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CONSTRUCT VALIDITY OF UNSUPPORTIVE
ATTRIBUTIONAL STYLE: THE IMPACT OF
LIFE OUTCOME CONTROLLABILITY

ABSTRACT. Quality of life for individuals and their communities is greatly affected by the degree of altruism expressed when misfortune occurs. The present study investigated the construct validity of an individual differences variable (i.e., unsupportive attributional style) linked to helping behaviour. Unsupportive attributional style (i.e., the tendency to view others' misfortunes as controllable by the victims) is assessed across a number of negative life outcomes of others using the Reasons for Misfortune Questionnaire (RMQ). Modest evidence of unsupportive attributional style at an intermediate level of situation specificity suggested an empirical examination of the situational referents (negative life outcomes of others) of the construct. The present study revealed large variation in the perceived causal controllability of the negative life outcomes on the RMQ. Confirmatory factor analysis of RMQ data (N = 705) revealed that an excellent fit was provided by an attributional style model that included controllable and uncontrollable situation-types. Thus, when perceived controllability of the negative life outcomes of others was included in the definition of unsupportive attributional style, the estimation of individual differences in controllability perceptions was refined considerably. By linking empirically the situational referents for unsupportive attributional style to the construct definition, the present findings demonstrated the ongoing nature of the process of construct validation. It is clear from the present findings that if systematic variation in the situational referents of attributional styles is unaccounted for in construct definition, individual differences in controllability perceptions (i.e., attributional style) will be underestimated.

*The quality of mercy is not strain'd;
It droppeth as the gentle rain from heaven
Upon the place beneath. It is twice blest:
It blesseth him that gives and him that takes.*

Shakespeare, *The Merchant of Venice*

Quality of life for individuals and their communities is greatly affected by the degree of altruism expressed when misfortune occurs. Despite many normative prescriptions to treat others kindly, people in need of help, and often in desperate need, do not always



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receive it. What determines who helps those in need? What connexion can there be between determinants of altruism and the process of validation of psychological constructs? In this paper, we begin with a brief outline of the approach taken by Social Psychology to determinants of helping behaviour. We then examine one determinant in detail – “unsupportive AS”, which refers to the tendency to view others’ misfortunes as due to causes that are controllable by the victims.¹ Attributional styles appear to mediate the behavioural effects of negative life events (e.g., Anderson et al., 1983; Higgins, 1992; Peterson, 1991; Peterson, Seligman and Vaillant, 1988). For example, unsupportive attributional style is predictive of reduced helping behaviour (Higgins and Shaw, 1998). We focus on unsupportive attributional style to highlight, for this special issue on validity, the challenges inherent in trying to capture the meaning of a “cognitive trait” (i.e., a relatively new class of psychological construct) that affects quality-of-life behaviours.

Social psychology has identified several situational determinants of helping behaviour (e.g., Darley and Latané, 1968; Darley and Batson, 1973). All undergraduate introductory social psychology textbooks cover the seminal research on these determinants. For example, an individual in need is helped more often when, (i) few potential helpers are present (Darley and Latané, 1968), (ii) potential helpers are not in a hurry (Darley and Batson, 1973), and (iii) potential helpers are friends (of one another) and/or are trained in emergency procedures (Cramer et al., 1988; Darley and Latané, 1968). These determinants are situational features that account for reactions of people in general to individuals in need. These kinds of situational constraints on individual behaviour were the subject matter of much early research in social psychology (e.g., Brunswik, 1956; Heider, 1958; Lewin, 1935; Murray, 1938). In the 1960’s and 1970’s, the emergence of cognitive models in psychology led to a focus on individuals’ cognitions about situations (i.e., their “subjective construals” of events) and the impact of those cognitions on affect and behaviour. In many domains of social psychology, research has examined “causal attributions” (i.e., inferences about the causes of events and outcomes) – and specifically dimensions of causes – as determinants of behaviour (e.g., Barnes, Ickes and Kidd, 1979; Berkowitz, 1969; Weiner, 1980a, 1980b). In terms of helping

behaviour, attributing a victim's misfortune to causes controllable by the victim induces anger toward the victim and reduces aid. On the other hand, attributing a victim's misfortune to causes that are not controllable by the victim induces sympathy toward the victim and increases helping (e.g., Ickes and Kidd, 1976; Weiner, 1980a, 1980b). These central findings form the basis of an attributional model of helping behaviour, which postulates an "attribution-affect-action motivational sequence, in which thoughts determine what we feel and feelings determine what we do" (Weiner, 1980a, p. 676). The postulated sequence has been substantiated in a series of experimental and correlational studies (see Schmidt and Weiner, 1988 for a review).

The central findings of the attributional model of helping behaviour may seem unremarkable, or simply to reflect "common sense." Students of the first author typically remark that these findings are self-evident, and it true that the model confirms our common understanding of the world by pointing out the implications of different attributions of personal control over events. However, what the students underappreciate is how one gets to the particular attributional trajectory of "personally controllable by the victim" or "personally uncontrollable by the victim." According to social psychology, there are only two ways: an individual's causal perceptions of an event/outcome are situation-driven or person (i.e., attributor)-driven. In other words, something about the situation suggests a cause (e.g., a person who falls down in a street has alcohol on their breath), or something about the attributor elicits a cause (e.g., the attributor habitually views others' misfortunes as due to causes controllable by the victims). Research on the former source is referred to as "causal structure" attribution research, which has demonstrated the power of situational features to constrain the causal explanations individuals make for events (Anderson, 1983; Anderson and Arnoult, 1985b; Feather and Simon, 1971; Kelly, 1963; McArthur and Solomon, 1978; Taylor and Fiske, 1978; Wong and Weiner, 1981). Research on the latter source is more recent and examines *individual differences* in construal of situations (i.e., attributional styles) (Ross and Nisbett, 1991).

The growing evidence of individual differences in preferences for certain attributions over others brings the "person" into the

foreground of social psychology, merges the boundaries of social and personality domains (Ross and Nisbett, 1991), and raises the long-standing issue of the relative consistency or specificity of behavior (e.g., Bem and Allen, 1974; Mischel, 1973). The “consistency debate” centres on the paradox that, while we intuitively believe people are “characterized by broad dispositions revealed in extensive cross-situational consistency” (Mischel and Peake, 1982, p. 730), the results of numerous studies do not support this belief (Mischel and Peake, 1982). Essentially, many years and many approaches to the consistency issue (e.g., Allport, 1937, 1966; Bem and Allen, 1974; Hartshorne and May, 1928; Mischel, 1974; Newcomb, 1929; Thorndike, 1905) yielded the conclusion that cross-situational consistency coefficients of modest size (typically not exceeding $r = 0.20$ on average) are the best that can be expected (Mischel and Peake, 1982).

The “trait” concept has been revised in light of the “modest” magnitudes of cross-situational consistency coefficients (Anastasi, 1988). Older views of personality traits as immutable, underlying “causal entities” have been replaced with the view that traits are situationally specific (e.g., Anastasi, 1988; Mischel, 1968, 1973; Jackson and Paunonen, 1980). For example, the Test Anxiety Inventory, or TAI (Spielberger et al., 1983), a self-report questionnaire, measures test anxiety as “defined in terms of a specified class of situations, those centering on tests and examinations” (Anastasi, 1988, p. 557). Like test anxiety, attributional styles are defined with respect to a specified class of situations. A central question in the growing field of attributional style research has been how to determine the appropriate level of situation specificity to use when assessing attributional style, i.e., how to organize situations in a way that would capture important attributional style differences (e.g., Anderson, Jennings and Arnoult, 1988; Peterson et al., 1982). Trait variables can be invalidated by over-qualifying them with descriptors, and thus typically are assessed at intermediate levels of situation specificity (Mischel, 1973). Similarly, attributional style researchers have selected situations assumed to be applicable to the construct under investigation, measured people’s attributions about those situations on fundamental causal dimensions, and found modest support for

attributional styles at “intermediate” levels of situational specificity (e.g., Anderson et al., 1983; Higgins, 1992; Peterson et al., 1982).

Because the predictive utility of attributional styles tends to be high (e.g., Arntz, Gerlsma, and Albersnagel, 1985; Anderson et al., 1988; Bell-Dolan and Wessler, 1994; Feather and Tiggeman, 1984; Higgins and Shaw 1997; Sweeney, Anderson and Bailey, 1986), there has been continued development of valid measures of attributional styles (e.g., Corr and Gray, 1996; Peterson and Villanova, 1988; Xenikou, Furnham and McCarrey, 1997). However, improvements in the measures have not kept pace of predictive validity research. Where modest amounts of cross-situational consistency in causal attributions have been observed, construct definitions require improvement. Specifically, greater knowledge must be acquired about the range and features of attributional style referents; i.e., the situations across which attributional style is assessed (Anderson and Weiner, 1992; Bagby, Atkinson, Dickens and Gavin, 1990; Cutrona, Russell and Jones, 1985). In this paper, we illustrate the process by which we improved significantly the construct definition of unsupportive attributional style by examining aspects of the situations over which the style is assessed and applying the knowledge gained to construct definition. We began our investigation with the questionnaire used to measure unsupportive attributional style, the Reasons for Misfortune Questionnaire, or RMQ (Higgins, 1992).

Like the RMQ, many current measures of attributional style use a self-report questionnaire format in which respondents are provided with a number of hypothetical negative (and, for some questionnaires, positive) life events/outcomes (e.g., Anderson et al., 1988; Peterson et al., 1982). For each event, respondents are asked to think of a reason why the event occurred and then rate the reason on a number of causal attributional dimensions, which may include any or all of the following: (i) the *locus of causality* (i.e., how internal versus external to attributional target); (ii) *controllability* (i.e., how controllable versus uncontrollable by the target, or others); (iii) *stability* (i.e., how temporary versus long-lasting); and (iv) *globality* (i.e., how specific versus broadly applicable). The causal dimensions usually are assessed using 7-point or 9-point Likert-type scales. Thus, local item dependence (Haladyna, 1992) is implied by attributional style measures, since for each event on the questionnaires,

several questions (causal scales) are posed with regard to the event. Local item dependence is referred to as “context-dependent item sets”, or CDIS (Haladyna, 1992), and elicits both person *and* situation covariance – the latter referring to covariation among test items that is over and above that explainable by the latent (i.e., person) variable(s). However, in attributional style research, situation covariance has erroneously been accounted for as latent (e.g., Cutrona et al., 1985), or not accounted for at all (e.g., Arntz et al., 1985; Hull and Mendolia, 1991; see Higgins, Zumbo and Hay, 1998 for a discussion of CDIS in attributional style measures).

CDIS solve a major problem in attributional style measurement, but do not address the issue of systematic variation among the situations (i.e., life events/outcomes) over which attributional styles are assessed (Higgins, 1992; Higgins et al., 1998). Life events/outcomes (i.e., the specific situational referents of AS constructs) may differ widely on a number of dimensions central to the constructs under investigation, including perceived causal controllability (e.g., Schmidt and Weiner, 1988), severity (Walster, 1966), and salience (Eisen and McArthur, 1979).² However, the *domains* of events/outcomes that have been linked to construct definitions of attributional style do not take these possible sources of variation into account (e.g., Anderson et al., 1988; Higgins, 1992; Peterson et al., 1982). For example, the RMQ (Higgins, 1992) assesses unsupportive attributional style across six negative life outcomes of others. Initially operationalized as the tendency to attribute others’ misfortunes to causes that are controllable by the victims, it was thought that unsupportive attributional style would be expressed as cross-situational consistency in causal (controllability) attributions about the negative life outcomes of others, with the referent category (negative life outcomes of others) generally defined. However, attempts to demonstrate a style for this level of situation specificity met with only moderate success (Higgins, 1992). The RMQ is not unique among attributional style measures in this regard.³

As with other trait variables, the problem seems to be one of “bandwidth” with respect to situational referents of the style. Attributional styles must be assessed over a number of events/outcomes (i.e., “situations”), and yet the situations cannot be so narrowly focused (e.g., an attributional style for losing one’s car keys, or

an attributional style for going bald) as to obviate the meaning of a “style”. Walter Mischel warned against this bandwidth problem in his challenges to personality theory in 1968 and 1973. Situations over which “traits” are assessed must be *sufficiently* broad – too broad and one will fail to detect a trait if it is operating; too narrow, and one will not know if a trait is operating since the narrow bandwidth of the measurement tool precludes finding the trait. Sufficient breadth of situations is, of course, key to the meaning and measurement of any trait since cross-situational consistency is fundamental to the meaning of trait variables. One could start at either end of the situational specificity spectrum (very broad or very narrow) and keep tweaking until the bandwidth that maximises the empirical visibility of the trait is reached. That, in effect, is what trait researchers do. Attributional style research to date has tended toward an intermediate bandwidth. In the present paper, we show that causal controllability is an empirically relevant dimension of the category, “other’s misfortunes”, and one which affected substantially the construct definition of unsupportive attributional style.

Unsupportive attributional style thus seems to share problems common to investigations of other traits: (i) the situational referents may not have the empirical links to the construct that are theoretically expected (Higgins, 1992; cf. Cutrona et al., 1985; Peterson, 1991 regarding definition of “depressive attributional style”), and (ii) the specific trait referents tend to be chosen by the researchers rather than empirically determined (Mischel and Peake, 1982; cf. Russell, 1982). Inconsistencies in attributional style findings due to (i) above may be resolved in part by investigating underlying dimensions of life events/outcomes and the impact of the dimensions, if any, on construct definition. Because the perceived causal controllability of misfortunes is central to helping behaviour in the attributional model, our goals in the present study were to examine the perceived (onset-)controllability of RMQ outcomes and to determine the amount of improvement in construct definition of unsupportive attributional style when outcome controllability was taken into account.

METHOD

Respondents

Seven hundred and ten volunteer university undergraduate students (447 females, 258 males; 5 did not indicate their sex) completed the Reasons for Misfortune Questionnaire (Higgins, 1992) in small classroom settings. The mean age of respondents was 23.45 ($SD = 7.03$) years. Complete data were available for 705 respondents.

*Procedure**Materials*

The Reasons for Misfortune Questionnaire was designed to measure unsupportive attributional style. Comprised of six hypothetical negative outcomes that happen to others, the RMQ instructs respondents to generate a cause for each outcome, and then rate the cause along twelve, 9-point Likert-type scales representing the locus, personal control, stability, and external control causal dimensions. Thus, for each outcome on the RMQ, 3 scales measure each of four causal dimensions. The 3 scales for each dimension are averaged to create 4 causal dimension subscales for each negative outcome. Based on the Causal Dimension Scale II (or CDSII; McAuley, Duncan and Russell, 1992), the RMQ scales are anchored so that internal, personally controllable, stable, and externally controllable attributions receive higher scores.⁴ Because locus and personal controllability tend to show a strong positive correlation,⁵ the locus and personal control scales on the RMQ are averaged to form a mean perceived controllability scale (i.e., an average of the three locus and three personal control items) for each outcome. Thus, the RMQ generates a total of 18 scales: three causal dimensions (i.e., perceived controllability, external control, and stability) for each of six negative outcomes.

Data Analysis

Controllability of outcomes. To examine differences in the causal controllability of the negative outcomes, a mean perceived controllability score was calculated for each of the six RMQ outcomes in a subsample of respondents ($N = 90$). Mean differences in perceived controllability of the RMQ outcomes were then

TABLE I

Attributional style models for outcomes on the Reasons for Misfortune Questionnaire

Outcome	Scale	Model 1 ¹	Model 2 ¹			Model 3	Model 4						
		Composite	PC	E	S	C / U	CPC	CE	CS	UPC	UE	US	
Cancer	1	*	*		*		*						
	2	*		*	*			*					
	3	*			*	*					*		
Divorce	4	*	*		*			*					
	5	*		*	*				*				
	6	*			*	*					*		
Bankruptcy	7	*	*		*			*					
	8	*		*	*				*				
	9	*			*	*					*		
Facial disfigurement	10	*	*					*				*	
	11	*		*				*					*
	12	*			*			*					*
Friendlessness	13	*	*		*			*					
	14	*		*	*				*				
	15	*			*	*					*		
Loss of all possessions	16	*	*					*				*	
	17	*		*				*					*
	18	*			*			*					*

Note. ¹ Higgins, 1992. In models 2 through 4, we allowed for correlation among the latent variables. Asterisks denote free parameters the measurement model.

compared using a one-way repeated measures ANOVA and Tukey's Studentized Range statistic (Tabachnick and Fidell, 1996).

Models. Four models of unsupportive AS (see Table I) were examined for their goodness of fit with the observed data using confirmatory factor analysis (Jöreskog and Sörbom, 1995).

The first model conceptualized a composite score (comprised of all 18 causal subscales on the RMQ) as one factor (Higgins, 1992).

The second model conceptualized three causal dimensions: (i) perceived controllability (PC), (ii) external controllability (E), and (iii) stability (S) as three separate factors (Higgins, 1992).

Previous research suggested two RMQ outcomes (i.e., facial disfigurement and loss of all possessions) are considered less controllable than the other four outcomes, i.e., cancer, divorce, bankruptcy, and friendlessness (Higgins, 1992). Therefore, the third model conceptualized two misfortune or situation-types: (i) controllable (C) and (ii) uncontrollable (U) as two separate factors.

The fourth model conceptualized three causal dimensions (PC, E, S) for each of two misfortune-types related to the controllability dimension (C, U) as 6 separate factors (CPC, CE, CS, UPC, UE, US).

Because the format of the RMQ (like other attributional style measures) introduces covariation among test items (i.e., context-dependent item sets) over and above that explainable by the latent (person) variable(s), in each case, the psychometric model was implemented by allowing for a restricted number of pre-specified, correlated errors (i.e., among the CDIS).

RESULTS

Descriptive Data

Means, standard deviations, and alpha coefficients (Cronbach and Meehl, 1955) for the RMQ scales are presented in Table II.

Reliability. Coefficient alpha reliabilities of the causal scales were calculated separately for each misfortune (see Table II). Internal consistencies of the RMQ scales compared well to results of other attributional style studies (e.g., Anderson, 1985; Peterson et al., 1982) and to previous CDSII findings (McAuley et al., 1992).

Controllability of Outcomes

Significant controllability differences were found among the RMQ outcomes, $F(5,445) = 72.13, p < 0.0001$. Mean perceived controllability scores for each outcome and the pattern of significant differences are shown in Table III.

The findings in Table III confirmed that two of the RMQ outcomes (i.e., facial disfigurement and loss of all possessions) were perceived as stemming from highly uncontrollable causes. The

TABLE II

Mean scores and reliabilities of the causal dimension subscales for each negative outcome on the Reasons for Misfortune Questionnaire

Negative Outcome ¹		Causal dimension			
		Locus	Personal control	External control	Stability
1. Cancer	Mean	6.11	5.93	3.49	4.49
	SD	1.86	2.62	1.96	1.78
	Alpha	.51	.90	.78	.54
2. Divorce	Mean	6.61	6.73	3.88	4.02
	SD	1.59	1.90	1.98	1.74
	Alpha	.56	.81	.79	.64
3. Bankruptcy	Mean	5.86	6.61	4.73	3.43
	SD	2.13	2.07	2.02	1.52
	Alpha	.81	.87	.80	.60
4. Facial disfigurement	Mean	3.61	3.24	4.30	5.36
	SD	1.94	2.07	2.24	2.08
	Alpha	.65	.80	.82	.60
5. Friendlessness	Mean	7.54	7.11	3.83	3.78
	SD	1.66	1.82	2.02	1.66
	Alpha	.76	.84	.84	.70
6. Loss of all possessions	Mean	3.55	4.01	4.49	4.28
	SD	2.22	2.40	2.30	2.00
	Alpha	.83	.87	.86	.56

Note. ¹ Sample sizes for negative outcomes 1–6 were, respectively, 705, 704, 703, 698, 705, 701.

personally controllable outcomes (i.e., cancer, divorce, bankruptcy, and friendlessness) formed their own “cluster”, with “friendlessness” considered to be the most controllable outcome.

Model-Testing

Correlations were computed among the 18 subscales on the RMQ and hypothesized factor models were tested against the obtained covariance matrix with *LISREL 8.14* (Jöreskog and Sörbom, 1995).

TABLE III

Mean perceived controllability of negative life outcomes on the Reasons for Misfortune Questionnaire

Negative outcome	Mean (SD)	Outcome					
		1	2	3	4	5	6
1. Cancer	5.94 (2.07)				***		***
2. Divorce	6.91 (1.05)				***		***
3. Bankruptcy	5.39 (2.12)				*		**
4. Facial disfigurement	3.69 (1.22)					***	
5. Friendlessness	7.02 (1.26)						***
6. Loss of all possessions	3.42 (2.08)						

Note. $N = 90$. ***, **, and * indicate means differed at $p < 0.01$, $p < 0.05$, and $p < 0.10$, respectively, using Tukey's Studentized Range statistic.

Using maximum likelihood estimation, LISREL calculates the factor loadings that provide the best possible fit of the hypothesized model to the obtained data. A chi-square goodness of fit statistic, provided by the estimation procedure, compares how well the hypothesized model reproduces the observed correlations. Models that produce a derived covariance matrix that differs substantially from the obtained data matrix are considered to be poor or inadequate models. Large chi-square values typically reflect an inadequate fit, and small chi-square values typically reflect a good fit between the hypothesized model and the obtained data (Jöreskog and Sörbom, 1995). Thus, rejection of a hypothesized model is usually based on statistically significant chi-square values. However, because the chi-square statistic is affected by sample size (both large and small samples), LISREL also computes several fit indices that are relatively independent of sample size, including the Bentler and Bonnett (1980) normed fit index or NFI (Δ_1) and Bollen's (1989) incremental fit index or IFI (Δ_2). The fit indices correspond to the proportion of variance in the obtained correlation matrix accounted for by the hypothetical model, and may take a value between 0 and 1 (Bentler and Bonnett, 1980; Bollen, 1989). Hypothesized models for which the fit index is less than 0.90 likely need improvement (e.g., Bentler and Bonnett, 1980). In the present study, model adequacy was judged by a non-significant chi-square value and values of Δ_1

and Δ_2 that exceeded 0.90. Finally, the smaller the ratio of the chi-square statistic to the degrees of freedom (i.e., among values less than 2.0) also would indicate a good fit.

Confirmatory factor analysis of the covariance matrix for the 18 causal subscales (Table IV shows the correlation matrix) indicated that Model 4 provided the “best” fit, and was a substantially better model than any of the others tested (see Table V). There was no evidence to support Model 1 (one composite), Model 2 (three causal dimensions), or Model 3 (two misfortune-types) in the data set.⁶

The maximum likelihood estimates (factor loadings) are shown in Figure 1. Estimates of the variance in each causal subscale explained by the hypothesized attributional style dimension may be obtained by squaring the factor loadings. Thus, between 5.2% and 39.7% of the variance in the causal dimension subscales on the RMQ was explained by attributional style factors. The factors representing unsupportive attributional style (CPC, UPC) explained between 5.2% and 24% of the variance in the causal dimension subscales, with means of 12.24% and 22% for controllable and uncontrollable outcomes, respectively. Overall, attributional style factors explained slightly more variance in responses to uncontrollable (23.6%) than controllable (17.6%) outcomes.

The confirmatory factor analysis results also indicated significant correlations between the attributional style dimensions (Table VI) that are consistent with the idea of unsupportive attributional style. Individuals tend to explain the *controllable* negative life outcomes of others with causes that are: (i) personally controllable by the victims, (ii) unstable, and (iii) not controllable by anyone else (e.g., effort, strategy), or with causes that are (i) uncontrollable by the victims, (ii) stable, and (iii) possibly controllable by someone else (e.g., air pollution). In addition, individuals tend to explain the *uncontrollable* negative outcomes of others with causes that are: (i) personally controllable by the victims and (ii) possibly controllable by someone else (e.g., genetic predisposition), or with causes that are (i) personally uncontrollable by the victims, and (ii) not controllable by someone else (e.g., an earthquake).

Finally, the factor model results indicated attributional style for the controllable outcomes of others was weakly and negatively related to one’s style for the uncontrollable outcomes of others ($r =$

TABLE IV
Correlations among causal dimension subscales of the Reasons for Misfortune Questionnaire

	Subscales																		
	PC ₁	E ₁	S ₁	PC ₂	E ₂	S ₂	PC ₃	E ₃	S ₃	PC ₄	E ₄	S ₄	PC ₅	E ₅	S ₅	PC ₆	E ₆	S ₆	
PC ₁	1.00																		
E ₁	-0.20	1.00																	
S ₁	-0.36	0.03	1.00																
PC ₂	0.05	-0.01	0.001	1.00															
E ₂	-0.09	0.19	0.08	-0.18	1.00														
S ₂	0.00	0.05	0.12	-0.19	-0.07	1.00													
PC ₃	0.09	0.03	0.03	0.12	-0.03	-0.05	1.00												
E ₃	-0.03	0.11	0.04	0.009	0.20	0.04	-0.38	1.00											
S ₃	-0.00	0.05	0.18	-0.02	0.10	0.25	-0.07	0.05	1.00										
PC ₄	0.01	0.05	0.05	-0.06	0.08	0.05	0.01	0.04	0.15	1.00									
E ₄	0.002	0.08	0.05	0.07	0.14	-0.02	-0.03	0.13	0.00	0.02	1.00								
S ₄	0.002	-0.03	0.03	0.07	-0.01	0.05	-0.02	0.02	0.09	-0.18	-0.18	1.00							
PC ₅	0.10	-0.09	-0.01	0.09	-0.04	-0.08	0.17	-0.00	-0.09	-0.01	-0.02	0.004	1.00						
E ₅	-0.07	0.16	0.04	-0.002	0.23	0.08	0.01	0.14	0.06	0.07	0.10	0.00	-0.38	1.00					
S ₅	-0.06	0.11	0.16	-0.05	0.11	0.23	-0.06	0.11	0.31	0.13	0.05	0.001	-0.19	0.04	1.00				
PC ₆	-0.03	0.10	0.06	-0.04	0.10	0.09	-0.009	0.01	0.11	0.23	0.08	-0.04	-0.02	0.03	0.17	1.00			
E ₆	-0.02	0.08	0.05	0.06	0.12	0.001	-0.00	0.16	0.10	0.06	0.25	-0.05	-0.03	0.14	0.07	0.02	1.00		
S ₆	0.05	-0.05	-0.00	-0.007	-0.05	0.07	-0.01	0.03	0.13	0.05	0.01	0.19	-0.00	0.003	0.09	-0.07	-0.04	1.00	
SD	1.84	1.97	1.78	1.41	1.99	1.74	1.94	2.03	1.53	1.72	2.23	2.07	1.53	2.03	1.65	2.15	2.30	1.99	

Note. $N = 700$. With $df = 698$, $r > 0.08$ is significant at $p < 0.05$, and $r > 0.10$ is significant at $p < 0.01$. PC = Perceived Controllability, E = External Control, S = Stability. SD = Standard Deviation of the causal subscale.

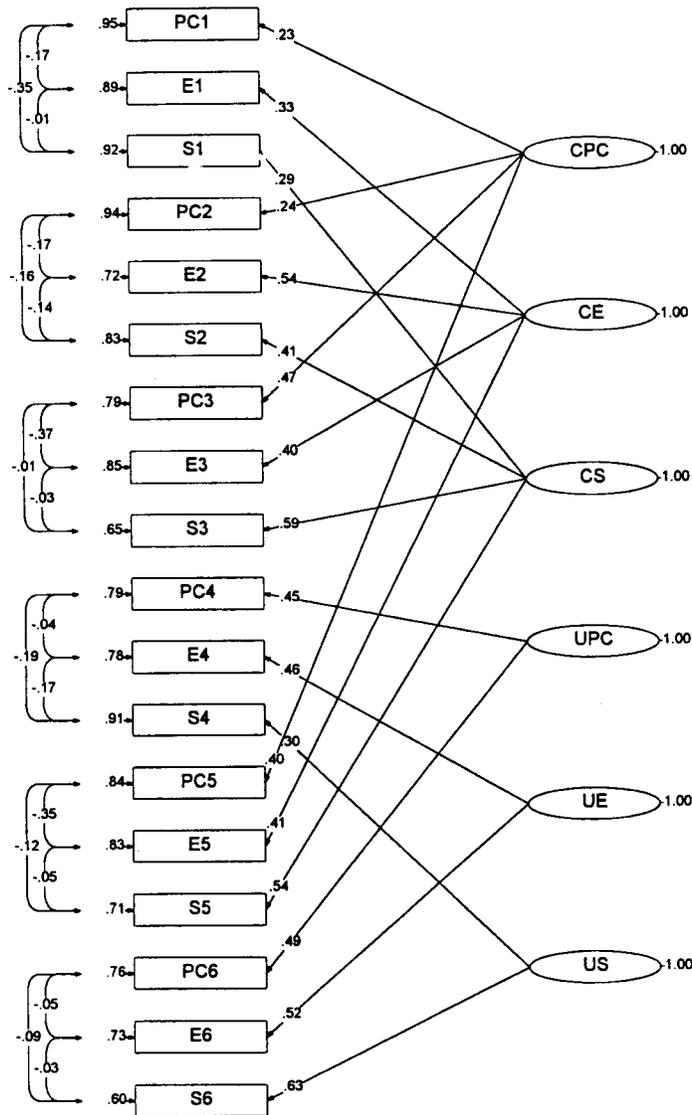


Figure 1. The six factor attributional style model (Model 4). Causal subscales of the Reasons for Misfortune Questionnaire are enclosed in rectangles, with PC = Perceived Controllability, E = External Control, and S = Stability. Subscripts on the subscales indicate the negative outcome (1 to 6) assessed by the subscale. Latent factors (constructs) are enclosed in ellipses. Straight paths indicate factor loading scores and rounded paths indicate correlations among the error terms for the causal subscales. For simplicity of presentation, the curved paths representing correlations among the latent factors have been removed and the correlations are presented in Table VI.

TABLE V

Chi-square and goodness of fit statistics for four models of attributional style as measured by the Reasons for Misfortune Questionnaire

Model	Number of latent variables	χ^2	p	Δ_1	Δ_2
1. Composite	1	$\chi^2(117) = 315.26$	0.0000	0.74	0.81
2. Dimensional	3	$\chi^2(114) = 189.57$	0.0000	0.84	0.93
3. Domain	2	$\chi^2(116) = 282.11$	0.0000	0.76	0.84
4. $D \times D^\dagger$	6	$\chi^2(102) = 84.90$	0.90	0.93	1.00

Note. Δ_1 = Normed Fit Index (Bentler and Bonnett, 1980); Δ_2 = Incremental Fit Index (Bollen, 1989). † $D \times D$ refers to the dimensional (3) \times domain (2) model. Model 4 has the smallest chi-square to degrees-of-freedom ratio (N.B.: this ratio should be less than 2).

-0.10) in the sample overall. However, examination of correlations between attributional styles for controllable and uncontrollable outcomes revealed that the relationship was not linear. Pearson correlations between attributional styles for controllable and uncontrollable outcomes were 0.24 ($n = 185$, $p < 0.01$), -0.07 ($n = 167$), -0.12 ($n = 194$), and -0.02 ($n = 162$) for highest to lowest quartiles, respectively, on attributional style score for uncontrollable outcomes. Thus, high scorers on one style were also the top scorers on the other style, and the relationship held only for the top scorers.

DISCUSSION

Modest evidence of unsupportive attributional style at an intermediate level of situation specificity suggested an empirical examination of situational referents of the construct. Although attributional styles relevant to social motivation and behaviour must be assessed across different life events/outcomes, life events/outcomes are not equivalent on all dimensions. The present study revealed large variation in the perceived causal controllability of negative life outcomes on the Reasons for Misfortune Questionnaire.⁷ Consistent with past research, attributional style differences were not captured when situational referents were general (i.e., "negative life outcomes of others"). In contrast, when the situational referents of unsupportive

TABLE VI

Correlations among the latent variables (attributional style dimensions) for Model 4 (Dimension \times Domain)

	Latent variable					
	CPC	CE	CS	UPC	UE	US
CPC	1.00					
CE	-0.15	1.00				
CS	-0.25	0.35	1.00			
UPC	-0.10	0.30	0.48	1.00		
UE	0.01	0.56	0.18	0.27	1.00	
US	0.03	-0.07	0.28	0.09	-0.03	1.00

Note. CPC = Perceived Controllability (controllable outcomes), CE = External Control (controllable outcomes), CS = Stability (controllable outcomes). UPC = Perceived Controllability (uncontrollable outcomes), UE = External Control (uncontrollable outcomes), US = Stability (uncontrollable outcomes).

attributional style were categorized in terms of a demonstrated source of variation (i.e., perceived causal controllability of situations), attributional style differences were apparent. Thus, when perceived controllability of the negative life outcomes of others was included in the definition of unsupportive attributional style, the estimation of individual differences in controllability perceptions was refined considerably. By linking empirically the situational referents for unsupportive attributional style to the construct definition, the present findings demonstrate the ongoing nature of the process of construct validation. Accounting for perceived causal controllability of negative outcomes substantially improved construct definition of unsupportive attributional style. To improve construct definition even further, one might examine other relevant situational features (e.g., offset-controllability of the outcome) that vary systematically and test their impact on unsupportive attributional style.

The present findings confirm the situation specificity of trait constructs proposed by Mischel (1973) in a relatively new class of "cognitive trait" (i.e., attributional style), and demonstrate the importance of an empirical approach in determining the features of situations that affect construct definition. Onset-controllability is a

feature of others' misfortunes that is "bandwidth-relevant" to unsupportive attributional styles. However, not all features of misfortunes are relevant to the definition of unsupportive attributional styles (see Note 6).

In addition, the present findings demonstrated that attributional styles for the controllable and uncontrollable outcomes of others are not strongly related in the sample overall. However, high scorers showed a strong positive relationship between their styles for the controllable and uncontrollable outcomes of others. For these top scorers, it hardly mattered whether the negative outcomes of others were controllable or uncontrollable in nature as they perceived them identically (i.e., as controllable by the victims). Since the attributional model of helping behaviour indicates aid is less likely when individuals perceive victims' misfortunes as controllable by the victims, future research should replicate and extend the findings that the highly consistent individuals are less willing to help others in need (Higgins and Shaw, 1998).

In conclusion, construct definitions of attributional styles must not be insensitive to central dimensions on which life events/outcomes vary, such as causal controllability. The presence of situational variation relevant to the construct under investigation, and unaccounted for in the definition of attributional style, resulted in an underestimation of individual differences in causal perceptions. The more precise situational specification of unsupportive attributional style gained from the present study should enhance our understanding of the role of attributional styles in social interactions where reactions to victims apply (e.g., helping behaviour, and caregiver burden).

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NOTES

¹ Unsupportive AS is defined as a “tendency to respond” to others’ misfortunes with controllable causes, rather than as a set of acts, since the “behavior” of making controllability attributions about others’ misfortunes may be situationally induced. That is, controllability attributions for others’ misfortunes fluctuate over situations as a function of the perceived controllability of those misfortunes. However, the premise with unsupportive AS is that some persons need relatively little situational pressure to make controllability attributions about the causes of others’ misfortunes, while other individuals require significantly more.

² The RMQ examines “onset-controllability” (i.e., individuals’ perceptions of the victims’ control over the *causes* of negative life outcomes of others). Another feature on which outcomes vary is whether their “off-set” is controllable by the victim (Weiner, 1985). Because the perceived causal (i.e., onset) controllability of misfortunes predicts helping behaviour (e.g., Schmidt and Weiner, 1988), the RMQ focuses on that dimension of causal attributions. The authors thank an anonymous reviewer who suggested several more dimensions on which negative life events/outcomes may vary: in-group/outgroup membership of the victim, and whether the events/outcomes are ongoing, such as poverty, or are single occurrences, such as an accident.

³ See Higgins et al. (1998) for a discussion of the psychometric properties of the Attributional Style Questionnaire (Peterson et al., 1982).

⁴ In four separate studies, alpha coefficients for CDSII scales averaged 0.67, 0.79, 0.67, and 0.82 for the locus, personal control, stability, and external control dimensions, respectively (McAuley et al., 1992).

⁵ See McAuley et al. (1992) and Weiner (1985) for detailed discussions of conceptual and empirical distinctions between the dimensions.

⁶ As a comparison to outcome controllability, we also examined outcome *severity* as a potential situational feature on which attributional styles might differentiate. In a separate sample from those in the present study ($N = 240$), three RMQ outcomes (i.e., divorce, bankruptcy, and loss of all possessions) were considered less severe than the other three outcomes (i.e., facial disfigurement, friendlessness, and cancer). Using LISREL’s confirmatory factor analysis program, we examined one model which conceptualized two misfortune-types – severe (X) and not severe (N) – as two separate factors. Another model conceptualized three causal dimensions for each of two misfortune-types as six separate factors (XPC, XE, XS, NPC, NE, NS). The two-factor model showed a very poor fit, $\chi^2(116) = 312.68$ ($p < 0.0001$), $\Delta_1 = 0.74$, $\Delta_2 = 0.82$, and a χ^2/df ratio greater than 2.0. The six-factor model showed a better but still inadequate fit, $\chi^2(102) = 175.22$ ($p < 0.0001$), $\Delta_1 = 0.85$, $\Delta_2 = 0.93$, and χ^2/df ratio = 1.71. Neither model showed a fit superior to the six-factor model in Table V.

⁷ Unsupportive attributional style focuses on causal perceptions of *others’* misfortunes. Attributional styles regarding one’s *own* misfortunes have been the subject of research for over 15 years (e.g., Peterson et al., 1982; Peterson et al., 1988). The finding that construct definition of unsupportive attributional style

was improved by including outcome controllability is consistent with preliminary findings from an investigation of the perceived controllability of events on the Attributional Style Questionnaire (ASQ; Peterson et al., 1982), a self-perception attributional style measure. Like the RMQ (Higgins, 1992), the ASQ assesses attributional style across a number of life events that differ substantially in perceived controllability. As with unsupportive attributional style, modeling of “depressive attributional style” (i.e., the tendency to make internal, stable and global attributions about negative events/outcomes) using responses to the ASQ was improved when situational controllability was incorporated into the definition of depressive attributional style. Readers interested in these findings may contact the first author for further details.

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