

Attributional Style Predicts Causes of Negative Life Events on the Attributional Style Questionnaire

N. C. HIGGINS

JANA L. HAY

*Department of Psychology
University of Northern British Columbia*

ABSTRACT. The causes cited by 218 participants for the hypothetical positive and negative life events on the Attributional Style Questionnaire (ASQ) and the dimensional ratings of the causes were examined to determine the match between the dimensional and categorical definitions of attributional style. Optimists ($n = 105$) and pessimists ($n = 113$) used different types of causes to explain the negative ASQ events, but not the positive events. However, optimists' and pessimists' causal explanations shared a number of features. The findings suggest that attributional styles depend, in part, on the event being explained and demonstrate that the ASQ events elicit specific types of causes.

Key words: attributional style, causal attribution, optimism

ATTRIBUTIONAL STYLE (AS) is an individual-differences variable that refers to the habitual ways in which people explain their positive and negative life experiences (Abramson, Seligman, & Teasdale, 1978). The AS construct emerged from the attributional reformulation of the learned helplessness model, which posited that a person's explanatory style determines the extent to which learned helplessness is stable, pervasive, and undermining of self-esteem (Abramson et al.; Peterson, 1991b). According to this model, causal attributions vary on three critical dimensions: *locus*, *stability*, and *globality*. Locus of causality refers to whether the outcome was due to something about the person (internal) or something about the situation or circumstances (external). Stability refers to whether the cause will again be present (stable) or is temporary (unstable). The third

N. C. Higgins is now at the Department of Psychology, St. Thomas University.

Address correspondence to N. C. Higgins, Department of Psychology, St. Thomas University, Fredericton, New Brunswick, E3B 5G3 Canada; <http://www.stthomasu.ca/~nhiggins/higginsbrf.htm> (WWW); nhiggins@stu.ca (e-mail).

dimension, globality, refers to whether the cause influences just this particular situation (specific explanation) or whether it influences other areas of the respondent's life (global explanation; Tennen & Herzberger, 1985). A *pessimistic* (or depressive) attributional style is the tendency to explain negative life events with internal, stable, and global causes and to explain positive events with external, unstable, and specific causes. In contrast, an *optimistic* attributional style is the tendency to explain negative events with external, unstable, and specific causes and to explain positive events with internal, stable, and global causes (Abramson et al., 1978). Pessimists are more likely than optimists to display helplessness deficits when they experience a negative event (Schulman, Castellon, & Seligman, 1989). Attributional styles have been demonstrated to play a mediating role between negative events and problems in living, such as depression (Sweeney, Anderson, & Bailey, 1986), loneliness (Anderson, 1983b), and shyness (Alfano, Joiner, & Perry, 1994). For example, a pessimistic AS 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; Peterson & Seligman, 1984).

The Attributional Style Questionnaire (ASQ; Peterson et al., 1982) is a self-report measure of attributional style, comprising 6 hypothetical negative events and 6 hypothetical positive events sampled from the domains of achievement and affiliation. The hypothetical ASQ events allow an individual to subjectively interpret each event and its possible cause (Schulman et al., 1989). Respondents are instructed to think of a cause for each event and then to rate the cause along three 7-point scales representing the locus, stability, and globality causal dimensions. Higher scores on the ASQ scale items 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 then summed (or averaged) across the negative events and separately summed across the positive events to create a locus, stability, and globality composite score for each type of event. Optimists have low composite negative scores and high composite positive scores; in contrast, pessimists have high composite negative scores and low composite positive scores.

A good deal of attributional style research has focused on issues such as the predictive utility of the construct (e.g., Alloy, Just, & Panzarella, 1997; Anderson, Arnoult, & Jennings, 1988; Peterson, 1991b), the reasons for differences in attributional preferences (e.g., Lee & Seligman, 1997), and improvement of AS measurement (e.g., Higgins & Morrison, 1998; Higgins, Zumbo, & Hay, 1999; Xenikou, Furnham, & McCarrey, 1997). Moreover, debates surrounding attributional styles measured by the ASQ (and questionnaires with formats similar to that of the ASQ) have centered primarily 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).

Although most studies of the construct, criterion, and predictive validity of the ASQ have focused on the dimensional causal ratings (e.g., Higgins et al., 1999; Schulman, et al., 1989), the relationship between the dimensional ratings and the causes that are cited has rarely been examined (Anderson, 1991), despite the fact that the ASQ makes important assumptions about the relationship between the ratings and the cited causes. For example, a person's attributional style, rather than the event itself, is thought to be the source of the cause used to explain a life event (e.g., Alloy, Peterson, Abramson, & Seligman, 1984). Furthermore, the ASQ assumes a consistency between the types of causes that people use to explain the events and the dimensional ratings of those causes. For example, an internal cause would also be rated as internal on the locus scale (e.g., Peterson et al., 1982). Neither of these assumptions has been tested directly. Our aim in the present study was to examine these assumptions of the ASQ about the connection between the causes (explanations) and the dimensional ratings of the causes. We have presented new evidence on the validity of the assumptions.

Assumption 1: The Individual's Attributional Style Is the Source of the Causal Explanation

The ASQ (and attributional style measures with a similar format) assumes that an individual's attributional style (i.e., pessimistic or optimistic) determines the type of cause the person uses to explain an event (Anderson & Deuser, 1991; Maher & Nordstrom, 1996; Peterson, 1991a, 1991b; cf. Lefcourt, von Baeyer, Ware, & Cox, 1979; Rotter, 1954). Indeed, Schulman et al. (1989) have suggested that "the reality of a situation may be irrelevant to individual differences in explanatory style" (p. 508). However, it is also well known that the type of cause a person uses to explain an event may be strongly determined by the event itself (e.g., Anderson, 1983a, 1985; Higgins et al., 1999; Weiner, 1986). This apparent contradiction is, in essence, a recasting of the "person-situation debate"; that is, to what extent are people's causal explanations of events determined by individual differences (attributional styles), and to what extent are they determined by the events (situations) themselves? In the reformulated learned helplessness model, an optimist should theoretically generate internal, stable, and global causes (e.g., high ability) for positive events and external, unstable, and specific causes (e.g., task difficulty) for negative events. A pessimist, in contrast, should generate external, unstable, and specific causes (e.g., luck) for positive events and internal, stable, and global causes (e.g., low ability) for negative events (Abramson et al., 1978). This pattern should be present not only in the causal dimension ratings but also in the causes used to explain the events (Peterson & Seligman, 1987; cf. Peterson, Luborsky, & Seligman,

1983). In other words, a pessimist's relatively internal, stable, and global causal dimensional ratings for negative events should be accompanied by a higher frequency of internal, stable, and global types of causal explanations (e.g., ability or trait) for the negative events. In contrast, an optimist's relatively external, unstable, and specific causal dimensional ratings for negative events should be accompanied by a higher frequency of external, unstable, and specific types of causal explanations (e.g., others or circumstances) for the negative events. The first aim of the present study was to examine the match between the dimensionally determined attributional styles (i.e., optimistic and pessimistic) and the types of causes cited by optimists and pessimists for positive and negative events on the ASQ. Specifically, we examined whether optimists (dimensionally derived) cited causes (on the ASQ) that were consistently internal, stable, and global for positive events and causes that were consistently external, unstable, and specific for negative events. Similarly, we asked whether pessimists (dimensionally derived) used causes that were consistently external, unstable, and specific for positive events and causes that were internal, stable, and global for negative events.

Assumption 2: The Attributed Cause of a Life Event and the Causal Dimensional Ratings Are Consistent With One Another

A second assumption of the ASQ and similar AS measures is that there is consistency between the types of causes people habitually use to explain life events and the dimensional ratings of those causes (Peterson, 1991a, 1991b). According to Anderson (1991), "People may think categorically [about causes], then translate their thoughts into dimensional terms" (p. 298). In other words, when a person thinks about why an event occurred as it did, a cause may first come to mind, and its dimensional features may then follow. Most attributional style researchers have examined only the dimensional properties of attributions to understand the relations between the causal dimensions and subsequent expectancies, affect, and action tendencies (e.g., Peterson & Seligman, 1984). However, it is also possible, for example, that "success [and failure] expectancies may be influenced directly by the specific attribution (or its category membership) without any thought of dimensional properties" (Anderson, 1991, p. 299). In other words, the dimensional properties of causes may be less key (and the types of causes more central) than is generally assumed in AS research. Thus, before broader research questions (such as the predictive utility of knowledge of the causal explanation types) are explored in detail, it is essential to know whether people's dimensional ratings of the causes of ASQ events match the types of causes generated for those events. This question was the second aim of the present study; that is, to examine the match between the types of causes people use to explain ASQ events and the dimensional ratings of those causes.

Method

Participants

The participants were 220 Canadian university undergraduate volunteers (146 women and 74 men), who ranged in age from 17 to 55, with a mean age of 24.5 years ($SD = 7.2$). An APA standard informed consent and debriefing process was followed. Complete data were available for 218 participants. There were no effects stemming from the gender of the participants.

Procedure

The participants completed the ASQ (Peterson et al., 1982) and the Social Desirability Scale (SDS; Crowne & Marlowe, 1960). Half of the respondents completed the ASQ first and then the SDS, and the other half completed the SDS first. No order effects were found; because the responses to the SDS were part of another research project, they are not discussed further.

The participants were asked by the tester to read the ASQ instructions carefully and then to proceed at their own pace. The instructions ask participants to read each event, to vividly imagine its happening to them, and then to indicate one major cause for the event and rate the cause by circling one number on each of the three 7-point scales representing the locus of causality (internality–externality), stability, and globality causal dimensions. The ASQ scales are anchored so that external, unstable, and specific attributions receive lower scores and internal, stable, and global attributions receive higher scores (Peterson et al., 1982). Mean locus, stability, and globality scores were derived separately for the negative events and the positive events by averaging dimension ratings across the events. In addition, composite negative and composite positive scores were derived by averaging the locus, stability, and globality ratings separately for the negative events and for the positive events (Peterson et al., 1982). Optimistic and pessimistic dimensional attributional styles were determined by using a median split on the composite negative score (Peterson & Seligman, 1984).¹ The participants who scored above the median ($n = 113$) were classified as pessimists, and those who scored below the median ($n = 105$) were classified as optimists (Seligman & Schulman, 1986). There was no time limit, but all participants completed the questionnaires within 30 min.

Causes cited for each ASQ event by the 218 participants were first extracted and then categorized by one of three independent judges. We established inter-rater reliability before categorizing the causes by using a random sample of 20

¹We used the composite negative score to determine the dimensional attributional style in order to be consistent with past research; it is considered a better predictor of depression than the composite positive score or a total score (e.g., Peterson & Seligman, 1984).

questionnaires. To determine interrater reliability, we gave all judges the same 20 questionnaires and asked them to categorize the causes into one of the six following attribution categories: strategy, ability, effort, personality trait, mood, and others—external circumstances (Anderson, 1983a). Two additional categories were included, one for ambiguous responses and one for multiple responses. The judges used the definitions described in Anderson (1983a) for the six categories, and we defined the additional two categories (see Appendix). We calculated interrater reliability by using Cohen's kappa. The values of kappa for the three judge pairs were .72, .73, and .83 (all t values were highly significant), indicating good to strong agreement among the raters (Fleiss, 1981). For the 20 questionnaires coded by all three judges, consensus was reached on the causal category that was recorded. After interrater reliability was established, each judge was given 66 questionnaires to code each of the cited causes into one of the eight predetermined categories.

Results

Means, standard deviations, and alpha coefficients for the ASQ causal dimension scales and composite scales are presented in Table 1. To examine the reliability of the ASQ scales, we calculated coefficient alpha separately on the positive and negative events for each of the causal dimension scales (locus, stability, and globality) and the composite positive and composite negative scales. The obtained reliabilities were comparable with the results of other studies of the ASQ (e.g., Cutrona, Russell, & Jones, 1985; Higgins et al., 1999) but lower than the results reported by Peterson et al. (1982), particularly for the locus dimension.

Given the low ASQ scale reliabilities, we first conducted all the analyses involving attributional style (Assumption 1; see following paragraph) by using the responses of individuals who scored in the upper and lower thirds of the composite negative ASQ distribution. The pattern of results obtained was then compared with the pattern of results obtained by using a median split. The pattern of results from the two sets of analyses was essentially identical; thus, we have reported the findings based on the more conservative median split.

Assumption 1. To examine the match between the dimensionally derived attributional styles (i.e., optimistic and pessimistic) and the types of causes that the optimists and pessimists generated for the positive and negative events on the ASQ, we took two approaches. The first approach was to examine simple frequencies of citation of all types of causes by the optimists and pessimists separately. We examined whether participants cited some types of causes more frequently than others (consistent with their dimensional attributional style) or whether they cited all types of causes about equally often. As predicted by the attributional style model, chi-square analyses revealed that optimists cited some causes more than others for the positive events, $\chi^2(25) = 431.52, p < .0001$, and for the negative

TABLE 1. Mean Causal Dimension Scores, Composite Scores, and Reliabilities for Negative and Positive Events on the Attributional Style Questionnaire (ASQ; Peterson et al., 1982)

Event	Causal dimension			Composite
	Locus	Stability	Globality	
Positive ^a				
<i>M</i>	5.19	5.21	5.28	5.23
<i>SD</i>	1.50	1.28	1.59	1.46
<i>N</i>	216	214	213	213
α	.42	.46	.46	.69
Negative ^b				
<i>M</i>	4.34	4.03	4.01	4.12
<i>SD</i>	1.73	1.32	1.82	1.62
<i>N</i>	207	206	206	206
α	.36	.52	.62	.63

^aPositive events: "You meet a friend who compliments you on your appearance" (Event 1); "You become very rich" (Event 3); "You do a project that is highly praised" (Event 6); "Your spouse (boyfriend/girlfriend) has been treating you more lovingly" (Event 9); "You apply for a position that you want very badly (e.g., important job, graduate school admission), and you get it" (Event 10); and "You get a raise" (Event 12). ^bNegative events: "You have been looking for a job unsuccessfully for some time" (Event 2); "A friend comes to you with a problem, and you don't try to help him/her" (Event 4); "You give an important talk in front of a group, and the audience reacts negatively" (Event 5); "You meet a friend who acts hostilely toward you" (Event 7); "You can't get all the work done that others expect of you" (Event 8); and "You go out on a date, and it goes badly" (Event 11).

events, $\chi^2(25) = 195.01, p < .0001$.² However, the optimists were not consistent in citing one type of cause (i.e., internal) for all of the positive events or one type of cause (i.e., external) for all of the negative events. For example, for 1 positive event (Event 9) on the ASQ, optimists generated predominantly external causes (74%), whereas for another positive event (Event 12), they generated predominantly internal (i.e., effort) causes (60%). For 1 of the negative events (Event 7), the optimists cited predominantly external causes (85%), but for another negative event (Event 2), they cited more internal causes of all types (55%) than external causes (45%).

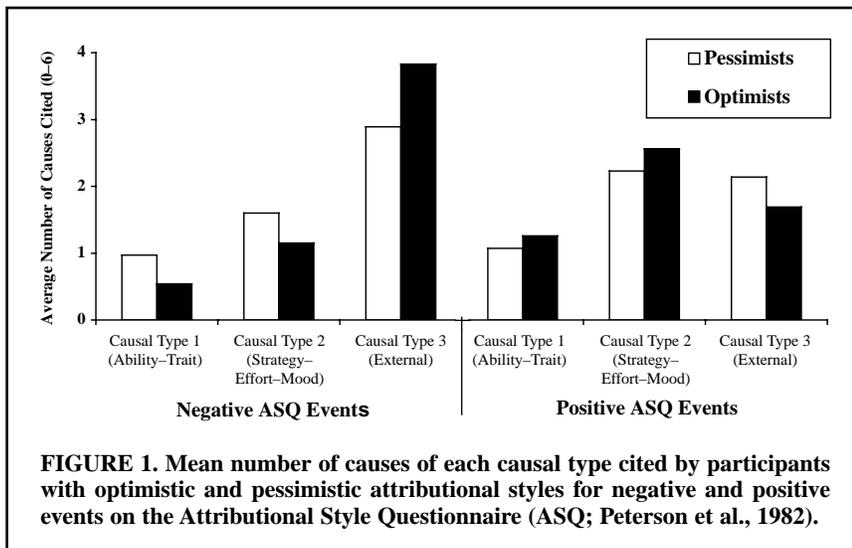
Similarly, the chi-square analyses revealed that the pessimists cited some causes more than others for the positive events, $\chi^2(25) = 466.95, p < .0001$, and for the negative events, $\chi^2(25) = 306.35, p < .0001$. However, the pessimists also

²In these and subsequent chi-square analyses, we excluded the ambiguous and multiple responses categories from the analysis. The frequency data for ambiguous and multiple responses categories are reported in Table 2 for information only.

were not consistent in citing one type of cause (i.e., external) for all the positive events or one type of cause (i.e., internal) for all the negative events on the ASQ. For example, for 1 positive event (Event 9) on the ASQ, the pessimists cited predominantly external causes (76%), whereas for another positive event (Event 6), they generated predominantly internal (i.e., effort) causes (62%). For one of the negative events (Event 11), the pessimists cited predominantly external causes (85%), but for another negative event (Event 2), they cited more internal causes of all types (90%) than external causes (9%).

The second approach that we took to examine the match between dimensional attributional styles and the types of causes generated for the ASQ events was to collapse the ability and trait causal categories to reflect internal, stable, and global explanations and to collapse the strategy, effort, and mood causal categories to reflect internal, unstable, and specific explanations. Ability and trait types of causes are considered to be internal and relatively uncontrollable, whereas strategy, effort, and mood types of causes are considered to be internal and relatively controllable (Weiner, 1986). For each participant, we then counted how many times each of three causal types—(a) ability–trait, (b) strategy–effort–mood, and (c) others–circumstances (external)—was cited for the positive events and, separately, how many times each causal type was cited for the negative events. Thus, each participant received a score of 0 to 6 (the number of positive or negative events) for each of the three causal categories, calculated separately for the positive and negative events, for a total of six scores for each participant. The count scores were then entered into a 2 (dimensional attributional style: optimistic, pessimistic) \times 2 (event valence: positive, negative) \times 3 (causal type: ability–trait, strategy–effort–mood, external) analysis of variance (ANOVA) with repeated measures on the last two variables. For an F statistic, small, medium, and large effects have partial eta-squared values of .010, .059, and .138, respectively (Cohen, 1992; Kirk, 1996).

The repeated measures ANOVA revealed a significant three-way interaction, $F(2, 426) = 11.34, p < .001$, partial $\eta^2 = .051$ (see Figure 1). Separate ANOVAs on the positive and negative events were used to test for the two-way interactions between attributional style and causal type. The 2 (dimensional attributional style: optimistic, pessimistic) \times 3 (causal type: ability–trait, strategy–effort–mood, external) ANOVA for the negative events revealed a significant main effect for causal type, $F(2, 426) = 191.92, p < .001$, partial $\eta^2 = .470$, and a significant interaction between attributional style and causal type, $F(2, 426) = 14.94, p < .001$, partial $\eta^2 = .066$. Optimists and pessimists used different types of causes to explain the negative events, with the optimists using more external causes and fewer internal causes (of either type) than the pessimists. All the mean differences between the optimists and pessimists for causal types used in explaining the negative events were significant at $p < .05$. In addition, both pessimists and optimists used significantly fewer ability–trait causes than strategy–effort–mood causes and significantly more external causes than



either type of internal cause to explain the negative events (all t values for mean differences were significant at $p < .001$).

In contrast, the 2 (dimensional attributional style: optimistic, pessimistic) \times 3 (causal type: ability-trait, strategy-effort-mood, external) ANOVA for the positive events revealed a significant main effect for causal type, $F(2, 426) = 46.2$, $p < .001$, partial $\eta^2 = .17$, and no interaction between attributional style and causal type, $F < 1$. The optimists and pessimists cited the same types of causes to explain the positive events, with both groups using more strategy-effort-mood causes than either of the other two types of causes (all t values for mean differences were significant at $p < .01$).

Assumption 2. To address the second aim of the study, we also used two approaches to the analyses. First, ignoring dimensional attributional styles, we used chi-square analysis to examine whether some types of causes were cited more frequently than others or whether all types of causes were cited about equally often for the ASQ events. The analyses revealed that some types of causes indeed were cited more frequently than others for the positive events, $\chi^2(25) = 875.12$, $p < .0001$, and for the negative events, $\chi^2(25) = 457.07$, $p < .0001$. For example (see Table 2), for one of the positive events (Event 9), 82% of the causes cited were external, whereas for another positive event (Event 6), 55% of the cited causes were internal (i.e., effort). Similarly, for one of the negative events (Event 11), 88% of the causes cited were external whereas for another negative event (Event 5), 37% of the cited causes were internal (i.e., strategy), and 42% were external.

TABLE 2. Frequency of Citation of Causes ($N = 218$) for Each Causal Category, for Positive Events and Negative Events on the Attributional Style Questionnaire (ASQ; Peterson et al., 1982)

Event no.	Causal category									Multiple response
	Strategy	Ability	Effort	Trait	Mood	External	Ambiguous			
Positive										
1	62	—	11	40	6	82	9			1
3	17	12	60	7	—	107	1			8
6	14	40	120	2	2	19	5			9
9	44	—	1	3	2	153	6			1
10	18	88	56	6	1	18	10			14
12	2	47	105	—	—	42	7			8
Negative										
2	21	60	32	21	4	62	6			5
4	16	47	30	8	11	82	10			5
5	73	18	17	3	4	83	8			3
7	40	—	—	1	4	150	9			3
8	23	12	20	1	3	144	6			3
11	12	—	1	3	9	179	6			1

Note. Positive and negative event numbers refer to the order of the event in the Attributional Style Questionnaire (ASQ; Peterson et al., 1982; for the actual ASQ events, see Table 1 notes). Frequencies for the ambiguous and multiple response categories were not included in the analysis and are shown for information only. Dashes indicate that no causes were cited that matched the causal category.

TABLE 3. Mean Locus Ratings for Positive and Negative Events on the Attributional Style Questionnaire (Peterson et al., 1982), by Causal Category

Event no.	Causal category							ANOVA
	Strategy	Ability	Effort	Trait	Mood	External		
Positive								
1	5.73 _a	—	5.36 _{ab}	5.73 _a	6.33 _a	4.73 _b	$F(4, 196) = 7.4^{**}$	
3	5.24 _a	5.92 _a	6.02 _a	5.57 _a	—	2.69 _b	$F(4, 198) = 52.2^{**}$	
6	5.71 _a	6.15 _a	6.15 _a	—	—	3.16 _b	$F(4, 189) = 52.2^{**}$	
9	5.68	—	—	—	—	4.05	$F(4, 195) = 47.7^{**}$	
10	5.78 _{ab}	5.73 _a	6.11 _a	—	—	4.89 _b	$F(3, 176) = 5.7^{**}$	
12	—	6.02 _a	6.11 _a	—	—	3.40 _b	$F(2, 191) = 96.7^{**}$	
Negative								
2	5.81 _{ab}	5.20 _a	6.25 _b	5.76 _{ab}	—	3.18	$F(4, 191) = 34.5^{**}$	
4	3.31 _{ac}	5.04 _b	4.77 _{abc}	6.25 _b	4.36 _{abc}	3.62	$F(5, 188) = 5.9^{**}$	
5	5.44 _a	6.11 _a	6.18 _a	—	—	3.66 _b	$F(3, 187) = 38.4^{**}$	
7	5.80	—	—	—	—	3.33	$F(1, 188) = 83.7^{**}$	
8	5.61 _a	6.33 _a	6.15 _a	—	—	3.56 _b	$F(3, 195) = 41.2^{**}$	
11	5.92 _a	—	—	—	5.44 _a	3.71 _b	$F(2, 197) = 32.9^{**}$	

Note. Subscripts for means are only for comparison in the same row. Means in the same row that do not share subscripts differ at $p < .05$ in the Tukey honestly significant difference comparison. Dashes indicate that no causes were cited that matched the causal category. Categories with fewer than five responses, ambiguous responses, and multiple responses were excluded from the analysis.
 $^{***}p < .001$.

TABLE 4. Mean Stability Ratings for Positive and Negative Events on the Attributional Style Questionnaire (Peterson et al., 1982), by Causal Category

Event no.	Causal category						ANOVA
	Strategy	Ability	Effort	Trait	Mood	External	
Positive							
1	4.95	—	4.82	4.95	5.17	4.78	$F(4, 195) = 0.3$
3	5.35 ^a	5.92 ^a	5.88 ^a	6.00 ^a	—	2.80 ^b	$F(4, 198) = 47.6^{**}$
6	5.36 ^a	5.50 ^a	5.68 ^a	—	—	4.37 ^b	$F(3, 189) = 8.1^{**}$
9	5.52	—	—	—	—	5.01	$F(1, 195) = 6.5^*$
10	5.83 ^{ab}	5.48 ^a	6.02 ^b	—	—	5.56 ^{ab}	$F(3, 176) = 3.7^*$
12	—	6.02 ^a	5.85 ^a	—	—	5.29 ^b	$F(2, 191) = 5.5^*$
Negative							
2	4.33	4.60	4.00	4.62	—	4.32	$F(4, 191) = 1.1$
4	3.31	3.74	3.70	4.38	3.82	3.60	$F(5, 188) = 0.8$
5	3.73	4.39	3.53	—	—	4.24	$F(3, 187) = 2.8$
7	3.53	—	—	—	—	3.80	$F(1, 188) = 1.5$
8	4.87	4.67	4.25	—	4.44	4.16	$F(3, 195) = 2.0$
11	3.75	—	—	—	—	4.04	$F(2, 197) = 1.2$

Note. Subscripts for means are only for comparison in the same row. Means in the same row that do not share subscripts differ at $p < .05$ in the Tukey honestly significant difference comparison. Dashes indicate that no causes were cited that matched the causal category. Categories with fewer than five responses, ambiguous responses, and multiple responses were excluded from the analysis.

* $p < .01$. ** $p < .001$.

TABLE 5. Mean Globality Ratings for Positive and Negative Events on the Attributional Style Questionnaire (Peterson et al., 1982), by Causal Category

Event no.	Causal category						ANOVA
	Strategy	Ability	Effort	Trait	Mood	External	
Positive							
1	5.34	—	6.10	5.23	6.17	5.14	$F(4, 194) = 1.8$
3	5.12 ^a	6.33 ^a	6.30 ^a	5.86 ^a	—	3.69 ^b	$F(4, 198) = 21.0^{**}$
6	5.86 ^a	5.68 ^a	5.93 ^a	—	—	4.63 ^b	$F(3, 189) = 7.1^{**}$
9	5.02	—	—	—	—	4.76	$F(1, 195) = 0.8$
10	5.78 ^{ab}	5.42 ^a	6.08 ^b	—	—	5.56 ^{ab}	$F(3, 176) = 4.1^*$
12	—	5.83 ^a	5.89 ^a	—	—	3.64 ^b	$F(2, 191) = 46.0^{**}$
Negative							
2	4.62 ^{ab}	4.05 ^{ac}	4.75 ^{ab}	5.71 ^b	—	3.77 ^{ac}	$F(4, 191) = 4.7^*$
4	3.00 ^a	3.55 ^a	4.97 ^b	4.88 ^{ab}	4.18 ^{ab}	3.72 ^a	$F(5, 188) = 3.5^*$
5	3.95 ^a	3.83	4.29	—	—	3.39	$F(3, 187) = 2.1$
7	3.68	—	—	—	—	3.37	$F(1, 187) = 0.9$
8	5.43 ^a	5.50 ^{ab}	4.55 ^{ab}	—	—	4.26 ^b	$F(3, 195) = 4.7^*$
11	4.25	—	—	—	4.44	3.78	$F(2, 197) = 1.0$

Note. Subscripts for means are only for comparison in the same row. Means in the same row that do not share subscripts differ at $p < .05$ in the Tukey honestly significant difference comparison. Dashes indicate that no causes were cited that matched the causal category. Categories with fewer than five responses, ambiguous responses, and multiple responses were excluded from the analysis.
 $*p < .01$. $**p < .001$.

Second, we examined the influence of causal category on dimensional ratings by using a one-way ANOVA (causal category: strategy, ability, effort, trait, mood, and external), separately for each dimension and for each event.³ Mean values of the dimensional ratings for each causal category are presented in Tables 3 (locus), 4 (stability), and 5 (globality). Tukey's honestly significant difference post hoc comparisons were performed to identify differences. The locus ratings differed across the causal categories, indicating that the cited cause affected participants' subsequent ratings on the locus rating scale on the ASQ (see Table 3). For example, the mean locus rating of participants who cited external-type causes for Event 5 (negative event) was significantly lower (i.e., more external) than the mean locus ratings of participants who cited any other type of cause for Event 5.

The stability ratings showed significant differences across the causal categories only for the positive events (see Table 4), with the exception of Event 1, $F < 1$. For example, the mean stability rating of participants who cited external-type causes for Event 3 (positive event) was significantly lower (i.e., less stable) than the mean stability ratings of those who cited any other type of cause for Event 3.

Results for the globality dimension were not as clear as those for locus and stability. The globality ratings were significantly different across causal categories for 4 of the 6 positive events and 3 of the 6 negative events (see Table 5), indicating that the cited cause affected participants' subsequent ratings on the globality dimension for those events on the ASQ. For example, the mean globality rating of participants who cited external-type causes for Event 6 (positive event) was significantly lower (i.e., less global) than the mean globality ratings of those who cited any other type of cause for Event 6.

We found significant differences on all three of the dimensions (locus, stability, and globality) for Events 3, 6, 10, and 12 (all positive events), suggesting that for these events in particular, the type of cause cited by participants largely determined their subsequent dimensional ratings. In general, when external-type causes were cited for these ASQ events, they were also rated as more external, unstable, and specific than were other types of cited causes.

Discussion

Although the ASQ makes specific assumptions about the connection between the causes (explanations) that people cite for life events and the dimensional ratings of the causes, neither of these assumptions previously had been tested directly. The present data supported the assumption that the attributional styles measured by the ASQ determine to some extent the type of causes used to explain events, at least for negative life events. As predicted by the reformulated learned

³We excluded the ambiguous and multiple response categories, as well as causal categories with fewer than five responses, from the analyses.

helplessness model (Abramson et al., 1978), the optimists cited more external than internal causes for negative life events and more external causes than the pessimists did for the negative events. In addition, the pessimists cited more internal, stable, and global (i.e., ability and trait) causes for negative events than did the optimists. However, inconsistent with the reformulated model, the pessimists also cited more external than internal causes for the negative life events and cited more internal, unstable, and specific (i.e., strategy, effort, and mood) causes than did the optimists for the negative events.

Thus, the picture is somewhat more complex than the usual assertions that (a) a pessimist tends to make internal, stable, and global attributions for negative events and (b) an optimist tends to make external, unstable, and specific attributions for negative events. There was clear evidence in the present data of a self-serving tendency (Nisbett & Ross, 1980) to explain positive events with internal, controllable causes (i.e., strategy or effort) and to explain negative events with external causes (i.e., others—circumstances), irrespective of attributional style. That is, both the pessimists and the optimists were prone to the self-serving bias to explain good events with more personally controllable causes (i.e., strategy and effort) and to explain negative events with more external causes. In addition, the pessimists and optimists showed an illusion of control bias (Langer, 1975) in citing more internal, controllable causes (i.e., strategy and effort) than internal, uncontrollable causes (i.e., ability and trait) to explain ASQ events. The finding that optimists and pessimists shared some features (e.g., a self-serving bias) of the causal attributions made for ASQ events and did not share other features demonstrates that causal attributions about life events were determined by both style and event, which is consistent with other findings of the contributions of the person and the situation to causal attributions (e.g., Anderson & Weiner, 1992; Higgins et al., 1999). Thus, the idea that “the reality of a situation may be irrelevant to individual differences in explanatory style” (Schulman et al., 1989, p. 508) was not supported. Furthermore, although it should be possible to differentiate between optimists and pessimists by the causes that they use to explain the ASQ events, the present findings demonstrated that the ASQ did not distinguish between these two groups for all 12 events. Because participants in this study cited causes consistent with their attributional styles for only some of the ASQ events, perhaps some of the ASQ events are irrelevant to certain attributional styles, and only those scenarios that have more relevance or that distinguish between the styles should be included in future versions of the questionnaire (Tennen & Herzberger, 1985).

In the present study, the ASQ events themselves were significant determinants of the causal attributions made about the events. Independently of a person's attributional style, different types of causes were cited for the ASQ events, which is consistent with other research that has demonstrated that the types of causes people use to explain an event depend to some extent on the type of event (Anderson, 1983a). Furthermore, the present data showed that the types of cited

causes for some of the ASQ events were consistent with participants' causal dimension ratings, supporting the assertion that dimensional information may be contained in knowledge about the causal category (Anderson, 1991).

There have been many debates surrounding attributional styles and their measurement. These debates have centered on the psychometric properties of the dimensional scales because the relations between the causal dimensions of attributions and subsequent expectancies, affect, and action tendencies are considered to be crucial to understanding reactions to negative life events (e.g., Anderson, Horowitz, & French, 1983; Peterson & Seligman, 1984). Basically, the evidence of the impact of causal attributions and attributional styles indicates that the way a person explains good and bad events in his or her life greatly determines how that person feels and behaves in response to those events. All of that evidence is based on the dimensional ratings of causes used to explain events. However, the present findings suggest that the dimensional ratings of ASQ causes may be less key (and the types of causes more central) than is generally assumed by AS researchers. Future investigators might focus on the predictive utility of the types of causal explanations that people use for the ASQ events. For example, as Anderson (1991) proposed, an attribution's "category membership" (i.e., type) may directly influence success and failure expectancies. Affects and action tendencies may also be directly influenced by an attribution's causal type.

The present findings suggest that an accurate specification of the pessimistic and optimistic attributional style constructs (a) would embed the definitions of the styles in the relatively universal self-serving and illusion-of-control biases that exist in people's causal explanations for events and (b) would clarify that pessimists use more internal causes of all types (both controllable and uncontrollable), but fewer external causes, than optimists do for negative life events. The construct definitions also should clarify that optimists and pessimists cite similar types of causes for positive events and that both focus primarily on personally controllable causes when good events occur. Future researchers might investigate whether there are subtypes of pessimism in which only some pessimists tend to explain negative events with personally uncontrollable causes (i.e., ability and trait), whereas other pessimists explain the negative events with personally controllable causes (i.e., strategy, effort, and mood). Evidence of the construct of "defensive pessimism" (Norem & Cantor, 1986) is consistent with this possibility.

The present evidence of consistency in people's causal attributions about the ASQ events, in combination with the evidence of discriminativeness in the causal attributions and the presence of the self-serving and illusion-of-control biases, indicates that the ASQ events play a role in determining people's causal choices as well as their dimensional ratings. Thus, attributional styles appear to exist within a situational or event context, rather than as cognitive habits that are independent of the types of life events one is faced with explaining.

REFERENCES

- Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.
- Alfano, M. S., Joiner, T. E., Jr., & Perry, M. (1994). Attributional style: A mediator of the shyness–depression relationship? *Journal of Research in Personality, 28*, 287–300.
- Alloy, L. B., Just, N., & Panzarella, C. (1997). Attributional style, daily life events, and hopelessness depression: Subtype validation by prospective variability and specificity of symptoms. *Cognitive Therapy and Research, 21*, 321–344.
- Alloy, L. B., Peterson, C., Abramson, L. Y., & Seligman, M. E. P. (1984). Attributional style and the generality of learned helplessness. *Journal of Personality and Social Psychology, 46*, 681–687.
- Anderson, C. A. (1983a). The causal structure of situations: The generation of plausible causal attributions as a function of type of event situation. *Journal of Experimental Social Psychology, 19*, 185–203.
- Anderson, C. A. (1983b). Motivational and performance deficits in interpersonal settings: The effect of attributional style. *Journal of Personality and Social Psychology, 45*, 1136–1147.
- Anderson, C. A. (1985). Actor and observer attributions for different types of situations: Causal structure effects, individual differences, and the dimensionality of causes. *Social Cognition, 3*, 323–340.
- Anderson, C. A. (1991). How people think about causes: Organization of attributions for success and failure. *Social Cognition, 9*, 295–329.
- Anderson, C. A., Arnoult, L. H., & Jennings, D. L. (1988). Validity and utility of the attributional style construct at a moderate level of specificity. *Journal of Personality and Social Psychology, 55*, 979–990.
- Anderson, C. A., & Deuser, W. E. (1991). Science and the reformulated learned-helplessness model of depression. *Psychological Inquiry, 2*, 14–19.
- Anderson, C. A., Horowitz, L. M., & French, R. (1983). Attributional style of lonely and depressed people. *Journal of Personality and Social Psychology, 45*, 127–136.
- Anderson, C. A., & Weiner, B. (1992). Attribution and attributional processes in personality. In G. Caprara & G. van Heck (Eds.), *Modern personality psychology: Critical reviews and new directions* (pp. 295–324). Harvester Wheatsheaf.
- Carver, C. S., & Scheier, M. F. (1991). Unresolved issues regarding the meaning and measurement of explanatory style. *Psychological Inquiry, 2*, 21–24.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155–159.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349–354.
- Cutrona, C. E., Russell, D., & Jones, R. (1985). Cross-situational consistency in causal attributions: Does attributional style exist? *Journal of Personality and Social Psychology, 47*, 1043–1058.
- Fleiss, J. L. (1981). *Statistical methods for rates and proportions* (2nd ed.). New York: Wiley.
- Higgins, N. C., & Morrison, M. A. (1998). Construct validity of unsupportive attributional style: The impact of life outcome controllability. *Social Indicators Research, 45*, 319–342.
- Higgins, N. C., Zumbo, B. D., & Hay, J. L. (1999). Construct validity of attributional style: Modeling context-dependent item sets in the Attributional Style Questionnaire. *Educational and Psychological Measurement, 59*(5), 804–820.
- Kirk, R. E. (1996). Practical significance: A concept whose time has come. *Educational and Psychological Measurement, 56*, 746–759.
- Langer, E. (1975). The illusion of control. *Journal of Personality and Social Psychology, 47*, 1103–1112.

- 32, 311–328.
- Lee, Y., & Seligman, M. E. P. (1997). Are Americans more optimistic than the Chinese? *Personality and Social Psychology Bulletin*, 23, 32–40.
- Lefcourt, H. M., von Baeyer, C. L., Ware, E. E., & Cox, D. J. (1979). The Multidimensional-Multiattribitional Causality Scale: The development of a goal-specific locus of control scale. *Canadian Journal of Behavioral Science*, 11, 286–304.
- Maher, K. J., & Nordstrom, C. R. (1996). Intermediate-level indices of attributional style: Are they necessary? *Journal of Social Behavior and Personality*, 11(2), 345–354.
- Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice Hall.
- Norem, J. K., & Cantor, N. (1986). Defensive pessimism: Harnessing anxiety as motivation. *Journal of Personality and Social Psychology*, 51, 1208–1217.
- Peterson, C. (1991a). Further thoughts on explanatory style. *Psychological Inquiry*, 2, 50–57.
- Peterson, C. (1991b). The meaning and measurement of explanatory style. *Psychological Inquiry*, 2, 1–10.
- Peterson, C., Luborsky, L., & Seligman, M. E. P. (1983). Attributions and depressive mood shifts. *Journal of Abnormal Psychology*, 92, 96–103.
- Peterson, C., & Seligman, M. E. P. (1984). Causal explanations as a risk factor for depression: Theory and evidence. *Psychological Review*, 91, 347–374.
- Peterson, C., & Seligman, M. E. P. (1987). Explanatory style and illness. *Journal of Personality*, 55, 237–265.
- Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. P. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research*, 6, 287–300.
- Rotter, J. B. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice Hall.
- Schulman, P., Castellon, C., & Seligman, M. E. P. (1989). Assessing explanatory style: The content analysis of verbatim explanations and the Attributional Style Questionnaire. *Behavior Research Therapy*, 27, 505–512.
- Seligman, M. E. P., & Schulman, P. (1986). Explanatory style as a predictor of productivity and quitting among life-insurance agents. *Journal of Personality and Social Psychology*, 50, 832–838.
- Sweeney, P. D., Anderson, K., & Bailey, S. (1986). Attributional style in depression: A meta-analytic review. *Journal of Personality and Social Psychology*, 50, 974–991.
- Tennen, H., & Herzberger, S. (1985). Attributional Style Questionnaire. In D. J. Keyser & R. C. Sweetland (Eds.), *Test critiques* (Vol. 4, pp. 20–32). Kansas City, MO: Test Corporation of America.
- Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.
- Xenikou, A., Furnham, A., & McCarrey, M. (1997). Attributional style for negative events: A proposition for a more reliable and valid measure of attributional style. *British Journal of Psychology*, 88, 53–69.

APPENDIX

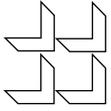
Definitions of Causal Categories (Nos. 1–6, as described in Anderson, 1983a)

1. *Strategy*: Explains the outcome in terms of the person's particular approach, tactic, or method (e.g., the wrong technique, poor presentation, boring talk, way of dressing).

2. *Ability*: Explains the outcome in terms of the person's competence or lack of competence (e.g., is good at . . . ; is qualified; is not able to help).
3. *Effort*: Explains the outcome in terms of how hard the person has tried (e.g., worked hard, didn't try very hard, was unprepared; was lazy).
4. *Trait*: Explains the outcome in terms of some pervasive characteristic of the person other than ability (e.g., aggressiveness, physical appearance).
5. *Mood*: Explains the outcome in terms of a transitory mood state (e.g., bad mood, anger, happiness, etc.).
6. *Others–Circumstances*: Explains the outcome in terms of any remaining external circumstances beyond the person's control—these can include another person's strategy, ability, effort, trait, and mood (e.g., the other person misunderstood me; the other person liked the way the project was done); luck or lottery; and time.
7. *Ambiguous*: The cause is ambiguous, could fit into more than one category, or both.
8. *Multiple response*: More than one cause is given.

Received August 22, 2001

Accepted March 20, 2002



Instructions to Authors

The Journal of Social Psychology publishes original empirical research in all areas of basic and applied social psychology. Preference will be given to manuscripts that report laboratory or field research in core areas of social and organizational psychology including, but not limited to, the self, attribution theory, attitudes, social influence, consumer behavior, decision making, groups and teams, stereotypes and discrimination, interpersonal attraction, prosocial behavior, aggression, organizational behavior, leadership, and cross-cultural studies.

Regular-length papers should be approximately 5 to 35 manuscript pages and must contain an Abstract of approximately 120 words. Longer papers should be submitted to *Genetic, Social, and General Psychology Monographs*. Cross-Cultural, Current Problems and Resolutions, and Replications and Refinements Notes are approximately 500 words at most and contain no abstract, headings, tables, or figures.

To prevent overgeneralization and to indicate the limitations of the results, please observe the following guidelines:

1. Specify the participants' national, cultural, and educational provenance.
2. Qualify generalizations and conclusions, using phrases indicating that only a portion of humanity has been sampled—for example, "among Americans," "when college students are tested," "in the case of European workers."
3. Include correlation matrices and effect size where appropriate.

Print all manuscripts on heavy paper, 8½ × 11 in. (22 × 28 cm), double space all

lines, and leave 1½-in. (4-cm) margins on each side. Submit two copies of the manuscript with a letter stating that the manuscript is not under concurrent consideration elsewhere. Each manuscript will be reviewed by our editorial board, a process that ordinarily requires 6 to 8 months. Blind review is available upon request. Await acceptance before sending disks; instructions for preparing disks will be included in the acceptance letter.

Manuscripts must adhere to the conventions of style and format described in the *Publication Manual of the American Psychological Association* (5th ed.). The checklist on pp. 379–382 of the manual is especially helpful. Authors whose first language is not English should ask a fluent English-speaker to review their manuscripts before submission. Include a separate title page that lists the departmental affiliations of all authors, any author identification notes, and a mailing address for correspondence. The author will be asked to submit figures in their original source file upon acceptance of a manuscript for publication. Accepted manuscripts will be edited for clarity and adherence to APA and Heldref style rules.

Each author will receive two complimentary copies of the issue in which his or her article appears as well as permission to reproduce additional copies of that article. Contributors may order reprints at their own expense through Heldref Publications.

Address manuscripts to Managing Editor, **The Journal of Social Psychology**, 1319 Eighteenth Street, NW, Washington, DC 20036-1802. Phone: 202-296-6267; fax: 202-296-5149.