variables and that is justified by the format of the ASQ.

If ignored, CDIS may show up as a model misfit in confirmatory factor analysis or as additional factors in exploratory factor analysis (EFA) either conducted through standard EFA programs like SAS or SPSS or using automated modification indices on the residual matrix in structural equation modeling. Furthermore, the amount of extra covariation may depend on the population being tested and the types of causes listed. This unaccounted-for extra covariation may explain some of the inconsistent findings in the literature as to the number of factors comprising the ASQ.

Note that one could either account for the extra covariation by parameterizing a factor analysis model with correlated errors or, equivalently (considering model fit from a statistical point of view), by adding more latent variables (in the case of the ASQ, six—one for each situation). Cutrona et al. (1985) chose the latter model, whereas we present the former as a corrective. The Cutrona et al. approach models the extra covariation as a set of latent variables, which traditionally represent person covariation only. Also, Cutrona et al.'s approach *necessitates* the extra covariation because they have specified it as a latent variable, whereas our approach is more inductive by allowing for the extra covariation *if it is present in the data.* We also can measure the degree of extra covariation for each event by examining the magnitude of the residual correlations.

Finally, Cutrona et al's (1985) modeling strategy leads to an inherent paradox. They account for the extra situational covariation by latent (person) variables for five of the six negative events—that is, all but the first negative event. Simultaneously, to improve their model fit, they allow for two of the possible three correlated errors for this first negative event. But, paradoxically, by not specifying it as a latent variable, they do not conceive of this extra covariation as situational covariation (see their Figure 2). Furthermore, consistent with our model, it should be noted that with regard to correlated errors,

> it is a widespread misuse of structural equation modeling to include correlated error terms in the model for the sole purpose of obtaining a better fit to the data. Every correlation between error terms must be justified and interpreted substantively. (Jöreskog, 1993, p. 297)

Table 1
Attributional Style Models for Negative and Positive Events on the Attributional Style Questionnaire

		Model 1[a]	Model 2[a]			Model 3[b]		Model 4[a]	
Event	Item	Composite	L	S	G	L	(S/G)	Achievement/Affiliation	
	1	*	*			*		*	
2 (3)	2	*		*			*	*	
	3	*			*		*	*	
	4	*	*			*			*
4 (1)	5	*		*			*		*
	6	*			*		*		*
	7	*	*			*		*	
5 (10)	8	*		*			*	*	
	9	*			*		*	*	
	10	*	*			*			*
7 (6)	11	*		*			*		*
	12	*			*		*		*
	13	*	*			*		*	
8 (12)	14	*		*			*	*	
	15	*			*		*	*	
	16	*	*			*			*
11 (9)	17	*		*			*		*
	18	*			*		*		*

Note. L = locus of causality; S = stability; G = globality. In Models 2 through 4, we allowed for correlation among the latent variables. Positive events are indicated in parentheses. Asterisks denote free parameters of the measurement model.
a. Peterson et al. (1982).
b. Peterson and Seligman (1984).

Method

Respondents

Respondents were 1,346 (636 females, 694 males, and 16 who did not indicate their sex) volunteers who completed the ASQ just prior to entering their freshmen year at the University of Pennsylvania in 1991. The students ranged in age from 16 to 24 years, and the mean age was 18.12 years.

Models

The four models of depressive attributional style presented in Table 1 were examined for their goodness of fit with the observed data for the six negative events on the ASQ, and, separately, for the six positive events on the ASQ, using confirmatory factor analysis (LISREL 8.14; Jöreskog & Sörbom, 1995).

Table 2
Mean Causal Dimension and Composite Attributional Style Questionnaire Scores and Score Reliabilities for Negative and Positive Events

	Causal Dimension			
Events	Locus	Stability	Globality	Composite
Negative				
Mean	4.18	4.18	4.13	12.49
SD	0.84	0.78	1.00	1.90
Alpha	.34	.61	.58	.67
Positive				
Mean	5.48	5.59	5.38	16.46
SD	0.70	0.67	0.85	1.75
Alpha	.46	.58	.53	.73

Note. N = 1,346.

The first model was a composite score model. According to Peterson et al. (1982), composite scores are found by summing all of the negative (or positive) items and then dividing by six (the number of items in the composite). It was therefore hypothesized that each composite (negative, positive) would form one factor.

The second model conceptualized the three causal dimensions—locus (L), stability (S), and globality (G)—as three separate factors (Peterson et al., 1982). Because stability and globality are often highly correlated, and thus may present as one factor (Peterson, 1991; Peterson & Seligman, 1984), the third model was a modified two-factor version of the causal dimensions model, with one factor for locus (L) and a second factor for stability and globality combined (S, G). The fourth model was a two-factor model composed of achievement and affiliation items. Peterson et al. (1982) hypothesized that attributional style may be different for affiliative and achievement events. In each case, the psychometric model was implemented first in a conventional manner without correlated errors and second by allowing for a restricted number of prespecified, correlated errors (i.e., the CDIS).

Results

Descriptive Data

Means, standard deviations, and alpha coefficients for the causal dimension scales and the composite scale are presented in Table 2. The coefficient alpha score reliabilities presented in Table 2 were calculated separately for positive and negative events. Internal consistencies were comparable to the results of other ASQ studies (e.g., Cutrona et al., 1985; Peterson et al., 1982).

Zimmerman, Zumbo, and Lalonde (1993) have shown that reliability estimates may be dramatically incorrect when all of the errors are correlated—a more extreme case than is found with the ASQ. It is possible to compute the scale reliabilities from the resulting structural equation model that accounts for the CDIS via correlated errors. We have computed these scale reliabilities (with and without correlated errors in the model) and found little effect of the correlated errors. The reason for this may be the small number of correlated errors relative to the total number possible in the residual matrix.

Model Testing

Correlations were computed among the 18 scores for the negative events on the ASQ and separately among the 18 scores for the positive events. Hypothesized factor models were tested against the obtained covariance matrix in each case with LISREL 8.14 (Jöreskog & Sörbom, 1995). Using maximum likelihood estimation, LISREL calculates the factor coefficients that provide the best possible fit of the hypothesized model to the obtained data. In accordance with Marsh, Balla, and McDonald's (1988) recommendations, multiple indices were used to assess the fit of the model to the data. In the present study, the following indices were examined: (a) the goodness-of-fit index (GFI) (Jöreskog & Sörbom, 1989); (b) the goodness of fit that adjusts for the number of degrees of freedom (AGFI) (Jöreskog & Sörbom, 1989); (c) the Tucker-Lewis index (TLI) (Tucker & Lewis, 1973), which is also referred to as the nonnormed fit index (NNFI) (Bentler & Bonett, 1980); (d) the normed fit index (NFI) (Bentler & Bonett, 1980); (e) the root mean square residual (RMSR); and (f) the root mean square of approximation (RMSEA) (Steiger & Lind, 1980). In judging the adequacy of the fit, the larger the GFI and AGFI values (i.e., values greater than .90), the better the fit (Bollen, 1989). RMSR and RMSEA values of less than or equal to .05 indicate good fit (Thompson, Coovert, Richards, Johnson, & Cattarin, 1995). Finally, the TLI (NNFI) and NFI should be greater than .90 (i.e., lower values suggest that the model can be substantially improved). In addition, in the present study, a ratio of the chi-square statistic to the degrees of freedom less than 2 would also indicate a good fit (Tabachnick & Fidell, 1996).

Separate confirmatory factor analyses of the covariance matrix were conducted for the 18 causal dimension scale scores for each type of event. Tables 3 and 4 present the correlation matrices for negative and positive events, respectively. None of the models tested met the criterion of a nonsignificant chi-square, but this is not surprising or relevant given the degrees of freedom available for the test and the test's notorious sensitivity to sample size. For both positive and negative events, Model 2 (allowing for CDIS) was the only model that met all of the other criteria and was a substantially better model than any of the others tested, as reported in Tables 5 and 6. For the positive

(text continues on p. 816)

Table 3
Correlations Among Attributional Style Questionnaire Causal Dimension Scales for Negative Events

	Causal Dimension Scales																	
Scale	L_1	S_1	G_1	L_2	S_2	G_2	L_3	S_3	G_3	L_4	S_4	G_4	L_5	S_5	G_5	L_6	S_6	G_6
L_1	1.00																	
S_1	–.07	1.00																
G_1	.31	.06	1.00															
L_2	.03	–.15	–.01	1.00														
S_2	–.05	.007	.03	.09	1.00													
G_2	–.01	.002	.05	.30	.23	1.00												
L_3	.16	–.06	.09	.03	.08	.08	1.00											
S_3	–.02	.15	.06	–.07	.21	.16	–.006	1.00										
G_3	.09	.07	.17	.14	.10	.25	.16	.40	1.00									
L_4	.05	.04	.15	.02	.01	.14	.04	–.12	.08	1.00								
S_4	–.06	.03	.13	–.01	.20	.23	.004	.30	.16	.10	1.00							
G_4	.12	.005	.09	.06	.04	.21	–.06	.06	.16	.26	.28	1.00						
L_5	.06	–.10	–.03	.06	–.02	.03	.20	.14	.11	.05	.13	.01	1.00					
S_5	.03	.20	.09	.03	.22	.17	.10	.35	.26	.07	.38	.25	.28	1.00				
G_5	.04	.18	.05	.14	.11	.15	.11	.18	.29	–.002	.25	.19	.36	.48	1.00			
L_6	.03	.01	–.04	.02	.12	–.03	.10	.04	.04	.08	–.01	.11	.17	.18	.17	1.00		
S_6	.06	.07	.16	–.04	.25	.16	.05	.40	.19	–.08	.29	.17	.06	.35	.22	.28	1.00	
G_6	.18	–.009	.15	.11	.23	.31	.09	.22	.19	.02	.177	.23	–.05	.15	.13	.30	.43	1.00
SD	1.92	1.39	1.97	1.86	1.31	1.88	1.65	1.27	1.57	1.65	1.30	1.76	1.75	1.38	1.59	1.20	1.19	1.66

Note. $N = 1{,}346$. With $df = 1{,}344$, $r > .06$ is statistically significant at $p < .05$, and $r > .08$ is statistically significant at $p < .01$. L = locus of causality; S = stability; G = globality.

Table 4
Correlations Among Attributional Style Questionnaire Causal Dimension Scales for Positive Events

	Causal Dimension Scales																	
Scale	L_1	S_1	G_1	L_2	S_2	G_2	L_3	S_3	G_3	L_4	S_4	G_4	L_5	S_5	G_5	L_6	S_6	G_6
L_1	1.00																	
S_1	.12	1.00																
G_1	.11	.28	1.00															
L_2	.01	.07	.03	1.00														
S_2	–.02	.10	.08	.59	1.00													
G_2	–.005	.09	.10	.48	.57	1.00												
L_3	.17	.08	.05	.16	.09	.02	1.00											
S_3	.12	.19	.06	.13	.22	.15	.28	1.00										
G_3	.09	.12	.16	.08	.13	.14	.22	.41	1.00									
L_4	.14	.11	.08	.02	.05	.02	.03	.08	.06	1.00								
S_4	.07	.13	.06	.07	.08	.06	.03	.18	.10	.29	1.00							
G_4	.03	.09	.13	.02	.06	.14	–.05	.09	.14	.22	.28	1.00						
L_5	.16	.10	.05	.17	.11	.06	.27	.17	.06	.07	.07	.01	1.00					
S_5	.10	.16	.11	.11	.19	.13	.14	.33	.21	.06	.19	.05	.35	1.00				
G_5	.03	.08	.09	.07	.13	.18	.07	.21	.27	.06	.13	.16	.18	.39	1.00			
L_6	.15	.13	.03	.14	.09	.05	.24	.16	.09	.09	.06	.00	.25	.13	.10	1.00		
S_6	.08	.21	.07	.16	.24	.16	.14	.34	.21	.06	.16	.08	.16	.33	.24	.38	1.00	
G_6	–.03	.17	.10	.12	.18	.20	.05	.22	.24	.006	.10	.16	.05	.15	.34	.32	.44	1.00
SD	1.29	1.12	1.68	1.70	1.64	1.65	1.06	.973	1.23	1.56	1.18	1.82	1.15	.995	1.28	1.20	.984	1.48

Note. $N = 1,346$. With $df = 1,344$, $r > .06$ is statistically significant at $p < .05$, and $r > .08$ is statistically significant at $p < .01$. L = locus of causality; S = stability; G = globality.

Table 5

Fit Statistics for Four Models of Attributional Style Questionnaire Negative Events

Model	Number of Latent Variables	Number of CDIS	Fit Statistic: χ^2	χ^2/df	GFI	AGFI	NNFI	NFI	RMSR	RMSEA
1 Composite	1	0	$\chi^2(135) = 893.9$	6.62	.93	.91	.63	.64	.05	.07
1 Composite	1	6	$\chi^2(117) = 462.7$	3.95	.96	.94	.81	.81	.04	.05
2 Dimensional (3)	3	0	$\chi^2(132) = 732.7$	5.55	.94	.93	.70	.70	.05	.06
2 Dimensional (3)	3	6	**$\chi^2(114) = 148.9$**	**1.31**	**.99**	**.98**	**.98**	**.94**	**.02**	**.02**
3 Dimensional (2)	2	0	$\chi^2(134) = 818.9$	6.11	.94	.92	.66	.67	.05	.06
3 Dimensional (2)	2	6	$\chi^2(116) = 364.3$	3.14	.97	.95	.86	.85	.03	.04
4 Domain	2	0	$\chi^2(134) = 840.8$	6.28	.93	.91	.65	.66	.05	.06
4 Domain	2	6	$\chi^2(116) = 460.3$	3.97	.96	.94	.80	.81	.04	.05

Note. CDIS = context-dependent item set; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; NNFI = nonnormed fit index; NFI = normed fit index; RMSR = root mean square residual; RMSEA = root mean square of approximation. The fit statistics for the best fitting model are presented in bold.

Table 6
Fit Statistics for Four Models of Attributional Style Questionnaire Positive Events

Model	Number of Latent Variables	Number of CDIS	Fit Statistic							
			χ^2	χ^2/df	GFI	AGFI	NNFI	NFI	RMSR	RMSEA
1 Composite	1	0	$\chi^2(135) = 2{,}311.2$	17.12	.83	.78	.44	.49	.09	.11
1 Composite	1	6	$\chi^2(117) = 716.6$	6.12	.93	.90	.82	.84	.05	.06
2 Dimensional (3)	3	0	$\chi^2(132) = 2{,}151.6$	16.3	.84	.79	.47	.53	.08	.11
2 Dimensional (3)	3	6	$\boldsymbol{\chi^2(114) = 189.76}$	**1.66**	**.98**	**.98**	**.98**	**.96**	**.03**	**.02**
3 Dimensional (2)	2	0	$\chi^2(134) = 2{,}211.9$	16.5	.84	.79	.46	.51	.09	.11
3 Dimensional (2)	2	6	$\chi^2(116) = 412.2$	3.55	.96	.95	.91	.91	.04	.04
4 Domain	2	0	$\chi^2(134) = 2{,}140.5$	16.0	.83	.78	.48	.53	.08	.11
4 Domain	2	6	$\chi^2(116) = 714.6$	6.20	.93	.90	.82	.84	.05	.06

Note. CDIS = context-dependent item set; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; NNFI = nonnormed fit index; NFI = normed fit index; RMSR = root mean square residual; RMSEA = root mean square of approximation. The fit statistics for the best fitting model are presented in bold.

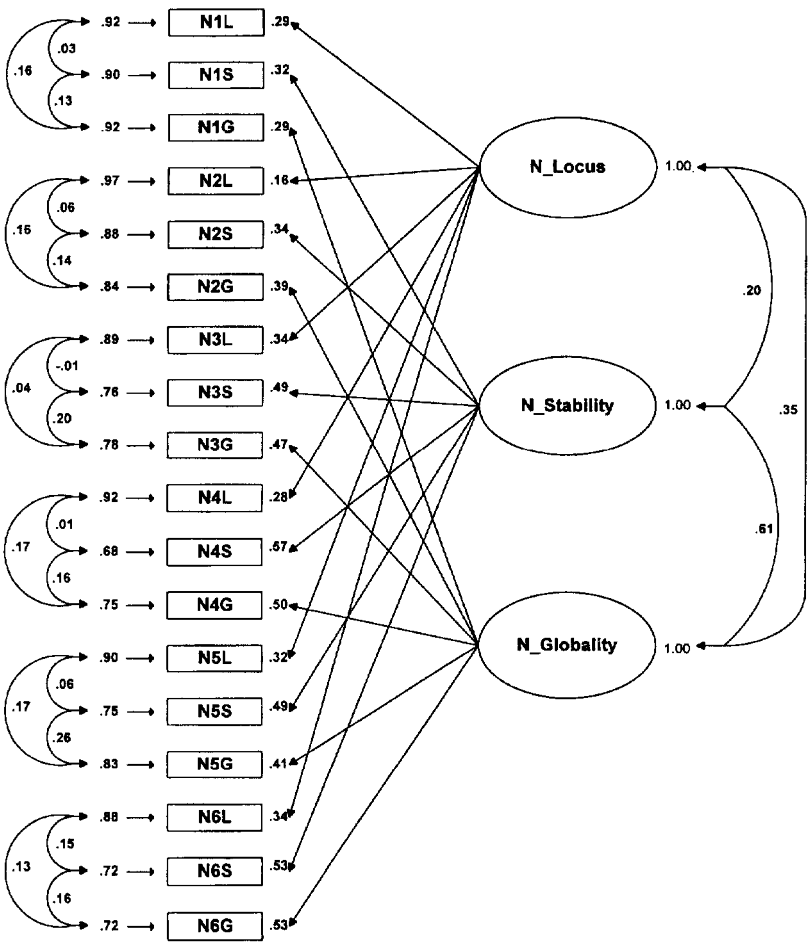

Figure 1. Structural model coefficients for the three-factor attributional style model of the Attributional Style Questionnaire negative events.

events, Models 1, 2, 3, and 4 without CDIS met none of the criteria for fit. In addition, focusing on the last six fit indices in Tables 5 and 6, there is some evidence to support Model 3 with CDIS (the two-factor dimensional model).

The maximum likelihood estimates for Model 2 are shown in Figures 1 and 2. Estimates of the variance in each causal scale explained by the hypothesized attributional style dimension may be obtained by squaring the factor coefficients. Thus, between 2.5% and 34.8% of the variance in the ASQ items was explained by attributional style factors when CDIS were accounted for. The factors explained an average of 16.5% of the variance in

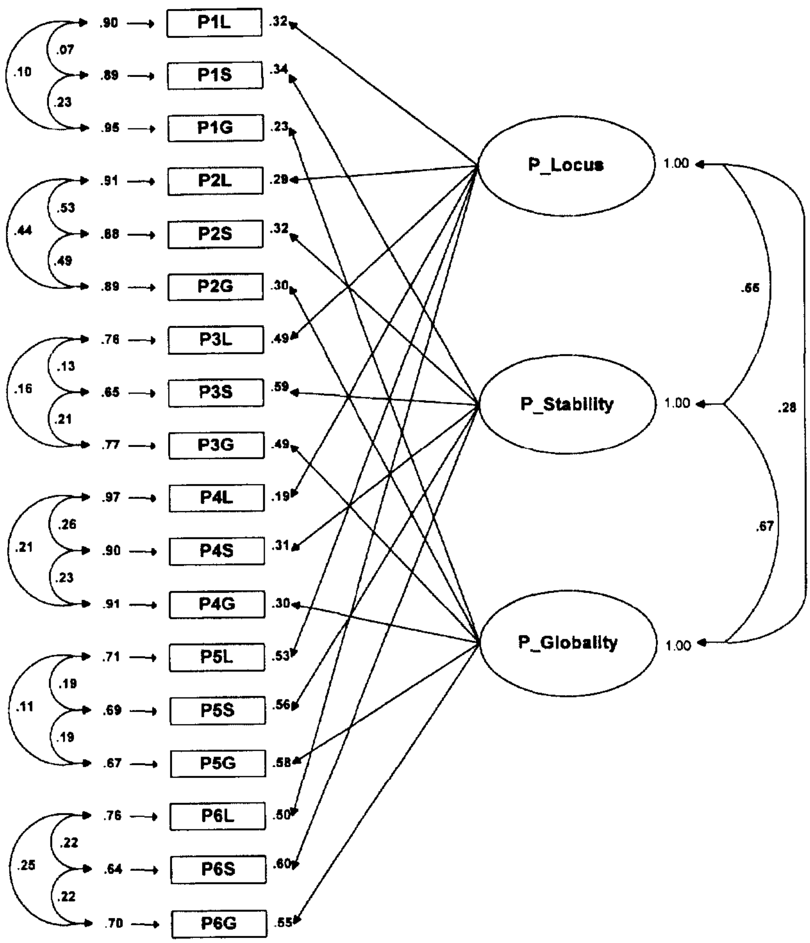

Figure 2. Structural model coefficients for the three-factor attributional style model of the Attributional Style Questionnaire positive events.

the negative event items and an average of 19.09% of the variance in the positive event items. Slightly more variance was explained by stability (M = 21.9%) and globality (M = 18.9%) factors than by the locus factor (M = 12.6%).

Discussion

The factor model results indicated noteworthy correlations between the attributional style factors (curved paths among latent variables) that are consistent with the idea of depressive attributional style. Individuals tended to explain negative life events with causes that were internal, stable, and global or with causes that were external, unstable, and specific.

In addition, the factor results indicated that the correlations among errors (curved paths among items) were not uniform for the different events. Several events (particularly negative event 6 and positive events 2, 4, and 6) were highly cohesive (i.e., exerted a strong contextual presence).

In summary, for both positive and negative events, the best fit was provided by Model 2 (three factors with six CDIS). In addition, there was a large difference in fit when CDIS are added, as reported in Tables 5 and 6.

Furthermore, we compared the fit of our Model 2 with and without CDIS to the correlation matrix reported in Cutrona et al. (1985, p. 1047). As in the results reported for our data, Model 2 with CDIS met all of our fit criteria listed, whereas the model without CDIS showed the same pattern as in our Table 5. Note that Cutrona et al. only considered the negative ASQ events. These results lend cross-validation support to our findings.

Our findings demonstrate that CDIS are introducing extra covariation in people's responses to the ASQ events—covariation that has been accounted for in the past as person (latent) variables or not accounted for at all (e.g., Hull & Mendolia, 1991). Although the format of the ASQ involves local item dependence, inconsistencies in past findings (e.g., Corr & Gray, 1996b; Cutrona et al., 1985) have not been examined taking CDIS into account. In response to Cutrona et al.'s (1985) provocative question of whether attributional style exists, we thus answer, yes. Our model allows for both latent (person) covariation and situation covariation and is justified psychometrically by the format of the ASQ.

The main implication of our findings is that there is no such thing as a nonsituational attributional style. That is, person (or individual differences) variables such as attributional style do not exist in a vacuum but rather are "bathed" in situations. The hypothetical and ambiguous (as to causality) events on the ASQ (and other current attributional style measures with a format similar to the ASQ) may encourage "the test-taker to 'project' their subjective interpretation of the event" (Schulman, Castellon, & Seligman, 1989, p. 508). However, our findings directly argue against the position that, because of the "projective" nature of attributional style measures, "the reality of the situation may be irrelevant to individual differences in explanatory style" (Schulman et al., 1989, p. 508). Despite assertions to the contrary, it is not possible to "eliminate the impact of situational characteristics on causal attributions" (Cutrona et al., 1985, p. 1050). One must account for the person in the situations that are relevant to the style, and modeling CDIS allow for this.

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