

An Individual Differences Measure of Attributions Affecting Helping Behavior

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Incorporating individual differences in causal attributions has been successful in self perception but there has been little attention to attributional styles in person perception. A key domain in person perception is attributions affecting helping behavior. Attributing a negative outcome to causes personally controllable by the victim elicits anger/disgust toward the victim and low levels of aid. Thus, a tendency to make such attributions (i.e., an unsupportive attributional style) should reduce the likelihood of helping behavior. Two studies examined the factor structure, reliability, and predictive validity of the *Reasons for Misfortune Questionnaire* (RMQ), a measure of unsupportive attributional style. The findings demonstrate that unsupportive attributional style is an individual differences moderator variable in the attributional theory of helping behavior, and extend personality research on at-risk populations in health care domains.

Incorporation of individual differences in attributions into the study of causal attributions has been successful, most notably with the *Attributional Style Questionnaire* (ASQ; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982; see also Peterson & Seligman, 1984; Sweeney, Anderson, & Bailey, 1986). However, individual differences are important not only in self perception but also in person (other) perception—the interpretation of why others have good or bad outcomes in life (Heider, 1958). “Why” questions in response to the occurrence of negative outcomes initiate the onset of attributional processes (Wong & Weiner, 1981) and people’s answers to “why” questions (i.e., causal attributions) play a significant role in determining their reactions to their own and/or to others’ negative outcomes (Coates, Wortman, & Abbey, 1979; Lerner & Miller, 1978; Weiner, 1985).

Weiner’s (1985) model of helping behavior postulates that causal attributions (i.e., inferences about the causes of events and outcomes)—and specifically dimensions of causes—indirectly determine helping

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behavior. The model proposes an "attribution—effect—action motivational sequence, in which thoughts determine what we feel and feelings determine what we do" (Weiner, 1980b, p. 676). The attributional model focuses on two dimensions of causal attributions about others' negative outcomes: (1) the *locus* of causality, and (2) *controllable-uncontrollable* causes.¹ The causal dimensions (*locus*, *controllability*) are considered to be conceptually—if not always empirically—distinct.² Moreover, internal, controllable causes (e.g., a poor strategy) about a victim's problem have a distinct theoretical role in helping behavior. Specifically, attributing a negative outcome to causes that are personally (i.e., internally) controllable by the victim elicits anger or disgust toward the victim and low levels of aid (neglect). In contrast, attributing a negative outcome to causes that are personally uncontrollable by the victim elicits sympathy toward the victim, which in turn increases the likelihood of helping behavior (Weiner, 1985).³ For example, a personally controllable cause of needing notes for missed classes would be "she took a ski holiday," and a personally uncontrollable cause would be "she had to have eye surgery." Both causes are internal to the needy person but differ in personal control. The causal dimensions (*locus* and *controllability*) and their initiating role in the emotion-mediation of helping behavior have been substantiated in numerous experimental and correlational studies (Graham, Weiner, Guiliano, & Williams, 1993; Ickes & Kidd, 1976; Marjanovic, Greenglass, Struthers, Faye, 2009; Mosher & Danoff-Burg, 2008; Reizenzein, 2014; Reizenzein & Rudolph, 2018; Schwarzer & Weiner, 1991; Weiner, 1980a, 1980b, 1985; 2018; Weiner, Perry, & Magnussen, 1988; for reviews, see Schmidt & Weiner, 1988, and Rudolph, Roesch, Greitemeyer, & Weiner, 2004).

Research on individual differences in causal attributions about others' negative outcomes (attributional styles) corroborates Weiner's helping model, linking unsupportive attributional style (i.e., a tendency to explain others' negative outcomes with causes personally controllable by the victim) with harsh treatment of others (Higgins & Shaw, 1999; Lundquist, Higgins, & Prkachin, 2002). For example, in an experiment on people's reactions to pain patients undergoing physiotherapy (Lundquist et al., 2002), participants with an unsupportive attributional style were more punitive (choosing a harsher treatment) if there was no physical evidence to support the pain. In contrast, participants with a supportive attributional style (i.e., a tendency to explain others' negative outcomes with causes personally uncontrollable by the victim) were not affected by the presence or absence of physical evidence to support patients' pain. Notably, all participants accurately detected patients' pain levels from videotaped facial displays, but accurate detection of pain did

not guarantee unbiased reactions toward the patient. Similarly, in a field experiment on helping behavior, participants with an unsupportive attributional style were more punitive (less likely to lend their class notes) to a classmate if the reason for need was controllable (i.e., a ski trip). In contrast, participants with a supportive attributional style were equally helpful to a classmate who needed class notes due to a ski trip or due to undergoing eye surgery (Higgins & Shaw, 1999).

Studies confirming attributional styles as a risk factor in reactions to victims add to the overall construct validity of the attributional theory of helping behavior and propose attributional style as a moderator variable. Additional studies of attributional styles are emerging in attempts to better understand the role of this style in caregiver-patient interactions (Crego, Martínez-Iñigo, & Tschan, 2013; Drach-Zahavy, 2004; Drach-Zahavy & Somech, 2006; Golfenshtein & Drach-Zahavy, 2015; Shugarman, et al, 2010), in compensation and therapy decisions (Elander, Marczevska, Amos, Thomas, & Tangayi, 2006; Perreault & Dionne, 2005; Prkachin, Mass, & Mercer, 2004), and in perceptions of need cross-culturally (Shirazi & Biel, 2005). The few studies addressing the construct validity of the measure of unsupportive attributional style, the *Reasons for Misfortune Questionnaire* (RMQ; Higgins, 1992)—i.e., that “personal control” comprises a factor that is reliable, cohesive, and distinct from other causal attributional dimensions—include a latent structural modeling analysis of the RMQ which provided evidence of a three dimensional structure involving “personal control,” “external control,” and “stability” factors (Higgins & Morrison, 1998; Higgins & Shaw, 1999). Thus the first aim of the present study was replication of the RMQ’s factor structure in order to provide convergent evidence of “personal control” as a reliable and distinct factor representing unsupportive attributional style. Specifically, the study sought to determine if the attributional dimensions measured by the RMQ (personal control, stability, external control) emerge as cohesive factors, discriminable from one another. The second aim of the present study was to explore the RMQ’s predictive validity in a questionnaire experiment on helping behavior, and specifically to determine if unsupportive attributional style moderated sympathy and helping judgments as predicted by Weiner’s (1985) model.

STUDY 1

Method

Participants Eight hundred and five (511 females, 294 males; mean age = 21.1, $SD = 2.89$) undergraduate students provided informed consent to participate in the study and were tested in groups of 10 - 15 students in a classroom setting. All participants were drawn from

introductory psychology courses at a Canadian university and received research credit for participating.

Procedure

Participants were informed that the study involved filling out a paper and pencil questionnaire about their reactions to negative life outcomes of others, following which they received a partial debriefing. The questionnaire administered was the *Reasons for Misfortune Questionnaire* (RMQ; Higgins, 1992), which was designed to measure unsupportive and supportive attributional styles. The RMQ (see Appendix) is based on the *Causal Dimension Scale II* (CDSII; McAuley, Duncan, & Russell, 1992), a measure of causal attributions about single events or outcomes. Similar to other attributional style measures (Anderson, 1983; 1985; Metalsky, Halberstadt, & Abramson, 1987; Peterson et al., 1982), the RMQ is comprised of six (6) hypothetical negative outcomes that happen to others. The RMQ detailed instructions are shown in the Appendix.

For each negative outcome on the RMQ, the attributional dimensions (“locus,” “internal control,” “stability,” “external control”) are each measured by 3 rating scales (see Appendix footnote). The rating scales are 9-point, Likert-type scales, bipolar and anchored so that, after reverse-scoring the stability items, internal, internally-controllable, externally-controllable, and unstable attributions receive higher scores. Scores for each scale (e.g., Locus-1) are averaged or summed across the six negative outcomes, resulting in twelve continuous scale scores. The Appendix illustrates one of the RMQ negative outcomes (Cancer) and the rating scales.

Analysis

Factor Structure. RMQ responses were factor analyzed. As an overall summary of our factor analysis method in Study 1 (and Study 2 below), principal components analysis was initially used as a pointer to determine the number of factors, and when the number of factors was determined, principal axis factor extraction was then used to fit the factor model. Therefore, in the initial step of the analysis of each sample, a series of statistical pointers (Liu, Zumbo, & Wu, 2012; Zumbo, 2007) were used to aid in determining the number of factors by (i) eigenvalues greater than 1.0 of unrotated factors (Kaiser, 1961), and (ii) a scree test (Cattell, 1966) of the eigenvalues of the correlation matrix. As suggested by Zumbo (2007), once the number of factors was determined, principal axis extraction was used with oblique rotation (Promax). If the interfactor correlations were small (less than .30, Tabachnick and Fidell (2007)) then to achieve simple structure of the extracted factors, we used

orthogonal rotation (Varimax). Factor loadings equal to or greater than .40 identified salient items.

Results and Discussion

Descriptive Data Means, standard deviations, and coefficient alpha reliabilities for RMQ scale items are presented in Table 1.⁴ As shown in Table 1, coefficient alpha reliabilities of the causal dimension scales were

TABLE 1 Means, SDs, & Alpha (α) Reliabilities of the Causal Dimension Scales of the *Reasons for Misfortune Questionnaire* in Studies 1 & 2

Scale	Study 1			Study 2		
	Mean	SD	α	Mean	SD	α
Locus-1	5.15	1.16		5.07	1.13	
Locus-2	5.16	1.17	.69	5.05	1.20	.70
Locus-3	6.29	1.05		6.21	1.06	
Internal Control-1	5.69	1.09		5.75	1.11	
Internal Control-2	5.57	1.08	.86	5.52	1.06	.84
Internal Control-3	5.65	1.10		5.71	1.14	
Stability-1	5.33	1.23		5.35	1.33	
Stability-2	5.84	1.20	.69	5.99	1.23	.62
Stability-3	6.22	1.23		6.31	1.22	
External Control-1	4.18	1.24		4.2	1.34	
External Control-2	4.09	1.22	.88	4.09	1.21	.87
External Control-3	4.13	1.30		4.03	1.30	

Notes: α = coefficient alpha. Sample sizes were N = 805 (Study 1) and N = 364 (Study 2).

good and the obtained reliabilities compared well to results of other attributional style measures (Anderson, 1985). For example, Anderson and Riger (1991) reported the following coefficient alpha reliabilities for the ASAT-IV: .56 (locus), .57 (controllability), .63 (stability). The obtained reliabilities were also in the range of those reported by McAuley et al. (1992) who found, in four separate studies on the CDSII (the basis of the RMQ), coefficient alpha reliabilities that averaged .67, .80, .68, and .82 for the Locus, Internal Control, Stability, and External Control scales, respectively.

Factor Analyses Three factors (and only three) had initial eigenvalues greater than 1, and a clearly identifiable “scree” occurred after three factors. As shown in Table 2 (Study 1), three factors were extracted that clearly corresponded to the three causal attributional

dimensions ("Personal Control", "External Control", and "Stability"). Cross-loading of items (e.g., of external control items on the Stability factor) was negligible. For the Personal Control, External Control, and Stability factors, the average cross-loading of non-factor items in Study 1

TABLE 2 Rotated Factor Loadings of Causal Dimension Scale Items on the *Reasons for Misfortune Questionnaire* in Studies 1 & 2

Scale	Study 1				Study 2			
	Factor 1	Factor 2	Factor 3	Com.	Factor 1	Factor 2	Factor 3	Com.
L1	.723	-.095	-.191	.569	.743	-.097	-.109	.573
L2	.559	-.133	-.354	.455	.570	-.120	-.308	.435
L3	.575	-.403	-.218	.541	.610	-.317	-.232	.526
IC1	.819	.099	.190	.716	.812	.053	.201	.702
IC2	.795	.145	.238	.711	.796	.083	.174	.671
IC3	.770	.040	.212	.639	.726	.125	.243	.601
S1	.024	-.045	.812	.661	.012	-.069	.774	.604
S2	-.136	.031	.711	.536	-.131	-.067	.655	.451
S3	.313	-.110	.723	.622	.343	.005	.715	.630
EC1	.028	.896	-.039	.806	-.043	.877	-.055	.775
EC2	-.049	.886	-.063	.792	-.061	.898	-.044	.812
EC3	.016	.867	-.043	.754	.036	.860	-.048	.743
Eigenvalue	3.24	2.55	2.00		3.29	2.43	1.79	

Notes: Locus scales = L1, L2, L3. Internal Control scales = IC1, IC2, IC3. Stability scales = S1, S2, S3. External Control scales = EC1, EC2, EC3. In both studies, Factor 1 = Personal Control; Factor 2 = External Control; Factor 3 = Stability. In both studies, all other eigenvalues were less than 1.0. Com. = Communality

was .03, -.05, and -.03, respectively. Factors 1 (Personal Control), 2 (External Control), and 3 (Stability) accounted for 26.52%, 21.48%, and 17.02% of the total variance, respectively (65.02% of total variance overall). Moreover, and consistent with the negligible cross-loadings, factor intercorrelations ranged between -.02 to .13 in Study 1, indicating that the factors were unique.

The findings of Study 1 confirm the three factor structure of the RMQ. Three attributional dimensions (personal control, external control, stability) emerged as cohesive and distinct factors. In addition, the RMQ showed good scale reliabilities. RMQ scale reliabilities were comparable to CDSII scale reliabilities (McAuley et al., 1992), and substantially better than the reliabilities of other attributional style scales, such as those on the ASQ and EASQ (Metalsky et al., 1987). For example, the "internality" scale on the ASQ and EASQ yielded reliability coefficients

of only .33 (Cutrona, Russell, & Jones, 1985) and .46 (Peterson et al., 1982). Joiner & Metalsky (1999) did not report coefficient alpha reliabilities for the “internality” dimension in a validity study of the EASQ, but the twelve “internality” items showed an average factor loading of only .40 (range: .22 - .56). By comparison, in the present Study 1, coefficient alpha reliability for the personal control dimension on the RMQ was .80, and the average factor loading for that dimension was .70.

Thus, in Study 1, the attributional dimensions measured by the RMQ (personal control, stability, external control) emerged as cohesive factors, discriminable from one another. The second aim of the present study was to explore the RMQ’s predictive validity in a questionnaire experiment on helping behavior, and specifically if unsupportive attributional style moderated sympathy and helping judgments as predicted by Weiner’s (1985) model.

STUDY 2

Method

Participants Three hundred sixty-four (223 females, 141 males; mean age 21.8, *SD* 4.29) undergraduate students provided informed consent to participate in the study.

Procedure and design The procedure for administering the RMQ was the same as in Study 1, with the exception that it was also explained at the outset of administering the RMQ that some students may be asked to return in a few weeks to complete a follow-up questionnaire. Approximately five weeks after completing the RMQ, eighty (52 females, 28 males) participants were contacted and returned individually to a lab setting to complete a short questionnaire that examined their causal beliefs, sympathy, and helping judgments. The participants (22% of the sample) were students with a supportive ($n = 40$) or an unsupportive ($n = 40$) attributional style, contacted because they scored in the bottom one-third (supportive) or top one-third (unsupportive) of the attributional style distribution. Students who participated in the follow-up portion of the study believed they were randomly chosen to take part in the follow-up. Follow-up testing took approximately ten minutes per person and approximately twelve days for all participants to be individually tested. Participants were informed that the follow up session involved filling out a paper and pencil questionnaire about their reactions to negative life outcomes of others, following which they received a partial debriefing. Full debriefing of all participants occurred at the completion of the follow-up testing.

Causal Beliefs, Sympathy, and Helping Judgments Questionnaire. The questionnaire presented each participant with a hypothetical helping situation (“a classmate needing to borrow class notes” [adapted from

Weiner, 1980a)]—a highly relevant helping situation for university students (Rudolph et al., 2004). In the scenario, a classmate's personal control over the reason for need was manipulated to be controllable ("ski trip") or uncontrollable ("eye surgery"). After reading the story, participants rated how internal, internally-controllable, and stable they viewed the reason for the classmate's need, as well as how much sympathy they felt, and how likely they would be to help the classmate by lending their class notes. All ratings were on 9-point, Likert-type scales, anchored with descriptors on either end. High scores on the scales represent more internal, internally-controllable, and unstable attributions about the reason for need, and more sympathy for and helping of the needy classmate.

Experimental Design. Participants in each of the follow-up attributional style groups (Supportive AS, $n = 40$; Unsupportive AS, $n = 40$) were randomly assigned to the uncontrollable reason ("eye surgery") or controllable reason ("ski trip") group. Thus, there were four experimental groups of twenty (20) participants each. A matched pairs random assignment ensured that the variability of attributional style scores within each experimental group was comparable. Only the treatment variable is an experimental variable; attributional style is a quasi-experimental variable. Dependent variables were causal beliefs, sympathy, and helping judgments.

Ethical Considerations. Several steps were taken to ensure that this study met APA ethical guidelines. First, approval was obtained from the institutional ethics board before the study began. Second, we obtained written (and informed) permission from all participants. The informed consent form explained the nature of the task and the approximate amount of time involved. Participants were aware at the beginning of their first session that they may be contacted for a follow-up questionnaire and were provided with an option of "no further contact" if they wished not to be contacted. None of the participants declined to be contacted. Participants were told that they may leave the study at any time without the loss of any research credit. Participants also had the option of having their questionnaire(s) destroyed and omitted from the results of the study. None of the participants chose this option. Third, participants were partially debriefed immediately after their participation, and, after follow-up testing was completed, all participants were provided a full debriefing in which the purpose of the study was explained, with a brief lesson about the attributional theory of helping behavior. Their attributional style was not divulged and only aggregate results were made available.

Results

Descriptive Data Means, standard deviations, and coefficients alphas for RMQ scale items are presented in Table 1 (Study 1) and Table 2 (Study 2). As shown in Table 2, coefficient alpha reliabilities of the causal dimension scales were good, were comparable with those found in Study 1, and thus compared well to results of other attributional style measures (Anderson, 1985; Anderson & Riger, 1991; McAuley et al, 1992).

Factor Analysis As in Study 1, three factors (and only three) had initial eigenvalues greater than 1, and a clearly identifiable “scree” occurred after three factors. As shown in Table 2 (Study 2), three factors were extracted that clearly corresponded to the three causal attributional dimensions (“Personal Control”, “External Control”, and “Stability”). Cross-loading of items (e.g., of external control items on the Stability factor) was negligible. For the Personal Control, External Control, and Stability factors, the average cross-loading of non-factor items was .02, -.04, and -.02, respectively.

In Study 2, factors 1 (Personal Control), 2 (External Control), and 3 (Stability) accounted for 26.74%, 20.62%, and 15.31% of the total variance, respectively (62.68% of total variance overall). Moreover, and consistent with the negligible cross-loadings, factor intercorrelations ranged between -.06 to .14, indicating that the factors were unique. Coefficient alpha reliability for the personal control dimension on the RMQ in Study 2 was .81, and the average factor loading for that dimension was .71.

To investigate whether the findings of Study 1 and Study 2 cross-validated, we examined the degree of congruence in the factor solutions in the two samples using Cattell’s (1978) congruence coefficient. The factor structure of the RMQ was highly similar in Study 1 and Study 2. Congruence coefficients (Cattell, 1978) of the factor structure in the two studies ranged from .991 to .998.

Experimental Findings Table 3 shows the means and standard deviations for each of the dependent variables in each experimental condition, for participants with Supportive and Unsupportive attributional styles. Significant univariate effects were followed up with *t*-tests when necessary. Measures of effect size (partial eta-squared (η_p^2)) for univariate analyses, and population point biserial correlation (ρ_{pb}) coefficients for *t*-tests were examined for all significant effects. Based on the criteria outlined by Kirk (1996), η_p^2 values of .010, .059 and .138, and ρ_{pb} values of .10, .24 and .37 were taken as corresponding to small, medium, and large effect sizes, respectively. The probability of Type I error was maintained at .05 for all analyses.

Causal beliefs, sympathy, and helping judgments were first examined using a 2 Cause (Uncontrollable cause (“eye surgery”) versus

Controllable cause (“ski trip”) × 2 Attributional Style (Supportive AS versus Unsupportive AS) multivariate analysis of variance (MANOVA). The analysis revealed a significant multivariate Cause × Attributional Style interaction, $F(5, 72) = 12.13$, $p = .001$, $\eta_p^2 = .45$. Individual measures were subsequently examined in a series of univariate analyses.

TABLE 3 Means and SDs for Each Dependent Measure in Each Experimental Condition in Study 2, for Participants with Supportive & Unsupportive Attributional Styles

Measure	Attributional Style Group	Causal Condition		<i>t</i>	ρ_{pb}
		Uncontrollable ("Eye Surgery")	Controllable ("Ski Trip")		
PC	Supportive AS	5.2 (1.1)	6.8 (1.2)	4.52**	.46
	Unsupportive AS	4.2 (1.0)	7.6 (0.6)	12.65**	.82
	<i>t</i>	2.80*	2.45		
	ρ_{pb}	.31	.27		
Stability	Supportive AS	4.6 (1.1)	6.1 (1.1)	4.28**	.44
	Unsupportive AS	3.9 (1.0)	5.1 (1.0)	3.83**	.40
	<i>t</i>	2.17	3.02*		
	ρ_{pb}	.24	.33		
Sympathy	Supportive AS	6.1 (1.1)	4.3 (1.0)	5.51**	.53
	Unsupportive AS	7.0 (1.0)	2.2 (1.2)	13.86**	.85
	<i>t</i>	2.66	6.13**		
	ρ_{pb}	.29	.56		
Help	Supportive AS	6.9 (1.1)	5.9 (1.0)	3.22*	.35
	Unsupportive AS	7.4 (1.3)	2.8 (1.4)	10.94**	.78
	<i>t</i>	1.21	8.11**		
	ρ_{pb}	.13	.68		

Notes: Scores on all measures ranged from 1 to 9. Standard deviations are in parentheses. For all *t*-tests, the degrees of freedom was 38; negative sign is removed for ease of presentation. ρ_{pb} = population point biserial correlation coefficients (effect size for *t*-tests). For comparisons within each measure: * $p < .05$, and ** $p < .01$. "PC" refers to Personal Control, the measure of attributional style.

Because internal and internally-controllable causes (a combined perception) about a victim's problem have a distinct theoretical role in helping behavior, a combined score called personal control (PC) was created for each participant by averaging the locus and internal-control rating scales.

Causal beliefs. The analysis revealed a significant main effect of Cause for the PC measure, $F(1, 76) = 122.39, p < .001, \eta_p^2 = .61$, and the stability measure, $F(1, 76) = 33.05, p < .001, \eta_p^2 = .30$. Participants viewed the “ski trip” reason as more personally controllable by the needy student ($M = 7.23, SD = 1.00$) compared to the “eye surgery” reason, ($M = 4.71, SD = 1.19$). The “ski trip” reason was also considered to be more unstable ($M = 5.60, SD = 1.15$) than the “eye surgery” reason ($M = 4.23, SD = 1.14$). There was a significant main effect of Attributional Style, but only for the stability measure, $F(1, 76) = 13.38, p < .001, \eta_p^2 = .15$, indicating that participants in the Unsupportive AS group viewed the reasons for need as more stable ($M = 4.47, SD = 1.03$) than those in the Supportive AS group, ($M = 5.35, SD = 1.10$). There was also a significant interaction of Cause \times Attributional Style for the PC measure, $F(1, 76) = 13.87, p = .001, \eta_p^2 = .15$, but not for the stability measure ($F < 1$). As shown in Table 3, all participants viewed the “eye surgery” reason to be less personally controllable by the classmate than the “ski trip” reason, but there was a much larger difference between the causal conditions for participants with an Unsupportive AS ($M_{dif} = 3.4$ scale points) than participants with a Supportive AS ($M_{dif} = 1.6$ scale points).

Sympathy and Helping. The analysis revealed a significant main effect of Cause for the sympathy measure, $F(1, 76) = 191.84, p < .001, \eta_p^2 = .71$, and for the measure of helping, $F(1, 76) = 112.31, p < .001, \eta_p^2 = .59$. Participants were less likely to feel sympathy for or help the needy student in the “ski trip” condition (sympathy $M = 3.23, SD = 1.54$; help $M = 4.33, SD = 1.92$), compared to the “eye surgery” condition (sympathy $M = 6.60, SD = 1.15$; help $M = 7.13, SD = 1.18$).

A significant main effect of Attributional Style was revealed for the sympathy measure, $F(1, 76) = 6.58, p = .012, \eta_p^2 = .08$, and for the measure of helping, $F(1, 76) = 24.21, p < .001, \eta_p^2 = .24$. Participants with a Supportive AS were more sympathetic ($M = 5.23, SD = 1.40$) and more likely to help ($M = 6.38, SD = 1.14$) the needy student, compared to participants with an Unsupportive AS, (sympathy $M = 4.60, SD = 2.71$; help $M = 5.08, SD = 2.64$).

There was also a significant interaction of Cause \times Attributional Style for sympathy, $F(1, 76) = 39.16, p < .001, \eta_p^2 = .34$, and for help, $F(1, 76) = 43.87, p < .001, \eta_p^2 = .37$. As shown in Table 3, Unsupportive AS and Supportive AS participants were equally sympathetic and likely to help when the reason for need was uncontrollable (“eye surgery”). But there was a much larger difference in sympathy and help between the two treatment conditions for participants with an Unsupportive AS (sympathy $M_{dif} = 4.8$; help $M_{dif} = 4.6$), compared to Supportive AS participants (sympathy $M_{dif} = 1.8$; help $M_{dif} = 1.0$).

GENERAL DISCUSSION

Factor Structure of the RMQ

The findings of Study 1 and Study 2 confirm the factor structure of the RMQ. Three attributional dimensions (personal control, external control, stability) emerged as cohesive and distinct factors. The RMQ showed good scale reliabilities and essentially perfect congruence of the factor structure in two independent samples of participants. RMQ scale reliabilities were comparable to CDSII scale reliabilities (McAuley et al., 1992), and substantially better than the reliabilities of other attributional style scales, such as the ASQ (Cutrona et al., 1985; Peterson et al., 1982) and EASQ (Metalsky et al., 1987) scales. Reliabilities for the personal control dimension on the RMQ were .80 and .81, for Study 1 and Study 2, respectively, and average factor loadings for that dimension were .70 and .71 for Study 1 and Study 2, respectively.

Predictive Validity of the RMQ

The findings of Study 2 demonstrate the predictive utility of the RMQ. The likelihood of helping a needy classmate was a joint function of the controllability of the reason for need and the peer helper's attributional style. In general, and supporting Weiner's (1985) attributional model of helping behavior, a classmate who had eye surgery (uncontrollable) was viewed more sympathetically and offered more help than a classmate who had gone on a ski trip (controllable). However, individuals with different attributional styles, who received identical causal information, did not respond identically to the causal information. Five weeks after completing the RMQ, attributional styles were linked to differences in sympathy and helping reactions to a hypothetical classmate in need. Participants with a Supportive AS were only a little less sympathetic and helpful in the ski trip condition than in the eye surgery condition, but those with an Unsupportive AS were very sympathetic and helpful if the classmate had eye surgery, or very unsympathetic and neglectful if the classmate had gone skiing. In other words, participants with an Unsupportive AS had more extreme beliefs about their classmate's control over the reason for need evidenced in the more polarized ratings of personal control in the two treatments conditions. Participants with a Supportive AS were more even-handed—they were sensitive to the experimental manipulation in that they viewed the amount of personal control in the two conditions to be different, but they were not so polarized in their ratings of the classmate's personal control. The finding that attributional styles moderated sympathy and helping reactions demonstrates the utility of considering individual differences in causal perceptions affecting helping behavior.

Conclusions

Individual differences are important in person perception, as anticipated by Heider (1958). With evidence of the validity and predictive utility of the RMQ, the present findings illustrate why individual differences in causal attributions are an important factor in understanding helping behavior. The attributional model of helping behavior (Weiner, 1985), with multiple sources of empirical support, clearly delineates the central role of observers' perceptions of the victim's control over a negative outcome. Attributing a negative outcome to causes that are personally controllable by the victim elicits anger or disgust toward the victim and low levels of aid (neglect). Thus, a tendency to make such attributions (i.e., an Unsupportive AS) is an individual differences variable that puts victims at risk. The RMQ is a tool for examining that attributional tendency. In two separate studies, observers' perceptions of a victim's personal control over misfortunes comprised a factor that is reliable, cohesive, and distinct from other causal attributional dimensions, indicating that the RMQ is a valid measure of Unsupportive AS. In Study 2, attributional styles measured by the RMQ moderated causal beliefs, sympathy, and helping reactions in the two causal conditions (eye surgery vs. ski trip)—Supportive AS individuals were not as extreme in their causal beliefs, sympathy, or helping judgments in response to a needy classmate compared to those with an Unsupportive AS.

Why Supportive AS individuals were more “even-handed” and Unsupportive AS so “polarized” in their reactions to a needy classmate will be a focus of future studies. One possibility to explore is the connection between Supportive and Unsupportive attributional styles and the Liberalism-Conservatism attitude dimension (Skitka & Tetlock, 1993; Zucker & Weiner, 1993). Conservatism promotes more personally-controllable (e.g., laziness) causes for others' negative outcomes, whereas Liberalism promotes more external (e.g., poverty) or personally-uncontrollable (e.g., sickness) causes for others' negative outcomes (Cozzarelli, Wilkinson, & Tagler, 2001; Furnham, 1982; Morgan, Mullen, & Skitka, 2010; Skitka, Mullen, Griffin, Hutchinson, & Chamberlin, 2002; Skitka & Tetlock, 1993; Weiner, 1993; Zucker & Weiner, 1993).

Our Study 2 experimentally manipulated the classmate's control over the reason for need, and it appears the Supportive AS participants were less influenced by this manipulation of causal control information than were the Unsupportive AS participants. Both attributional style groups were sensitive to the manipulation; that is, in both groups, reactions to the treatment variable were significant and in the direction predicted by Weiner's (1985) model. However, the smaller difference between

treatment conditions for the Supportive AS participants suggests their causal beliefs about why bad things happen to people are relatively resistant to situational causal information about victims, and, hence, the affective and behavioral consequences of those beliefs were more “victim friendly.” By comparison, the Unsupportive AS participants were greatly affected by the causal control manipulation, with very different views of the victim’s causal control in the two conditions, and very different degrees of sympathy and aid in the two conditions. The ease with which an attributional style can be “overruled” by causal structure information suggests a direction for future research that investigates, for example, visual or text information containing or implying causal onset responsibility in strategic messaging in health communication campaigns (Young, Hinnant, & Leshner, 2016). Similarly, understanding how observers with different attributional styles are affected by causal structure information will help medical and nursing educators provide better training models that reduce errors of judgement of patients’ pain (Twigg & Byrne, 2015) or disability (LaChapelle, Lavoie, Higgins, & Hadjistavropoulos, 2014).

Overall, the present findings support the use of the RMQ to examine the role of Unsupportive AS in caregiver-patient settings, therapy and/or compensation decisions, and in helping behavior (broadly construed) both within and across cultures. Including a measure of attributional style in both basic and applied research on helping behavior should improve our understanding of, and interventions in, contexts where a person in need (e.g., a chronic low back pain patient) is at risk of negative reactions from observers/caregivers. It is unknown what the prevalence of these styles are in health care professions. If the number of requests for the RMQ and supporting research to the first author are any indication, there is recognition by health care managers/trainers of the potential for habitual styles of explaining others’ problems to be interfering with health care goals in a number of domains.

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FOOTNOTES

1. Stability (unstable-stable) is a third causal dimension in Weiner's attributional model. Stability refers to variability in the perceived permanence of a cause (temporary versus longlasting). Perceived stability has not been linked to victim aid/neglect in the emotion-mediation model (Weiner, 1980a; 1995). However, perceived stability appears to influence peoples' beliefs about the potential for a victim's recovery (Meyer & Mulherin, 1980; Schmidt & Weiner, 1988).

2. According to Weiner (1986), "correlations between the causal dimensions, or uneven distribution in multidimensional space, do not invalidate the conceptual distinctions that have been made, nor do they support the contention that fewer than three dimensions are needed" (p. 69; cf. Anderson, 1983; Passer & Kelley, & Michela, 1978).

3. External attributions about the causes of victims' negative outcomes trigger sympathy and thus are linked with greater helping (Sosis, 1974; Weiner, 1980a). However, the focus of attribution-helping research has been on personally (i.e., internal) controllable attributions about victims, because one goal of the emotion-mediation studies has been to identify (and prevent) potentially harmful secondary victimizations (Weiner, 1980a, 1980b; Schmidt & Weiner, 1988).

4. Correlations among the RMQ scales in Study 1 and Study 2 may be obtained by contacting the first author.

APPENDIX

Reasons for Misfortune Questionnaire (RMQ) Instructions, Sample Item and Rating scales, Scoring Information, and References for RMQ Validity Studies

Instructions for the RMQ

Instructions: The items on the following pages present specific misfortunes or problems that might happen to anyone. For each item, think about how such a thing could likely happen to someone (other than yourself) and then write down one plausible (likely) reason that comes to mind. That is, for each item, think over what you know about the world to answer the question, "How does a problem like this happen to someone (excluding myself)?" Then, try to express a plausible reason for the misfortune in a single sentence.

After writing down a likely cause for a misfortune, then rate that cause on each of the twelve scales provided by circling one number on each scale. When doing the ratings, be sure to focus on the cause (that is, the reason for the onset) of the problem, NOT on the problem. This may be difficult at times. In other words, make sure you are rating the cause you write down for a misfortune, and NOT the misfortune itself.

"The person" referred to in the rating questions means the person who has the problem; the term "Other people" referred to in the ratings means anyone else (that is, anyone other than the person with the problem).

Please take your time when doing the ratings - make sure you read the questions carefully. You may find that there is more than one way of interpreting some of the rating questions. Please interpret these questions in the way that is most meaningful to you. There are no right or wrong answers to these questions.

To summarize, for each of the 6 misfortunes, you should: think over what you know about how such a misfortune could likely happen to someone (other than yourself). Write down one likely cause of that misfortune - try to express the cause in a few words. Then, rate that cause by circling one number on each of the 12 scales provided - each time you do the ratings, be sure to focus on the cause you wrote down (i.e., the reason for the problem), NOT on the problem. If you find there is more than one way of interpreting a question, interpret it in a way that is most meaningful to you.

Please read the questions carefully.

Please answer all the questions. It should take 10-15 minutes to finish this questionnaire. You are, of course, free to stop participating at any time.

Sample Item and Rating Scales

1. Cancer.

One likely cause: _____

Think about the reason (cause) you have written above. The items below concern your impressions or opinions of this cause of the person's misfortune. Circle one number for each of the following questions.

Is this cause something:

That reflects an aspect of the situation	1 2 3 4 5 6 7 8 9	That reflects an aspect of the person
Not manageable by the person	1 2 3 4 5 6 7 8 9	Manageable by the person
Temporary	1 2 3 4 5 6 7 8 9	Permanent
The person cannot regulate	1 2 3 4 5 6 7 8 9	The person can regulate
Over which others have no control	1 2 3 4 5 6 7 8 9	Over which others have control
Outside the person	1 2 3 4 5 6 7 8 9	Inside the person
Variable over time	1 2 3 4 5 6 7 8 9	Stable over time
Not under the power of other people	1 2 3 4 5 6 7 8 9	Under the power of other people
About others	1 2 3 4 5 6 7 8 9	About the person
Over which the person has no power	1 2 3 4 5 6 7 8 9	Over which the person has power
Changeable	1 2 3 4 5 6 7 8 9	Unchangeable
Other people cannot regulate	1 2 3 4 5 6 7 8 9	Other people can regulate

Scoring the Reasons for Misfortune Questionnaire

Based on the Causal Dimension Scale II (McAuley, Duncan, & Russell, 1992), the Reasons for Misfortune Questionnaire (RMQ; Higgins, 1992; Higgins & Morrison, 1998) measures people's explanations for hypothetical negative

outcomes of others. The RMQ contains 6 negative outcomes, and, for each outcome, four causal attributional dimensions (i.e., locus, internal control, stability, external control) are measured using three rating scales for each dimension (i.e., twelve rating scales per outcome).

The RMQ first page provides detailed instructions to respondents. On subsequent pages, each page contains one negative outcome and rating scales, as shown in the "Cancer" example above. Negative events on the RMQ are *Cancer*, *Divorce*, *Bankruptcy*, *Facial Disfigurement*, *Having No Friends*, and *Loss of All Possessions*. Rating scales shown in the "Cancer" example above, *in order from top to bottom*, are as follows: Locus-1, Internal Control-1, Stability-1 (reverse score), Internal Control-2, External Control-1, Locus-2, Stability-2 (reverse score), External Control-2, Locus-3, Internal Control-3, Stability-3 (reverse score), and External Control-3.

Scoring:

Locus of Causality: For each Locus scale, sum or average across all six negative outcomes. This will produce 3 overall Locus scales (L1, L2, L3). High scores = internal causality; low scores = external causality.

Internal Control: For each Internal Control scale, sum or average across all six negative outcomes. This will produce 3 overall Internal Control scales (IC1, IC2, IC3). High scores = high internal control; low scores = low internal control.

Personal Control (Attributional Style scale): sum or average the following scales: L1, L2, L3, IC1, IC2, IC3. This will produce one overall **Personal Control** (PC) scale (high scores = high personal control; low scores = low personal control). This is the attributional style scale that predicts helping behavior.

Stability: For each Stability scale, REVERSE SCORE EACH SCALE, and then sum or average across all six negative outcomes. This will produce 3 overall Stability scales (S1, S2, S3). High scores = unstable; low scores = stable.

External Control: For each External Control scale, sum or average across all six negative outcomes. This will produce 3 overall External Control scales (EC1, EC2, EC3). High scores = high external control (control by someone other than the victim); low scores = low external control (low control by anyone).

References for RMQ validity studies include:

Lundquist, L. M., Higgins, N. C., & Prkachin, K. M. (2002). Accurate pain detection is not enough: Contextual and attributional style biasing factors in patient evaluations and treatment choice.

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