Cognition in Close Relationships

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This article describes and discusses the programme of research and theorizing that I and my colleagues have carried out over the last decade, investigating cognition in intimate contexts. Initially, the prevailing research and theory concerning the role of causal attributions in close relationships is briefly described. Next, a model is explicated in which attribution knowledge structures and processes are located within a contemporary, broad, information-processing framework. Finally some recent research is described that addresses some important issues concerning the links between attributions and the layperson's close relationship theories and beliefs (i.e., knowledge structures).

Close relationships are primal in human society. We learn how to be human social beings largely in the context of close relationships with our parents, relatives, and friends. And, in adult life, for most people, our identities and lives are dominated by those nearest and dearest to us. The importance of such relationships in society is reflected in the mountain of relationship-relevant information foisted on us daily in popsongs, agony columns, self-help books, romantic novels, TV plays and sitcoms, advertisements, stage plays, movies, and so on.

Small wonder, then, that people think about close relationships, and develop theories about specific close relationships as well as relationships in general. Given the need to control and predict behavior in this area of life, with its attendant uncertainties, it should also come as no surprise that people will at times attempt to explain their own and others' close relationship behavior.

The general purpose of this article will be to describe and discuss the programme of research and theorizing that I and my colleagues have

carried out over the last decade or so, investigating cognition in intimate contexts. Initially, the prevailing research and theory that has concerned the role of causal attributions in close relationships will be briefly described. Next, a model will be developed in which attribution knowledge structures and processes are located within a contemporary, broad information-processing framework. And, finally I will detail some recent research that address some important issues concerning the links between attributions and the layperson's close relationship theories and beliefs (i.e., knowledge structures).

The Standard Close Relationship Attribution Model: Attributions and Relationship Satisfaction

Like other applied areas in attribution research, close relationship research has derived its theoretical base from the classic statements of attribution theory found in the pioneering theories of Heider (1958), Jones and Davis (1965), Kelley (1967) and Weiner (Weiner et al., 1972). However, the standard attribution model used in relationship research is almost invariably concerned with the relations between relationship satisfaction and causal attributions. This model (taken from Fletcher & Fincham, 1991) is shown in Figure 1. The basic idea is simply that people in happy relationships make attributions that maximise the favorable implications of positive

POSITIVE RELATIONSHIP CONCEPT (Happy)			NEGATIVE RELATIONSHIP CONCEPT (Unhappy)	

EXPECTATIONS OF POSITIVE BEHAVIOR		EXPECTATIONS OF NEGATIVE BEHAVIOR	

POSITIVE BEHAVIOR (Consistent)	NEGATIVE BEHAVIOR (Inconsistent)	POSITIVE BEHAVIOR (Inconsistent)	NEGATIVE BEHAVIOR (Consistent)

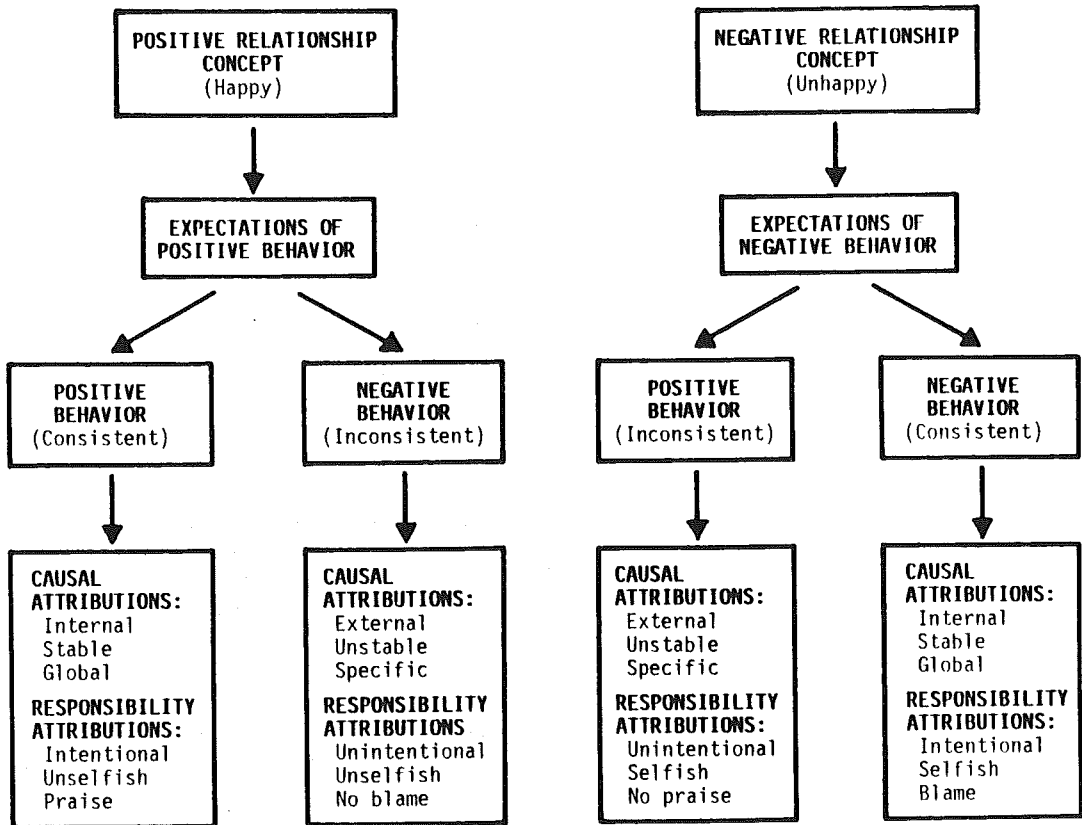| CAUSAL ATTRIBUTIONS: Internal Stable Global — RESPONSIBILITY ATTRIBUTIONS: Intentional Unselfish Praise	CAUSAL ATTRIBUTIONS: External Unstable Specific — RESPONSIBILITY ATTRIBUTIONS Unintentional Unselfish No blame	CAUSAL ATTRIBUTIONS: External Unstable Specific — RESPONSIBILITY ATTRIBUTIONS: Unintentional Selfish No praise	CAUSAL ATTRIBUTIONS: Internal Stable Global — RESPONSIBILITY ATTRIBUTIONS: Intentional Selfish Blame

Figure 1. The standard attribution model applied to close relationships.

behavior, but minimize the implications of negative behavior: Conversely, those in unhappy relationships adopt the opposite pattern of attributions in relation to positive and negative behaviors respectively.

For example, someone in a happy relationship is likely to explain his partner's gift of flowers with a stable, internal and global cause (e.g., she is a sensitive, caring person), but attribute his partner's insensitive remark to an unstable, externally located, and specific cause (e.g., she didn't have much sleep last night). In contrast, a person in an unhappy relationship is more likely to attribute the gift of flowers to an unstable, externally located, and specific cause (e.g., he has had a rare win on the horses), and to attribute the cutting remark to a stable, internal, and global cause (e.g., he is an insensitive bad-tempered person). The two sets of attributions can be described as *relationship-positive* and *relationship-negative* respectively.

A good deal of research has generally supported the validity of the standard attributional model, using a range of investigative techniques and including both cross-sectional and longitudinal designs (for reviews see Bradley & Fincham, 1990; and Fletcher & Fincham, 1991). This research, and the underlying model, exemplify an important principle of attribution theory and cognition; namely, that naive dispositional theories, judgments, or knowledge structures are inherently resistant to change. This tenant is hardly surprising if one considers the nightmarish alternative in which our partner and relationship judgments would shift according to every nuance and change in behavior. Attributions can thus be viewed as one powerful means by which the relative permanence of our relationship mental models is protected against the apparently contrary and shifting behavioral evidence that is part and parcel of the typical close relationship.

Clearly, however, the standard attribution model and associated research have some yawning gaps. First, it is not clear where behavior fits into the picture. Indeed, until recently, little research in close relationship settings has examined the attri-

bution-behavior link, although there are a few research findings that support the hypothesis that relationship-positive attributions are associated with positive behavior and relationship-negative attributions are linked to negative behavior (see Fletcher & Fincham, 1991, for a review).

Second, why should relationship satisfaction dominate the scene? There are other important dispositional constructs, including depression, relationship beliefs, and so forth, that presumably warrant investigation in relation to attributions and behavior in close relationships. I will later review some of the limited research that deals with knowledge constructs other than relationship satisfaction.

Third, and most critically, however, the standard attribution model was derived from the classic statements of attribution theory that preceded the major thrust of the cognitive revolution and its offshoot of social cognition. However, this model is relatively silent about the information processing involved in the links between dispositional structures, such as relationship satisfaction, and cognition, affect, and behavior. Accordingly, in the next section I will outline the bare bones of a model that locates attributional processing within a contemporary social cognitive perspective.

Close Relationship Knowledge Structures and Attributional Processing: A Proposed Theoretical Framework

The general model (taken from Fletcher & Fitness, 1993) I will explicate is shown in Figure 1. It is not intended as a detailed information processing account but is offered as an organizing theoretical framework — as a very general starting point. Before detailing the components of the model, the following example should help provide a general idea of its workings. Joan's husband unexpectedly pays her a compliment which leads her to feel particularly happy (eliciting event and affect), because she had recently begun to think that her husband was taking her for granted (relationship account). She recalls with pleasure other occasions where her husband had similarly demonstrated his qualities of generosity and sensitivity (controlled, conscious thought). Thus, she produces a relationship positive attribution (cognitive outcome) based on general attributional schemata and her specific relationship account. She decides to cook him a special meal (behavioral outcome), and her general belief that close relationships need work to stay vibrant is buttressed (feedback arrow from Outcome to Knowledge Constructs).

I will now proceed to outline the components in this model in more detail, and then describe some related research that I and my colleagues have recently completed.

What are knowledge structures and why are they important?

The category of "knowledge structures" refers to any relatively permanent set of cognitions that reside in our long-term memory store. These include a vast array of items including beliefs, attributions, expectations, memories of behavior, and so on. Close relationships are central elements in people's lives. Accordingly, we would expect folk to develop relatively elaborate theories, beliefs, expectations, and so forth, about such relationships.

The notion that we store every single event and behavior experienced as memory traces in long-term memory has generally been discarded as implausible. Instead, according to stock cognitive theory, people encode, organize, store, and recall events and behaviors in terms of stored structures. Of course, a small amount of information can be retained in working memory, but this memory store is severely limited in terms of the amount of information it can retain, and the length of time the information remains available. Hence, stored knowledge structures are inextricably intertwined with cognitive processing, and this intimate relationship is represented in Figure 1, and illustrated in our previous example.

The knowledge structures in Figure 2 are organized in terms of a global-specific dimension, which is a typical kind of division in theories of memory (Schank, 1982; Anderson, 1983), and also a critical assumption in recent theories of social cognition in close relationships (e.g., Fletcher & Fincham, 1991; Surra & Bohman, 1991). The general argument for the psychological reality of the kind of abstract schemata shown in the top box in Figure 2 as attributional schemata, is that without such content-free knowledge structures it is difficult to see how we could generalize knowledge gained from particular domains to other domains of interest (e.g., see Schank, 1982). Indeed, a profusion of research support has been amassed for the psychological reality of the general causal dimensions cited above (e.g., locus, globality, controllability), in both close relationships as well as social behavior more generally (for reviews see Bradbury & Fincham, 1990; Hewstone, 1989; Ross & Fletcher, 1985)[1].
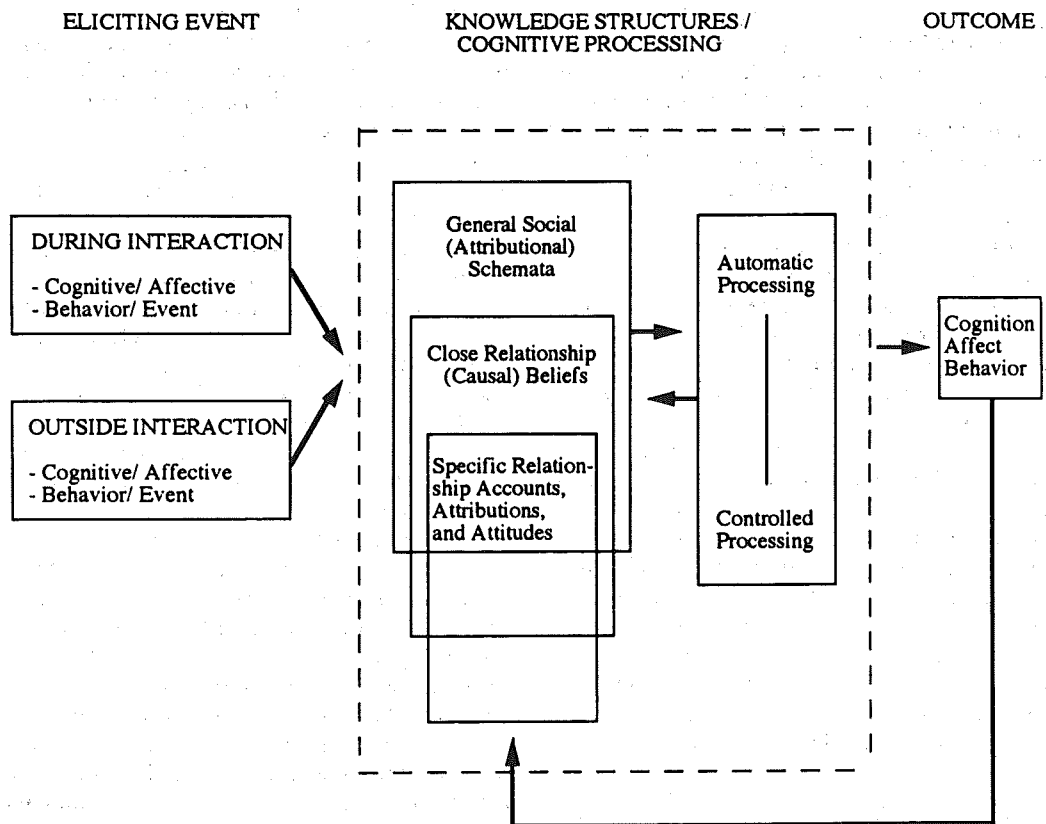
ELICITING EVENT · KNOWLEDGE STRUCTURES / · OUTCOME.
COGNITIVE PROCESSING

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┌─ ── ── ── ── ── ── ── ── ── ── ── ── ─┐
│   ┌──────────────────────┐              │
│   │  General Social      │  ┌─────────┐ │     ┌──────────┐
│   │  (Attributional)     │  │Automatic│ │     │Cognition │
│   │    Schemata          │  │Processing│ │ ──►│Affect    │
│   │  ┌────────────────┐  │  │         │ │     │Behavior  │
│   │  │Close Relationship│ │►│         │ │     └──────────┘
│   │  │(Causal) Beliefs  │ │◄│         │ │
│   │  │  ┌─────────────┐ │ │  │         │ │
│   │  │  │Specific Relation-│ │         │ │
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DURING INTERACTION

- Cognitive/ Affective
- Behavior/ Event

OUTSIDE INTERACTION

- Cognitive/ Affective
- Behavior/ Event

Figure 2. Knowledge structures and attributional processing within close relationships.

The second level of knowledge structure deals with beliefs, expectations, attitudes, and the like, that concern close relationships in general. To repeat our earlier refrain, the formation and development of satisfactory intimate close relationships is a dominating theme in most people's lives. Moreover, before even venturing into their first love affairs, individuals have an abundance of material with which to construct theories about close relationships. We are bombarded daily with information about close relationships in fictional and non-fictional forms, and we have role-models a-plenty to observe, including the relationships of our parents, relatives and friends. One important class of causal beliefs I will discuss later concerns the perceived factors that lead to relationship success or failure.

At the most specific level (see Figure 2), people will develop relatively elaborate accounts concerning their own important relationships. Such accounts may be story-like in outline, but will

contain causal elements (Harvey, Agostinelli, & Weber, 1989; Planalp & Surra, in press). This class of structures overlaps with the previous category, but is also a distinct set of constructs. For example, someone may believe that in general sex is not an important factor in close relationships, but simultaneously believe that in her current relationship good sex is keeping the relationship going. I will later review some evidence that these knowledge structures indeed overlap in the fashion described, but nevertheless are separately represented in our cognitive structures.

Finally, it is important to note that, although this is an attributional model, it is not the case that both the knowledge construct and the processing components need to be attributional in character. This is because, first, attributions in working memory will often be linked to non-attributional constructs, such as relationship satisfaction; and, second, attributional knowledge constructs, such as close relationship causal beliefs, may influ-

ence judgments and processes that are non-attributional. I shall give research examples illustrating both these propositions in due course.

When do Knowledge Structures Become Activated?

One important class of factors here concerns the nature of the construct itself. There are a potentially huge number of knowledge structures that are *available* for retrieval, but such structures will vary in terms of their *accessibility*. Some knowledge structures may only be retrieved on certain occasions within close relationships; e.g., specific beliefs and memories concerning a partner's relationship with his father may only be retrieved when a rare visit is made to the in-laws. However, other constructs will be what is termed *chronically accessible*. Such constructs can relatively permanently prime the generation of thoughts or feelings quite unconsciously and unintentionally. For example, levels of relationship satisfaction may routinely help generate attribution processes in relationship contexts — simply being with one's partner may be a sufficient condition to elicit this knowledge construct with its powerful overlay of affect.

The remaining class of factors, shown in Figure 1 under the heading of *eliciting event*, concern events or conditions that prime particular knowledge constructs, or elicit cognitive processing that, in turn, invokes such constructs. Such events may occur either within or outside relationship interaction. For example, one's partner may induce a relationship-positive attribution by paying an unexpected compliment. However, watching a play, reading a book, or merely noticing a stranger who resembles one's partner may also evoke some thinking and associated affect concerning one's relationship, with an attendant attribution or two. Alternately, thoughts and feelings of anger or love, or daydreaming about one's loved one (or hated one) may also trigger off attributional processing.

Finally, it may be noted that I have split the eliciting events into those that occur either externally (behavior, event) or internally (cognition, affect). I will later review some research that implicates both classes of factors. For the moment I simply note that both classes of variable are plausible candidates for eliciting cognitive processing and activating knowledge structures.

The Cognitive Processing Component

It is difficult to see how ordinary dyadic inter-action, with its multiplicity of cognitive processing demands, would be possible unless a large number of processes were not carried out simultaneously (i.e., in parallel). Hence, a tremendous amount of cognitive processing must occur rapidly and silently. Indeed, the distinction shown in Figure 1 between *automatic processing* and *controlled processing*, or similar kinds of distinctions, are commonplace in cognitive psychology (see Fletcher & Fincham, 1991). This distinction has been characterized in a variety of ways, with automatic processing variously described as fast, unconscious, effortless, not readily verbalizable, and carried out in parallel. In contrast, controlled processing is typically considered relatively slow, conscious, effortful, controllable, and serially produced.

Now, there is a continuing debate concerning whether, and to what extent, such features are necessary or most important in relation to definitions of the two processing modes (see Uleman & Bargh, 1989). Indeed, I agree with Bargh's (1989) argument that it remains an open question concerning the extent to which these different "defining" characteristics of the automatic/controlled processing distinction might operate independently of one another. However, certain points appear to be commonly agreed upon. First, the distinction is best represented as a continuous dimension, rather than two discrete categories. And, second a key difference between clear-cut examples of the two processing modes is that controlled processing has marked attentional capacity constraints, whereas automatic processing has relatively little capacity constraints. This characteristic is related to the idea that automatic processing is carried out in parallel, whereas controlled processing is serially produced.

General attributional research has uncovered two key triggers of conscious, explicit, explanatory activity: negative events and unexpected outcomes (see Weiner, 1985, for a review). The same two factors have also been identified as important factors in motivating conscious, attributional processing in close relationships (for reviews see Fletcher & Fincham, 1991; and Planalp & Surra, in press).

Outcomes

The final component of the model, the outcomes (cognitions, affect, or behavior), is shown on the extreme right of Figure 1. As illustrated, such outcomes may, in turn, feed back into the knowledge structures. Such feedback will typi-

cally slightly change or bolster the constructs, but may also on rare occasions produce massive schema change, such as when an individual loses trust in her partner because of a sexual betrayal (see Planalp & Surra, in press).

Having briefly described our proposed general overarching model, I shall proceed to describe some recent research carried out that deals with some of the key ideas and processes. First, I will describe some research that deals with attributions produced on-line in dyadic interaction. Second, I will describe the development of a scale to measure causal close relationship beliefs. Third, some research will be described that uses the afore-mentioned scale to test whether strongly held relationship beliefs, compared to weakly held beliefs, operate as chronically accessible constructs to automatically prime the processing of belief-relevant behavior within specific close relationships. And, finally, I will describe some recent research that deals with emotion attributions and emotion knowledge structures in close relationships.

Close Relationship Knowledge Structures and Attributions: Some Recent Research

Knowledge Structures and On-Line Attributions in Dyadic Interaction

As noted previously, only a handful of studies have examined attributions for specific relationship problems in relation to actual interactive behavior. And, no research, to my knowledge, has attempted to study the kind of ongoing attributions that may occur as part and parcel of cognition during relationship interactive behavior.

This latter research lacuna raises a thorny issue concerning the distinct possibility that experimenter-supplied attributional questions may instigate different attributional processing to that which occurs spontaneously in every-day life. An even nastier possibility is that in the absence of experimenter-supplied questions, explicit conscious attributional processing typically does not occur at all. To investigate these possibilities, several researchers have assessed unsolicited attributions by asking subjects what they would think and feel in response to hypothetical positive and negative interaction behaviors in their relationships. Causal attributions occurring in the resultant protocols are then coded into *relationship-positive* or *relationship-negative* attributions.

The results from these studies show that spontaneous attributions are plentiful, and demonstrate the same attributional differences between happy and unhappy couples in their unsolicited attributions as are found in studies that use structured experimenter-supplied ratings (Fletcher, Fincham, Cramer, & Heron, 1987; Fletcher, Fitness, & Blampied, 1990; Grigg, Fletcher, & Fitness, 1989; Holtzworth-Munroe & Jacobson, 1985). However, one can question just how "spontaneous" these attributions are. If, as seems likely, attributional processing is a natural component of conscious, explicit analysis then it could be argued that these attributions are *not* truly spontaneous, as subjects are explicitly requested to think about and analyze the behavioral events. Thus, the question remains as to whether people spontaneously produce on-line attributions during interaction with their partners.

Fortuitously, I possessed a set of previously published data (Fletcher & Fitness, 1990) that could be used, in reanalysed form, to address the issue just described. In addition, this set of reanalysed data addressed the relations between the kind of on-line attributions produced (relationship-positive versus relationship-negative), and depression, relationship satisfaction, and both verbal and non-verbal behavior. In this study, 38 couples in long-term unmarried relationships each had 10 minute discussions of important problems in their relationships. Utilizing a technique initially developed by Ickes, Robertson, Tooke and Teng (1986), subjects then independently, and immediately, reviewed videotapes of the discussions. Subjects were instructed to stop the videotapes whenever they remembered experiencing a thought or a feeling, and verbally describe it (these descriptions were recorded on audiotapes). There is a range of evidence that suggests the resultant protocols represent reasonably veridical accounts, provided that these videotape reviews are carried out immediately following the discussions and it is stressed to subjects that they must not manufacture their thoughts afresh (see Fletcher & Fitness, 1990; Fletcher & Kininmonth, 1991; Ickes, et al., 1986).

In the original study we also required subjects to complete measures of depression and relationship satisfaction and obtained observer ratings of both the positivity of the content of verbal behavior and non-verbal behavior (voice tone, facial expression and posture) (see Fletcher & Fitness, 1990, for further details). For the current analysis, I went back to the transcriptions of the protocols and had two raters pluck out the causal attributions in the protocols and categorize them according to whether they were relationship-

positive, relationship-negative or neutral. Inter-rater ratings were reliable, ranging from 90% to 97% agreement.

The first finding of note is that the thought/feeling protocols were shot through with causal attributions. Subjects stopped the tape a mean number of 10.2 occasions, and produced a mean number of 8.6 attributions ($M = 2.0$ relationship-positive attributions, $M = 4.1$ relationship-negative attributions, and $M = 2.5$ relationship-neutral attributions). Table 1 shows the results of a hierarchical multiple regression (and zero-order correlations) using the percentage of relationship-positive attributions as the dependent variable. This analysis treats each partner as an individual subject (cf., Fletcher & Fitness, 1990).

Table 1: Zero-order Correlations and Standardized Regression Coefficients from a Hierarchical Multiple Regression with the Percentage of Relationship Positive Attributions as the Dependent Variable

Independent Variables	r	Beta
SET 1		
Problem Seriousness	−.11	−.04
Relationship Happiness	.32**	.28**
Depression	−.21*	−.08
R^2 Increase over Problem Seriousness		.10*
SET 2		
Positive Non-Verbal	.28**	.05
Positive Verbal	.32**	.32**
R^2 Increase over Set 1		.11*
Total R^2		.22**

Note: The sample size was 76.
* $p<.05$
** $p<.01$

As can be seen, all the zero-order correlations were significant in the predicted directions[2]. Subjects with more relationship-positive attributions, were happier, less depressed, and produced more positive non-verbal and verbal behavior. However, these relations are difficult to interpret because of shared variance. For example, in accord with much previous research, people who were depressed were also less satisfied with their relationships ($r = -.43$). This relation between depression and relationship satisfaction casts doubt on the documented relation between relationship satisfaction and attributions, because it is entirely possible that people in unhappy relationships think more negatively about their relationships because they are depressed, not because

they are dissatisfied with their relationships. However, the regression coefficients do not support this hypothesis. As can be seen (Table 1), the regression coefficient for depression was close to zero, while the regression coefficient for relationship satisfaction remained significant. This particular set of findings is remarkably similar to that reported by Fletcher et al., (1990), although this earlier study used a quite different technique whereby subjects described their thoughts and feelings in response to imagining hypothetical scenarios in their relationships.

Finally, the regression coefficients in Table 1 show that the positivity of verbal behavior maintains a reliable relation with the percentage of relationship-positive attributions, but the relation between non-verbal behavior and the positivity of attributions sinks close to zero. This result is in line with those reported in the original study (Fletcher & Fitness, 1990), and is consistent with the idea that verbal behavior is more closely monitored and under tighter international control than non-verbal behavior. Accordingly, what people say in these dyadic discussions receives more conscious in-depth analysis than does the gamut of non-verbal behavior accompanying the content. Hence, it follows that conscious attributions that occur will be more influenced by verbal than non-verbal behavior, and also that such conscious attributional thinking will have a stronger influence on verbal than non-verbal behavior.

These results are important. They show that attributions that occur in the midst of interactive discussions are related to behavior and knowledge structures in ways that are consistent with, but go beyond, previous research. In addition, the results support the proposition that attributions are alive and well in close relationships, and are not simply a product of the fevered imaginations and investigative procedures previously utilized by psychologists.

The Measurement and Role of Close Relationship Causal Belief

Before describing a new scale devised by Fletcher and Kininmonth (1992) to measure close relationship beliefs, I will discuss two important methodological cum theoretical problems that, in our view, have weakened previous work involving the measurement of close relationship knowledge constructs. First, scales that purport to measure relationship beliefs, attitudes, or other knowledge structures typically include a mish-

mash of items including attitudes, expectations, intentions, beliefs, attributions, memories of behavior frequency, and so forth (see Baucom, Epstrin, Sayers, & Sher, 1989). Second, and more seriously, scales often also haphazardly mix items measuring different categories of knowledge construct shown in Figure 1; namely, they often include items that apply to a respondent's specific relationship with items that apply to relationships in general.

To give an example, and to illustrate the unfortunate consequences that can follow from these moves, I will take the Relationship Belief Inventory (Eidelson & Epstein, 1982) — a scale often used in close relationship research. This scale measures five categories of beliefs (8 items per subscale) that are thought to be dysfunctional in close relationships: *disagreement is destructive, mindreading is expected, partners cannot change, sexual perfectionism, and the sexes are different.* The items from the scale, however, include a large range of categories including general beliefs, attitudes, expectations, and behavioral or affective reports from the respondent's own current romantic, intimate relationship. By my count, 21 out of 40 items apply to a specific close relationship. To give some examples from this later class of items: I take it as a personal insult when my partner disagrees with an important idea of mine; I get very upset if my partner does not recognize how I am feeling and I have to tell him/her; I cannot tolerate it when my partner argues with me; my partner does not seem capable of behaving other than s/he does now; When I do not seem to be performing well sexually, I get upset; and When my partner and I disagree, I feel like our relationship is falling apart.

To compound the problem, the above sorts of item are clearly set up along a positive-negative dimension. The result is that such scale items are similar to those included in widely used measures of relationship satisfaction such as the Dyadic Adjustment Scale (Spanier, 1976) and the Marital Adjustment Test (Locke & Wallace, 1959). This sort of item overlap is unfortunate because most published research using the Relationship Belief Inventory has focused on the relations between the Relationship Belief Inventory and relationship satisfaction, or other constructs that are strongly related to marital satisfaction such as positivity of communication (e.g., Bradbury & Fincham, 1988; Epstein, et. al, 1987; Fincham & Badbury, 1987; Gaelick, Bodenhausen, & Wyer, 1985).

The *disagreement is destructive* sub-scale suffers the most from this problem, with all eight items referring to positive or negative items directed at the current relationship. Consistent with my reasoning, two studies that have examined the relations between marital satisfaction and each construct separately (Eidelson & Epstein, 1982; Epstein, et al., 1987) both found that of the five belief constructs, the *disagreement is destructive* belief attained the highest correlations with relationship satisfaction (−.57 and −.54 respectively). In short, I think the correlations between the Relationship Belief Inventory and relationship satisfaction are not evidence for the construct validity of the scale (as claimed by Eidelson & Epstein, 1982), but are more likely to be the result of item-overlap between the measures.

I would stress that these problems are not confined to the Relationship Belief Inventory, but are a common problem with scales in the close relationship arena. One moral of this story is that psychologists need to pay more attention to the *content* of scales and not just rely on internal reliability coefficients, eigen values, correlation coefficients, and all the other statistical paraphernalia of modern-day psychometrics.

Mindful of these issues, Fletcher and Kininmonth (1992) designed a scale to measure the beliefs that people might hold concerning the importance of different factors in producing successful relationships. Initially, these authors designed a study to unearth the shared prototypical beliefs in the community. A university based student sample and a non-university sample wrote down all the factors that they believed would produce a very successful, loving sexual/romantic relationship (either married or unmarried). The resultant list of beliefs is shown in Table 2, divided into four groups according to the results of a subsequent factor analysis and with representative examples of the three scale items subsequently developed to measure each belief.

An exploratory factor analysis ($n = 981$) revealed four factors which were interpretable and labeled as in Table 1: Intimacy, External Factors, Passion and Individuality. The results also showed that these belief factors possessed adequate internal reliability and test-retest reliability. Moreover, this four factor structure was remarkably stable across samples: comparing men with women, and comparing subjects who were currently involved in close relationships with those not in relationships. Two further studies also provided convergent and discriminant validity

Table 2: Factor Labels, Individual Beliefs, and Example Items from the Relationship Belief Scale

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INTIMACY

Trust	There must be complete honesty between partners
Respect	Mutual respect is the foundation for the best relationships
Communication	People must always listen to their partner's underlying messages
Coping	Conflict in a relationship must be confronted directly
Support	In the best relationships partners work hard at satisfying each other's needs
Acceptance	In happy relationships partners totally accept one another
Love	Close relationships cannot work without love
Friendship	Your partner should be your best friend
Compromise	Both partners must make sacrifices in relationships

EXTERNAL FACTORS

Personal Security	If both partners come from secure and caring families the relationship is much more likely to succeed
Important Others	Having friends in common cements relationships
Finance	Money is as important as love in a relationship
Commonality	Partners must share the same beliefs and values
Children	Having children brings couples together

PASSION

Sex	Without good sex relationships do not survive
Vitality	Relationships must be exciting

INDIVIDUALITY

Independence	Each partner has a right to absolute personal privacy
Equity	Men and women must equally share household chores

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for the four belief factors, using a variety of other scales.

Most importantly, in view of my previous comments, relationship satisfaction was unrelated to how strongly the beliefs were held. However, evidence was found, as predicted, that relationship beliefs moderated the relations between self reports of behaviors in close relationships and relationship satisfaction. For example, a sample of subjects who had strong beliefs in the importance of intimacy had stronger links between their levels of relationship satisfaction and their self-reported levels of intimacy behavior (e.g., good communication) in their relationships ($r = .69$), than another group of subjects who had relatively weak beliefs in the importance of intimacy ($r = 32$). This pattern of correlations was repeated across the other three belief scales. These results confirm, as depicted in Figure 1, that causal relationship beliefs overlap with, but are distinct from, relationship-specific accounts or judgments (which include relationship satisfaction and memories of relationship behavior).

Having developed the Relationship Beliefs Scale, we decided to use it to test a key idea

already presented in relation to Figure 1. In a nutshell, it was posited that strongly held close relationship beliefs would operate as *chronically accessible* constructs, that would tend to prime and automatically process the perception and encoding of relationship behavior that is directly related to such beliefs (see Bargh & Tota, 1988).

As already noted, one of the key characteristics of automatic processing is that it is relatively free of attentional capacity constraints, unlike controlled processing. Hence, strongly held beliefs should enable the simultaneous processing of belief-relevant behavior, and another task that absorbs cognitive capacity in working memory, with no diminution of speed in processing the belief-relevant material. In contrast, in the same conditions, the performance of those with weak (and hence little used) relationship beliefs should suffer when required to process the two tasks simultaneously.

To test this hypothesis, Fletcher, Rosanowski, and Fitness (1993) first screened a large sample of students attending University of Canterbury, all currently in close relationships. Based on norms from the large sample used in the develop-

ment of the scale (Fletcher & Kininmonth, 1992), only those subjects who scored in the top and bottom 15% distributions, for either the Intimacy or Passion belief factors, were selected. In a reaction-time study, using computers, subjects were required to judge whether a set of adjectives were descriptive of their relationships. Based on pre-testing, positive and negative adjectives were selected that were semantically relevant and irrelevant to the two concepts (Intimacy and Passion). For example, "exciting", "passionate", "boring" and "unaffectionate" were selected as Passion-related adjectives and "warm", "accepting", "withdrawn" and "undependable" were examples of Intimacy adjectives. Belief-irrelevant terms included adjectives such as "traditional", "unique", "violent" and "complicated". Filler tasks, such as deciding if an adjective included a certain letter, were also included to prevent subjects from settling into a pre-determined style of response.

There were two experimental conditions in this study. In the cognitive loading condition, subjects were required to memorize a 6 digit numeral while answering yes or no to each question. In the non-loading condition, subjects simply answered each question without completing the simultaneous digit recall task. The predictions were that, regardless of belief strength, all subjects would take longer in the cognitive loading condition when deciding whether the *belief-irrelevant* adjectives applied to their own relationships. However, for the *brief-relevant* adjectives we predicted an interaction such that weak-belief subjects would evince the same pattern as already described (taking more time in the cognitive loading condition than in the no-load condition), whereas strong-belief subjects would take the same amount of processing time regardless of whether the tasks were completed under cognitive loading or no-load conditions.

As can be seen in Figure 3, the results confirmed the predicted results. Moreover, the interaction in the belief-relevant condition just described remained significant when a variety of possible mediating variables were controlled for including relationship satisfaction, relationship length, the number of numerals correctly recalled, the proportion of yes responses and the speed of response for the belief-irrelevant adjectives.

In summary, these results suggest that causal close relationship beliefs can influence how everyday material is processed in a quite unconscious and unintended fashion. A general related point here is that research and theorizing carried out by close relationship researchers almost invariably equates thinking or cognition with the kind of
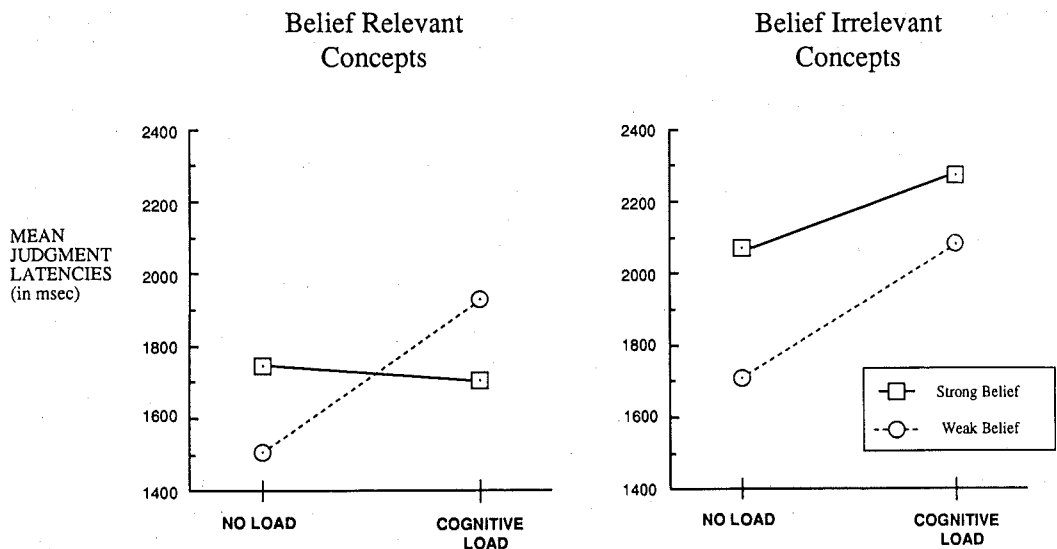

Figure 3. Mean response time as a function of cognitive load and relevance of concepts being assessed.

verbally reported judgments that are most likely to be part of conscious, controlled cognitive processing (see Fletcher & Kininmonth, 1991). If, as I believe, rapid and automatic cognition is endemic in close relationships settings, then this often tacit assumption is clearly problematic.

The Role of Affect and Emotional Attributions

As shown in Figure 1, affect appears as both a possible eliciting event and an outcome. Indeed, it is a popular idea in emotion theories that autonomic arousal is part of a system especially evolved for alerting and directing the organism to some potentially dangerous or threatening state of affairs (see Berscheid, 1983). Accordingly, it is not surprising that the important triggers of emotional arousal are the same as those that have been found to instigate explicit attributional processing, e.g., negativity and unexpectedness (Fitness & Strongman, 1991). In addition, emotional attributions (outcomes) are likely to be theory-driven, in part, by attribution processes. Weiner's (1986) theory posits that an initial crude appraisal of an emotion occurs along a positive-negative dimension. Next, a more elaborate attributional analysis, along the attribution dimensions of locus, stability, and controllability, determines the appropriate emotional attribution.

A study by Fitness and Fletcher (in press) adds some weight to Weiner's general thesis concerning emotional attributions in close relationship settings. In study 1 of this research, 160 married subjects recalled an incident of love, hate, anger, or jealousy in their marital relationships, and wrote accounts of their physiological symptoms, urges, behaviors, and general appraisals. In addition, subjects rated each emotion on a range of cognitive appraisal dimensions including the attributional dimensions of stability, controllability, locus, and globality. To illustrate some of the findings, generally related to Weiner's thesis, the causes of love were perceived as global, and internally located in both partner and self. In contrast, the causes of hate were seen as a function of the partner, but not the self, and were perceived as specific rather than global in nature.

However, the overall findings also suggested that subjects possessed prototypical knowledge structures for each emotion that went well beyond attributions, including characteristic urges, actual behaviors, control mechanisms, types of triggering events, and perceived physiological symptoms. Some interesting similarities and differences emerged amongst the four emotional concepts. For example, the negative emotions (hate, jealousy, and anger) were invariably elicited by the negative behavior of the partner, whereas, perhaps, surprisingly, the most popular eliciting event for love was not partner behavior per se but the act of daydreaming or thinking about the partner. There were also interesting differences among the negative emotions. For example, anger was typically accompanied by active interactive behavior (e.g., yelling), but hate was more often followed by passive behavior such as emotional withdrawal.

To test whether the detailed emotion accounts assembled from Study 1 actually represented knowledge structures (i.e., possessed psychological reality), two further studies were undertaken. In the second study, 80 married subjects wrote hypothetical accounts describing typical love, hate, anger, and jealousy incidents in marriage. The results were generally in accord with Study 1, suggesting that both kinds of account (recall and hypothetical) are generated from the same emotion knowledge constructs. The third study was the flipside of the first study. Subjects (this time university students who were mostly unmarried) were given varying amounts of information derived from Study 1 concerning each emotion (love, hate, anger and jealousy), and were required to select the correct emotion from a list of four positive and four negative emotions. Results indicated that the accuracy of emotion identification was a linear function of the amount of information provided. A mean accuracy rate of 26% was attained when the event only was described and 69% accuracy was achieved when the event descriptions were combined with information concerning prototypical cognitive appraisal features (such as causal locus and stability), behavioral urges, actual behaviors and physiological symptoms.

In general then, the results from this research confirm the existence of relatively elaborate knowledge structures concerning specific emotions in close relationship contexts. It is worth noting here that in spite of the renaissance in the study of both emotion and close relationships over the last two decades, this research is one of the first to investigate the nature and function of emotion knowledge structures in close relationships. The results generally suggest that social cognitive theories concerning close relationships have construed the role of emotions rather too narrowly (see, for example, Fletcher & Fincham, 1991). That is, specific emotional attributions are

driven, in part, by relatively elaborate knowledge structures that include but go beyond attributional schemata.

Conclusions

Social psychology theories rise and fall according to whim and fashion (witness the dramatic rise and fall of cognitive dissonance theory in one decade). And yet, attribution theory has maintained its status as a major area in social psychology with surprising vigor for over two decades now. Doubtless, its longevity is owed, in part, to the way in which basic attribution theory has been successfully exported to many other areas in psychology, including close relationship research. But, I think there is another more fundamental reason for its continued popularity which some of the research described above confirms; namely, attribution structures and processes form a central component of human cognition. Simply put, humans seek to understand and explain the world, especially the social world.

However, as has been made clear in this article, I believe the way ahead is best charted with theories that integrate attribution processes and structures into more general social cognitive models (also see Fletcher & Fincham, 1991). The research described here deals with a few components of the model offered, but hopefully illustrates the way in which such an overarching theory can be exploited, developed and tested.

Studying social cognition within close relationship contexts is a difficult proposition, to put it mildly, both theoretically and practically. However, I think the fruits to be gained from the endeavour make it worthwhile. As noted, earlier, cognition and behavior are predominantly learned and developed with social settings, and especially dyadic close relationships. Accordingly, much of our cognition and emotion, including both knowledge structures and ongoing processing, is social in nature. A psychology that grapples with the links between social cognition and dyadic relationships has the potential to inform our understanding of both basic cognitive processes and the way in which close relationships function in the real world.

Footnotes

1 Other influential classic attribution theories, like Kelley's (1967) theory of attribution, are similarly organized in terms of content-free information dimensions that are intended to deal with any given human behavior (in Kelley's theory these consists of Consensus, Distinctiveness, and Consistency information).

2 Given the amount of measurement error, these correlations underestimate the real effect sizes. When corrected for attenuation, the significant correlations range from .30 to .45.

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