EXAMINING MENTAL MODELS, ATTRIBUTIONS, AND SOCIAL SHARING OF EMOTION IN CLINICAL AND NON-CLINICAL POPULATIONS USING THE ERROR DIARY METHOD: AN EXPLORATORY STUDY

by

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A thesis submitted in conformity with the requirements for the degree of Master of Arts
Department of Human Development and Applied Psychology
Ontario Institute for Studies in Education of the University of Toronto

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Abstract

This study is an exploratory investigation of how participants from two very different populations -- primarily graduate students (n=30) and psychiatrically at-risk mothers (n=8) from a Toronto housing project -- respond to a mini life event. The error diary, originated by Oatley and Larocque, has been modified here to examine mental models of self-in-relation and social sharing of emotion following an error in a joint plan. The findings showed that, contrary to expectations, joint errors evoke malign simulations (negative thoughts) and intense negative feelings in both clinical and non-clinical participants. A significant difference was successfully predicted, however, within the clinical group; those who were the most severly at-risk experienced malign mental models more frequently than those who were less at risk. Surprisingly, results also showed that the non-clinical males were more likely to socially share (speak) with three or more confidants about the error than were the non-clinical females. Results are discussed in terms of communicative and appraisal theories of emotion.
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I hope I am not forgetting anyone; but if I have, trust me, it’s just another (unintentional) error. But that’s another story...
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Chapter 1

INTRODUCTION

1.1. Overview

This study examines a new method for eliciting mental models of self-interrelation, the error diary, in clinical and non-clinical participants. The error diary, originated by Oatley and Larocque (1995, 1996), uses a structured incident diary in which participants record details of their reactions to an interpersonal error. Interpersonal or “joint” errors occur when a shared plan fails completely or violates the expectations of at least one participant. This study also investigates how each group (clinical and non-clinical) responds interpersonally to an error in joint plans by examining the content of their social sharing with their error partner and others with whom they speak about the error. Whether or not joint errors elicit mental models and social sharing has not been previously investigated; nor has a clinical group of participants been examined using the error diary method. Thus, this study’s investigation of these issues is primarily exploratory in nature.

1.2. Mental models and previous methods of investigation

In spite of its being a core concept in cognitive psychology (Johnson-Laird, 1983; Gardner, 1985; Von Eckardt, 1993; Oatley & Johnson-Laird, 1996; Power & Dalgleish, 1997), the examination of how mental models affect interpersonal functioning is rarely investigated in a systematic way. Current methods such as attribution-style questionnaires (Kinderman & Bentall, 1997) or Core Conflictual Relationship Themes (Luborsky & Crits-Christoph, 1990), while otherwise yielding fruitful research, tend to rely on contrived, imagined, or recalled scenarios, or else require extensive training to score, respectively.
Attribution research methods, in particular those which rely on participants’ critiques of vignettes or on autobiographical recall to assess mental models of self-in-relation, have been criticized as “artificial” (Levine, 1996) and/or as relying on reconstructive memory, which is based more on cultural than personal prototypes (Kinderman & Bentall, 1997; Levine, 1996; Weiner, 1983).

1.3. The error diary: Investigating mental models elicited by errors in joint plans

The error diary, in contrast, is a practical method that is a structured incident diary in which participants record details regarding their own interpersonal error. Examples of joint errors include missing an appointment, forgetting an anniversary, and neglecting to inform your error partner of a change in plans or priorities. When joint plans go awry we experience a scourge of negative thoughts and feelings. Goal disruptions, as the communicative theory of emotions accurately predicts, typically motivate such outcomes. Other aspects of our reactions, as this research will attempt to demonstrate, result from our habitual means of understanding the world and predicting the future, that is, from our mental models. Thus, because errors in joint plans are interpersonal in nature, occur “on-line”, are emotionally engaging, and involve real consequences, the likelihood that the error diary captures participants’ actual -- versus perceived or projected -- cognitions, behaviours, and affect is maximized.

Larocque’s (1996) joint error research has enabled considerable progress toward a theory of joint action, which has led to some provocative research possibilities. The most interesting, I believe, is the idea that joint errors can elicit people’s mental models of self-in-relation. As Larocque argues, some participants’ representations of others are “grossly impaired because of
powerful, generalized background assumptions that resist updates when a current interaction offers belief-challenging evidence. In such instances, novel information can be totally assimilated by existing schemata, with no consideration of unique and crucial factors" (p.14). The use of joint errors to perturb these schemata, however, has not, until now, been investigated.

1.4. Errors in joint plans and the communicative theory of emotions

Using the error diary to probe these ubiquitous social events can provide a wealth of information about how people respond to emotion-eliciting circumstances. The communicative theory of emotions (Oatley & Johnson-Laird, 1987; 1996), which led to the development of the error diary, provides a parsimonious structure to analyze reactions to joint errors. Oatley and Johnson-Laird postulate that emotions are experienced whenever people’s goals are impeded, such as during a joint plan failure.

Oatley (1992) argues that emotions function to manage multiple elements of the human cognitive and social systems. As he explains, “In the individual cognitive system emotions manage transitions between plans....In the social world joint plans are units of analysis equivalent to the individual plan” (p.178). How we respond to the signals elicited by emotions, however, is mediated by our mental models (Oatley & Johnson-Laird, 1996).

1.5. Mental models and emotions

Mental models are internal cognitive ‘structures’ that organize information based on previous exposure to features which are perceived to be similar to those in the eliciting stimuli (Johnson-Laird, 1983; Gardner, 1985; Power & Dalgleish, 1997). Researchers such as Oatley & Jenkins (1992) contend that emotions may give us “....access to information about comparable emotional events in the past” (p.67), with mental models serving as a conduit.
One way in which the interaction between type of mental model and emotional reaction may be exhibited is in the degree of emotional intensity an event elicits. People may react to a mini life event of the type that occurs during errors in joint plans by becoming "overly emotional". This may be expected to occur more frequently in a group at-risk for psychopathology because, as Oatley and Jenkins (1996) argue, “Processes involved in the development of psychopathology are often just more extreme versions of those processes that structure normal emotionality” (p.233). Psychiatrically at-risk participants may, for instance, behave in a more aggressive or passive manner than people who are not at risk. It is important, therefore, to investigate the role of emotions and mental models in both clinical and non-clinical contexts in order to examine the range of emotional reactions within and between these groups.

1.6. The development of mental models

It is frequently assumed that people's mental models of self-in-relation, or the ways in which we perceive and respond to others, are heavily influenced by our past interactions (Dodge, Bates, & Pettit, 1990; Baldwin, 1992; Oatley & Jenkins, 1996; Magai, in press). Different theoretical frameworks postulate different names, origins, and, in some cases, "sensitive periods" for the development of mental models. For instance, cognitive theorists such as Oatley and Johnson-Laird (1996) theorize that infants continually reformulate models of their caregivers on the basis of the emotions they experience in repeated interactions. According to these theorists, "The model becomes the means by which the individual predicts the behaviour of significant people and influences interactions with them" (p.377).

Likewise, attachment theorists refer to adult "working models" of relationships as having been determined by the quality of attachment to caregivers during early childhood. Consistent with this position are findings
which indicate that attitudes regarding adult love relationships are associated with perceived attachment style in childhood (Hazan & Shaver, 1987), and can predict support seeking style between partners (Simpson, Rholes, & Nelligan, 1992).

Social cognition theorists, such as Baldwin (1992), focus on how "relational schemas" develop from repeated interaction with significant others. Baldwin has detailed a theory of how these schemata (of self, other, and relational scripts) set up expectations for similar behaviour and affect subsequent interactions, such that "...a person's interpersonal expectations should render him or her more sensitive to schema-relevant information, [and] more likely to interpret ambiguous interactions as consistent with the[se] expectation[s]..." (p.479). This is consistent with what an error in a joint plan can elicit: explanations, based on mental models of self-in-relation, for junctures in interpersonal plans.

Social learning theorists, such as Dodge and his colleagues, refer to "social information-processing patterns" developed in response to social reinforcement contingencies (Dodge, Bates, & Pettit, 1990; Dodge, Price, Bachorowski & Newman, 1990). Evidence for this position is provided by a variety of empirical findings. A study conducted by Dodge et al., (1990), for example, demonstrated that growing up in an abusive environment frequently leads to the development of malign mental models. These researchers found that because their interactions were frequently violent and combative, the children studied had become skilled in interpreting social stimuli as malign and brought expectation of discord into their relationships.

Attribution theorists, such as Weiner (1983), examine just these kinds of explanations in depth. They essentially investigate people's 'folk beliefs' about causality. Individual and between-group differences are frequently found using
such methods. Research conducted by Dodge et al., (1990), as well as by others, such as Kinderman and Bentall (1997), have found that people suffering from conduct disorder, or paranoia and depression, respectively, are more likely to have maligning attributions than those without psychopathology. Of course, these differences may have been also caused by, or at least be characteristic of, the disorders themselves.

Similarly, Seligman's (1990) reformulated helplessness theory incorporates attribution theory, both of which examine people's causal explanations along a number of dimensions. Seligman (1990), for example, conceptualizes depression as arising from habitual patterns of explaining negative events as occurring due to internal, stable, and global causes. He and his colleagues have found that this explanatory style is present in children as young as eight years of age and is correlated with their mother's explanatory style (Seligman, Peterson, Kasiow, Tanenbaum, Alloy, & Abramson, 1984). Because attributional (i.e., explanatory) style is an element of how one interprets the world, I believe that it should also be considered a component of our mental models -- especially when we are trying to explain why things went wrong.

The idea that the type of mental models we have depends upon the type of interactions we have experienced, invites the possibility that the greater one's exposure to psychosocial risk factors, such as violence and sexual abuse, the greater the likelihood that one's mental models of self-in-relation would contain maligning or distrustful elements. Thus, ambiguous interpersonal events should be more likely to trigger hostile or self-blaming attributions in a clinical, rather than a non-clinical sample.

In spite of the apparent heterogeneity of concepts, each of these theories has as its fulcrum the idea that mental models of self-in-relation mediate how
we ‘encode, interpret, access, evaluate, select and act’ (Dodge, Bates, & Pettit, 1990) in response to the social world. Mental models of self-in-relation serve as heuristics that aid us with our interpretations of ambiguous events. The source of errors in joint plans are often ambiguous, prompting a search for reasons as to why our plans have failed and allowing a space into which we can pour our conclusions based on the layering of past, perhaps tangentially relevant, experiences. At times these conclusions may depend more upon our relational past than they do on our current circumstances. When life, for example, has been filled with relatively untrustworthy relationships and traumatic experiences, recipients of such experiences may be predisposed to overgeneralize the normal vicissitudes of life as being evidence of more ominous global pronouncements, equivalent to “see, there: life sucks; everyone is out to get me”.

The first prediction for this study, therefore, concerns women who are at-risk for psychopathology (clinical group). These women have been exposed to a variety of negative life events, such as childhood abuse, trauma, poverty and unplanned teenage pregnancy. Although all of the women in this study are considered to be at-risk for psychopathology, for the purposes of this study, they have been divided into severe and non-severe risk participants. Those in the severe group have experienced a greater number of negative life events (risk factors) coupled with a relative absence of protective factors than those in the non-severe group.

The main predictions are the following: (1) errors in joint plans elicit mental models of self-in-relation that will be reflected in the error diary; (2) type (i.e., malign vs. not) of a mental model will be related to level of risk for psychopathology; and (3) the type of a mental model will differ between the clinical and non-clinical groups.
1.7. The role of psychopathological risk and protective factors

Risk factors, even when multiple and severe, do not necessarily translate into psychopathology at the individual level (O’Connor & Rutter, 1996). The majority of those exposed to risk factors do not, in fact, develop psychiatric disorders (Quinton & Rutter, 1988). However, the risk of disorder, at least for children, does increase as a function of the number of risk factors encountered (Rutter 1979 cited in Oatley & Jenkins, 1996). In addition, it is likely that persistent exposure to malevolent influences, especially without protective influences, will lead to disorder or stressful life events (e.g., teenage pregnancy) (Brown & Harris, 1978; Harris, Brown, & Bifulco, 1987; Quinton & Rutter, 1988). Thus, in addition to risk exposure, protective factors play an important role in the vulnerability equation (other factors, such as genetic and cultural factors, though beyond the scope of this paper, also play important roles) (Dohrenwend & Dohrenwend, 1974; Oatley & Jenkins, 1996).

Protective factors, as defined by Rutter, “are influences that modify, ameliorate or alter a person’s response to some environment hazard” (Rutter, 1985, cited in Quinton & Rutter, 1988, p.12). Protective factors can be external or internal to the individual (Quinton & Rutter, 1988); social support would be an example of the former, ‘healthy’ mental models of the latter.

Protective factors, in particular social support, play an important role in shielding people from the deleterious effects of negative life events or chronic stressors (Brown & Harris, 1978; Oatley & Bolton, 1985; Oatley, 1988; Quinton & Rutter, 1988). This finding is very robust and fits with our folk understanding of what is required for solace during upsetting emotional life episodes. Most of us need, like, and seek support and comfort from others when struck with life’s slings and arrows. Through whatever elixir the presence of supportive others
may bring, their reliable presence can significantly negate the traumatic consequences of such major life events as loss of a loved one.

1.8. Social support and social sharing following mini life events

Most of us routinely experience significantly smaller adversities, as ubiquitous sources of stressful wear and tear. These occasions, including errors in joint plans, may be referred to as mini life events. Such things as being stood up for an arranged meeting or being let down by friends who break promises, though not the stuff of which nervous breakdowns are made, still provoke emotions and often send those who experience their vicissitudes searching for an ear.

This is because, as the name of Oatley and Johnson-Laird's theory indicates, emotions are communicative. Emotions elicit action tendencies such as motivating us to communicate with others (socially share) (Rimé, 1996). Emotions motivate our need to communicate, to connect with others, to be heard. Yet not every one who needs social support seeks it; nor does everyone who seeks social support receive it. It is beyond the means of this investigation to understand why such discrepancies exist. However, we can begin to explore patterns of interaction by investigating how participants socially share following an error in a joint plan.

The error diary has not been used to investigate social sharing. However, based on Rimé's copious research on social sharing (see section 1.8.1.), I hypothesize that because errors in joint plans are interpersonal and can evoke intense negative emotions, errors will, in addition to activating mental models of self-in-relation, result in social sharing. Moreover, these differences may also lead to between-group (clinical versus non-clinical) differences in social sharing outcomes, such as whether social sharing facilitates emotional recovery. In other words, because mental models underlie all that we think,
feel, say, and do, it is assumed that differences in these elements may also lead to differences in the social sharing experiences of clinical and non-clinical populations. Thus, it is expected that mental models mediate social sharing although due to the exploratory nature of this issue, it is difficult to make exact predictions as to how.

Of course, not everyone who socially shares receives support, resolves disputes, or feels better as a result. For instance, differences in cognitive and emotional responses to errors in joint plans may determine whether people effectively problem-solve with others or resort to more ineffective and aggressive means of solving disputes (Larocque, 1996). Such emotional responses set up a sequence of action tendencies, inviting others to respond in tandem to the signals elicited (Oatley & Jenkins, 1992). Rutter (1983), for example, found that women who were at risk for psychopathology tended to “create tension and discord” (cited in Quinton & Rutter, 1988, p.12) in their interpersonal relationships.

Differences in social sharing and/or social problem-solving efficacy\(^1\) may also be due to differences between each group’s support network. Research on selective or assortative mating provides evidence that people, at least in their most intimate relationships, attract and are attracted by, those with similar backgrounds and characteristics (Thiessen, Young, & Delgado, 1997). Quinton and Rutter’s (1988) research, for example, shows that clinically at-risk women who marry within their social network have worse outcomes than those who gain exposure to more supportive partners.

One way of conceptualizing social support is to examine if recipients respond in an emotionally supportive manner, leaving participants feeling better

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1 I make a distinction between social sharing, which I define as the act of discussing events with the error partner or other confidants, and social problem-solving efficacy, which I define as the mutually beneficial resolution of interpersonal disputes with the joint error partner as a result of social sharing.
as a result. To explore potential social network differences, this study also will examine the content of participants' partners' social sharing to determine if between-group differences on this variable (i.e., emotional content of partner's response) exist and, if so, whether they are associated with differences in emotional recovery from the error. Thus, differences in mental models and social sharing may be associated with environmental factors, such as social network differences, together with developmental ones.

1.8.1. Social sharing and emotional recovery among non-clinical populations: Rimé's research

Among non-clinical populations, Rimé and his colleagues have studied social sharing in depth. A brief review of some of their findings follows.

Using emotion diaries based on Oatley & Duncan's (1992 and 1994) model, Rimé and colleagues asked 53 women to keep diaries for one month, recording in them each day's most significant emotional event (Rimé, Philippot, Finkenauer, Legast, Moorkens, & Tomqvist, 1995). Participants were asked whether or not they spoke with anyone as a result. Responses were divided into two categories: 'hassles' and 'uplifts'. Results showed that daily hassles provoked social sharing in 59% of cases. Experiences of anger, frustration, and disappointment were common, accounting for nearly 56% of all hassles. Notice that these emotions are of the same kinds as those experienced by participants following an error in a joint plan (Oatley & Larocque, 1995; Larocque, 1996).

A variety of follow-up studies conducted by Rimé and his colleagues have confirmed that emotions, regardless of factors such as emotional valence or social acceptability (with the exception of shame), are socially shared in the majority of instances (Rimé et al., 1995; Rimé, 1996). Rimé et al., (1995) found that from a total of 461 emotional events, participants shared 58% of them on

2 Rimé does not, as in the current study, distinguish between discussion with event partners versus third parties.
the day they occurred. The average emotional intensity of the events recorded was 5.3 (sd=1.47) on a 10-point scale (endpoints: 0 = not at all, 9 = very much). Emotional intensity was the only factor identified by Rimé et al., to be mediating the frequency of social sharing. In other words, people are more likely to talk with others when their emotions are experienced at higher intensities.

During a follow-up session, four weeks later, intensity of emotion participants currently felt about the original event had dropped to 4.01. Unexpectedly, the emotional recovery experienced by participants was not attributed to social sharing, neither when the event had first occurred nor four weeks later (i.e., when discussing the event with the experimenter).

To further examine the connection between social sharing and emotional recovery, Rimé et al., (1995) conducted another series of experiments. In one of those, female psychology students (n=136) were asked to discuss any recently occurring negative event (Rimé, Zech, Finkenauer, Luminet, Dozier (in preparation), cited in Rimé, 1996). However, instructions regarding the focus of social sharing varied between four groups. Subjects in group 1 were given no specific instructions regarding the content of their sharing, while those in groups 2, 3, and 4 were asked to share events with either a factual, emotional, or a combination factual-emotional focus, respectively. Rimé et al., found that emotional recovery was best predicted by naturally occurring differences in social sharing style (i.e., those who automatically focused their sharing on emotions experienced emotional recovery more frequently than those who did not) rather than by any experimentally manipulated difference. Further studies, however, have found no difference between emotional recovery in those whose spontaneous social sharing was emotionally valenced and other types of sharing (Rimé, Hayward and Pennebaker in preparation cited in Rimé, 1996).
Thus, despite the ubiquity of social sharing, data regarding its effectiveness on emotional recovery have been inconclusive (Rimé, Hayward and Pennebaker, 1997; Rimé, Zech, Finkenauer, Luminet, & Dozier; Pennebaker and Beall, 1986 cited in Rimé, 1996; Rimé et al., 1995). It will be interesting, therefore, to discover whether social sharing following an error in a joint plan will lead to emotional recovery for participants in the current study.

1.8.2. Examining Rimé’s conceptualization of emotional recovery

Part of the difficulty with determining the effectiveness of social sharing may lie in the conceptualization of emotional recovery. Rimé and his colleagues have typically measured emotional recovery as a significant decrease in participants’ emotional intensity regarding an event over several weeks. Aside from possible artifacts, such as the temporal attenuation of intensity, emotional recovery following social sharing may be better conceptualized as people’s phenomenology of the social sharing experience. In other words, we may learn more by asking people how their social sharing experiences have made them feel.

Rimé, Hayward, and Pennebaker have themselves wrestled with this (conceptual) issue but conclude that emotional recovery as they have measured it is a valid concept because unrecovered emotional episodes (i.e., those that remain intense) motivate more social sharing (in preparation cited in Rimé, 1996). Yet in a separate study (Zech & Rimé in preparation cited in Rimé, 1996) when undergraduates discussed ‘the most upsetting event of their life’, their reports that the social sharing was meaningful and interesting were essentially dismissed. The investigators’ rationale for retaining the original conceptualization was that the students’ self-report ratings did not correspond with ‘objective’ ratings (e.g., emotional intensity difference scores) of emotional recovery.
Rimé (1996) does, however, acknowledge that the effects of social sharing on emotional recovery may interact with characteristics of the social sharer. This study will examine these issues to determine the following: whether social sharing following an error in joint plans leads to emotional recovery (determined by participant's judgment as to whether talking to another made them feel better); whether type of social sharing (emotional or not from participant and from partner) leads to differential emotional recovery; and whether clinical versus non-clinical groups differ in these variables.

1.9. Study aims and summary of hypotheses

The aims of this study are to determine if the emotional reactions, mental models (including attributional style), and social sharing of clinical and non-clinical participants following an error in a joint plan can be examined using the error diary method. The study focuses on women who are at-risk for psychopathology (clinical group). These participants have had experiences that, according to a variety of theories, have shaped their mental models. It is likely, therefore, that their emotional and social sharing experiences will differ from those who are not at risk for psychological disorder.

This study, however, is not designed to test this hypothesis directly. Rather, it will describe the reactions of both groups in quantitative and qualitative terms, comparing the clinical participants' responses to those of the non-clinical participants in order to place the results in some context of 'normality'. Although this research is exploratory in nature, the following hypotheses have been constructed based on various empirical findings as well as on the communicative theory of emotions.

A. The main predictions of this study are that the error diary method (a) will reveal mental models of self-in-relation (including presence of global attributions), (b) type (malign vs. non-malign) of mental model will be both
related to level of risk for psychopathology and, (c) will differ from the clinical versus the non-clinical group. Thus, it is expected that within the clinical group, those at extreme risk will have a greater frequency of malign and global attributions than those at lower risk; and that the clinical group will have a greater relative frequency of these elements than will the non-clinical group.

B. I further predict that the women in the clinical sample relative to the women in the non-clinical sample will experience greater:

a. rates of global attributional style evoked by the joint error,
b. rates of negative emotions such as anger, fear and sadness,
c. levels of emotional intensity following an error in a joint plan,
d. rates of interpersonal difficulties (such as arguing, yelling, blaming, fighting, or responding with an aggressive/passive style) with their error partner as a result of social sharing following an error in a joint plan.

C. I also will examine whether the clinical group, relative to the women in the non-clinical sample, will experience:

a. lower frequencies of emotional recovery following social sharing with their partner and with third parties,
b. differences in the relative frequency of emotional (versus non-emotional) content regarding participants’ and their partners’ social sharing.
Chapter 2

METHOD

2.1. Overview of method

As Larocque (1996) has convincingly argued, “the joint error phenomenon [as well as the error diary method it inspired] is useful both as a social concept for actors and a unit of analysis for researchers” (p.122). The examination of people’s reactions to an error in joint plans can reveal rich sources of data regarding the phenomenology of everyday life events. Error diaries allow us to examine people’s spontaneous thoughts, feelings and behaviours as they occur within their own everyday environments. This provides an alternative method for investigating interactional experience in a way that is rarely captured by questionnaires or in laboratories.

Keith Oatley and Laurette Larocque have gathered information on hundreds of joint error incidents. I expand upon their method by investigating the social sharing aspects of the joint error experience. My role included redesigning and analysing the error diary for these purposes, as well as designing a semi-structured interview for use with the at-risk participants.

This study was analyzed in three parts. In part one, joint errors and social sharing of a clinical sample of women were examined. In part two, these elements were examined in a non-clinical sample of males and females. Part three is an examination of the responses from only the women of the clinical and non-clinical groups. The presentation of results in the next section will follow in the above order.

In part three, the clinical group was compared with the non-clinical women. However, due to the presence of uncontrolled influences, such as discrepancies in socioeconomic status, these comparisons must be considered judiciously. And while one group is being seen at a treatment centre in an
impoverished neighbourhood, the other is comprised of primarily graduate students and their primarily middle class social network. Although these limitations do not permit strict comparisons across groups, the findings from a non-clinical sample will be referred to in order to provide some point of comparison from which to examine the high risk group's responses.

All participants performed essentially similar tasks, with the exception of the clinical group who took part in an interview following completion of their error diary.

2.2. Joint errors and social sharing of clinical females

In this study, I wanted to investigate how women who have been exposed to multiple psychosocial risk factors react to an error in an interpersonal (joint) plan. In order to examine how the impact of these traumatic events influences their responses to a “mini” life event, this group will also be compared with a non-clinical sample (see section 2.4.)

2.3. Subjects

A convenience sample of eight mothers at risk for psychopathology was obtained from a list of ten potential volunteer participants from the Growing Together project at the Hincks Centre in St. JamesTown, Toronto, and they comprise the Clinical Group in this study. Their mean age was 31.7 years (sd=2.61) (range = 27-33). The Growing Together project is a community-based prevention and early intervention program designed to benefit children and their parents within the high-risk community of St. JamesTown, Toronto. High rates of crime, child abuse, prostitution, drug and alcohol dependency, suicide, single-parent families and adolescent parents are particularly concentrated within this overcrowded, impoverished community. Entry into the program is voluntary and open to all interested parents within St. JamesTown. The program's principle investigators are Drs. Sara Landy and Denise Martyn of the
Hincks Centre and Growing Together.

Level of risk was determined upon entry into the Growing Together project. Clients were interviewed extensively by staff regarding a variety of life experiences. Questions included information about the client's child care experiences, past and present levels of social support, drug and alcohol abuse, education level, employment background, and so on. Psychometrically sound measures (listed below) were administered by staff to measure clients' functioning in a variety of domains. Measures such as the Social Support Inventory, Family Assessment Device, Ego Function Assessment, Self Esteem Scale, as well as a nonstandardized Sociodemographic Questionnaire and interviews were used to determine risk factors.

On the basis of response to these measures, clients were categorized into five levels of risk: none, low, medium, severe, and extreme. Participants identified as at risk (i.e., all but the first group) were offered a variety of intervention and treatment options, including those designed to facilitate social problem-solving skills. For the purposes of this study, a median split of total risk scores was used to categorize subjects into severe/extreme risk or not at severe/extreme risk.

Prior to my contacting them, prospective participants for this study had been notified by their counsellor(s) at the Hincks Centre that volunteers were required for "research into how people react to everyday errors that happen when people make plans with each other". Interested clients were given a brief description of the method. It was stressed, by their counsellor(s), and later by me, that they were under no obligation to volunteer, could stop participating at any time, and that their participation in this program of research would in no way jeopardise their involvement in the Growing Together (or any other) project. The only restrictions deemed necessary regarding the written, oral and
cognitive capacities required. Therefore, only mothers who were fluent in English and functioned to a minimum of low-average levels of intelligence (as measured by a previously administered WAIS battery), were eligible to participate. These criteria were used by counsellors to surreptitiously prescreen clients. Clients were told that they would be paid $20.00 for their participation.

2.4. Joint errors and social sharing of non-clinical males and females: Subjects

A convenience sample of thirty participants (male, n= 9; female, n = 19; 2 participants who did not indicate their sex) was obtained via classmates who attend graduate classes with me at the Ontario Institute for Studies in Education of the University of Toronto (O.I.S.E/U.T). Thirty error diaries were returned from a potential sample of 38. The mean age of respondents was 34 years (range = 22-54; sd=8.6). This group will be referred to as the non-clinical group.

2.5. Materials

2.5.1. The error diary

_Mental Models of Self-in-Relation._ Because mental models are comprised of affective, behavioural, and cognitive elements, the error diary (Appendix A) has been modified to examine each of these components. In particular, participants’ first thoughts about why the error occurred, as well as their first thoughts and feelings regarding their error partner and the thoughts and feelings they attributed to them, were categorized according to the presence (or absence) of malign mental models of self-in-relation. A mental model of self-in-relation was coded as present when reference was made to self, other, or self-in-relation in affective, behavioural or cognitive terms. Participant’s utterances may have referred to or implied continuity in one’s expectations or sense of self, other, or self-in-relation (e.g., “delayed as usual”, where “as usual” refers to or implies a habitual model of interpreting
interpersonal events) with this person.

**Global Attributions.** Global attributions are determined by the type of thoughts and feelings that the joint error has elicited. Global attributions are defined, or bound, by events or simulations that extend beyond the joint error. Thus, participants make global attributions, either about themself, an event, or another person, when they state causality in terms that go beyond what the situation warrants. For instance, thinking that a person missed an appointment with you because “that's the way my life always goes” is an overgeneralization. Such global utterances typically lack an analytic component and are often very negative, emotionally loaded, and “fatalistic”. Participants’ response to the question addressing global utterances (i.e., the last question on the error diary addressing anything else the participant wanted to add about how the error affected them) was coded as “global attributions present” when the above elements were noted.

**Emotions.** In the error diary participants were asked to list their emotions (up to four emotions were requested) as they occurred when the error was first discovered. These lists were classified into basic emotion categories of anger, sadness, fear, and happiness using Oatley and Johnson-Laird’s classification scheme as interpreted by Larocque (1996); all but versions of happiness were coded as negatively valenced. Subjects listed the intensity of emotions on a 10-point scale with endpoints for each ranging from 0 hardly felt anything at all to 10 one of the strongest feelings I've ever had. Mean intensity of negative emotions was later calculated for each participant by summing the intensity for each negative emotion (experienced by the participant) and dividing this total by the number of negative emotions experienced.

Other emotion-related questions included whether any argument, yelling, blaming, fighting, giving in, walking out, freezing, or other problems had
occurred (Yes/No for each) with their partner as a result of the error. Further division of emotional reactions, designed \textit{a priori}, was made by deciding whether participants had either a passive or aggressive response style (or both).

\textit{Passive Response Style}. This composite variable was coded 'present' if four out of five of the following items were endorsed: helpless, hopeless, giving in, walking out, doing nothing/freezing.

\textit{Aggressive Response Style}. This composite variable was coded 'present' if three out of four of the following items were endorsed: arguing, yelling, blaming, and fighting.

\textit{Social Sharing (talking with partner and others)}. What was said to and by the error partner (and any additional persons) was categorized for the presence (or absence) of emotional social sharing.

\textit{Emotional Recovery}. Participants were asked to 'circle yes or no' as to whether talking to another made them 'feel better'.

Table 1, at the end of this chapter (pp.25-26), contains a summary of the variables that were used in this study. Appendix B provides definitions and examples of the categories which required interrater agreement. Two researchers, blind to group and subject identities, were provided with answers to only the question being coded (i.e., answers were relatively context free). All of the error diaries (n=38) were coded and resulted in an agreement of 90% for malign mental models, 100% for negative global attributions, 100% for emotional content of social sharing from participants to their partners and 89% for the reverse (i.e., partners to participants), 100% for emotional content of social sharing from participants to other confidants, and 90% for the reverse (i.e., confidants to participants).

The error diary was modified for the non-clinical sample by asking
participants what they said to anyone they spoke with and what was said to them; this was in contrast to the approach taken with the clinical sample which was to ask for this additional information only when they asked another person for help or advice following the error. This modification was made because if participants in the non-clinical group did not ask for help or advice, no information would be available regarding the content of their social sharing, whereas for the clinical group, participants were interviewed regarding such (potentially absent) information.

2.5.2. The interview: Clinical group only

A semi-structured interview was conducted to follow up on any ambiguities in the diary for the purpose of assessing a variety of dimensions of the social sharing experience. Open-ended questions and standard prompts, including asking subjects to explain what they believed the other person(s) (the one(s) they socially shared with) thought, felt and said, and what they believed this meant for their relationship with this person, as well as other factors, were used to facilitate their responses (Appendix C).

2.6. Procedure

Following an error in joint plans, participants in both studies completed an error diary. To maximize the likelihood that the error in question would be salient enough for participants to recall during the interview phase, instructions were given that the error had to be one that they were still affected by, or found themselves thinking about, three hours after it occurred. Thus, although the error diary was not completed immediately, participants were instructed to pay attention to their first thoughts and feelings following the error because they would be recording these in their diary. This procedure undoubtedly taps into reconstructive memory; however to the extent that this subsequently biases participants’ response, it should do so in a manner consistent with their mental
All participants were provided with a package that included two consent forms (one for them to keep), an information handout explaining joint errors and providing examples of different types of plans, as well as an error diary. Participants in the clinical group were contacted individually and given verbal explanations of the procedure as well (see below). These instructions were the same as those supplied with the information package.

2.6.1. Non-clinical participants

The non-clinical participants were recruited as a group, in two OISE graduate classes in applied psychology. Students were told that their participation in the study was voluntary and would not be monitored. Each student (all volunteered) was given 2 information packages and was asked to 'recruit' a friend or family member to fill out one of the diaries. Instructions, such as when to fill out the diary (i.e., at least 3 hours after an error occurred), and reminders to write down first thoughts as they actually occurred, regardless of content, as well as confidentiality issues were emphasized. Students were asked to pass these instructions and reminders on to their 'subject'. Written reminders were included in the information pack. Responses for the non-clinical group were collected within two weeks of my handing out the packages via an unlabelled envelope. To ensure confidentiality, participants did not record their names on diaries, and consent forms were enclosed separately.

2.6.2. Clinical participants only

Interested clients left their names and telephone numbers and were told that I would contact them with further information. An individual appointment was made with participants to review the procedure in detail, complete the consent form, and provide the main instrument for the study, the error diary. Participants either completed the error diary during this first session, or if an
error in joint plans had not recently occurred, they were left with the error diary and an instruction sheet summarizing points already discussed. Instructions include reminding subjects to complete the diary a minimum of three hours after an error in joint plans has occurred. Upon completion of the error diary (which requires approximately 15 minutes), participants contacted me to arrange an appointment for the interview.

During the interview, participants were met with individually to review the error diary for legibility, as well as to clarify and expand upon their responses. Following completion of the interview, participants were paid $20.00 for their participation, debriefed (i.e., by answering any remaining questions about the study or their participation, and dismissed).

2.7. Summary

In sum, the responses of clinical and non-clinical participants to an error in joint plans were examined. The main predictions concerned the clinical group of women, in relation to the women of the comparison group, and how an error in joint plans can be used to examine their mental models of self-in-relation, which include the presence (or absence) of global attributions. Men and women within the non-clinical group will also be compared. In addition, the error diary was used to explore the social sharing of emotion of both groups (clinical and non-clinical) following an error in joint plans.
<table>
<thead>
<tr>
<th>Variable</th>
<th>How derived</th>
<th>Range of values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INDEPENDENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Group</td>
<td>Female volunteers from “Growing Together”</td>
<td></td>
</tr>
<tr>
<td>Low risk sample</td>
<td>Median split of Hinck's assessment comprised of various intake measures incl. level of risk and protective factors.</td>
<td></td>
</tr>
<tr>
<td>High risk sample</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-clinical Group</td>
<td>Classmates (volunteers) from OISE/UT and their friends and family.</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Demographic questionnaire</td>
<td></td>
</tr>
<tr>
<td><strong>DEPENDENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malign Mental Model</td>
<td>Content analysis of 1st thoughts</td>
<td>Present or absent</td>
</tr>
<tr>
<td>Global Attribution</td>
<td>Content analysis of final thoughts</td>
<td>Present or absent</td>
</tr>
<tr>
<td>Number of negative emotions</td>
<td>Total number of angry, fearful or sad emotions listed</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Average Negative Emotional Intensity</td>
<td>Total intensity of negative emotions divided by total number of angry, fearful or sad emotions listed</td>
<td>0 - 40</td>
</tr>
<tr>
<td>Passive Response Style</td>
<td>Composite variable comprised of 4 out of a total of 5 of the following endorsed items: helpless, hopeless, walkout, withdraw and freezing</td>
<td>Present or absent</td>
</tr>
<tr>
<td>Aggressive Response Style</td>
<td>Composite variable comprised of 3 out of a total of 4 of the following endorsed items: yelling, arguing, blaming and fighting</td>
<td>Present or absent</td>
</tr>
<tr>
<td>Social Sharing with Error Partner</td>
<td>Participant endorses if they spoke with error partner</td>
<td>Present or absent</td>
</tr>
<tr>
<td>Social Sharing with Other(s)</td>
<td>Participant endorses if they spoke with other people</td>
<td>Present or absent</td>
</tr>
</tbody>
</table>
Table 1: Table of Variables Con’t

<table>
<thead>
<tr>
<th>Variable</th>
<th>How derived</th>
<th>Range of values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of social sharing confidants</td>
<td>Total number of people participant spoke with other than error partner</td>
<td>0 - 9</td>
</tr>
<tr>
<td>Socially shared with three or more confidants</td>
<td>Participant spoke with 3 or more people other than error partner</td>
<td>3 or more confidants</td>
</tr>
<tr>
<td>Emotional Recovery</td>
<td>Participant endorses feeling better as a result of social sharing</td>
<td>Present or absent</td>
</tr>
</tbody>
</table>
Chapter 3

RESULTS

As described earlier, results will be presented as a comparison between the women in the clinical and non-clinical group, as well as a comparison within groups for the clinical (severe risk vs. non-severe risk) and non-clinical (male vs. female) participants, respectively. Note that the majority of the following results primarily show a trend toward significance which will require further replication to confirm. This will be required due to the exploratory nature of this study, its small number of participants, and the non-equality of comparison groups. This study's primary analyses consisted of chi-square analysis of independence (2 X 2) and t-tests.

3.1. Identifying mental models of self-in-relation

Every one of the thirty-eight participants in this study reported a mental model of self-in-relation, as measured by the error diary. Contrary to predictions, these models were as likely to be malign within the non-clinical group as within the clinical group. As is evident in Table 2, between the clinical and non-clinical women, malign mental models were experienced by the clinical group for 75% of participants and for 68% of the participants within the non-clinical group.

Table 2. Number of incidents in which malign mental models of self-in-relation was or was not elicited cross-tabulated with type of group (women only)

<table>
<thead>
<tr>
<th></th>
<th>Malign mental model</th>
<th>Non-malign mental model</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Non-clinical</td>
<td>13</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Totals:</td>
<td>19</td>
<td>8</td>
<td>27</td>
</tr>
</tbody>
</table>
This difference also was not statistically significant (N = 27),
chi-square = .117, df=1, p=.733.

As predicted, however, type of mental model (malign versus non-malign)
of self-in-relation differed between women (clinical sample only) according to
degree of risk, as shown in Table 3.

Table 3. Number of incidents in which malign mental models of self-in-
relation was or was not elicited cross-tabulated with whether participant
was or was not at high risk (clinical group only)

<table>
<thead>
<tr>
<th></th>
<th>Malign mental model</th>
<th>Non-malign mental model</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>High risk</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Low risk</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Totals: 6 2 8

Notice that all of the women (n=5) from the high risk group reported
malign mental models as compared with only one (n=3) from the low risk group
(chi-square = 4.44, df=1, p=.035).

Surprisingly, the majority of participants within the non-clinical sample
(17/28) also reported malign mental models of self-in-relation. Within this
group, 68% of the women's mental models were malign as compared with 44%
for the men, as shown in Table 4.
Table 4. Number of incidents in which malign mental models of self-in-relation was or was not elicited cross-tabulated with sex of participant (non-clinical group only)

<table>
<thead>
<tr>
<th></th>
<th>Malign mental model</th>
<th>Non-malign mental model</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>13</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Totals</td>
<td>17</td>
<td>11</td>
<td>28</td>
</tr>
</tbody>
</table>

This association between sex and mental model, however, was not statistically significant (N = 28), chi-square = 1.47, df=1, p=.228.

3.2. The presence of global attributions

The majority of clinical participants (5/7) made global attributions following their joint error. With the exception of one female participant, none of the men or women in the non-clinical group responded to their error by making global attributions. Strikingly, global attributions within the clinical group occurred for 71% of the women but for only 8% of the non-clinical females.

Thus, as is evident in Table 5, there was a significant association between group and global attributions.
Table 5. Number of incidents in which global attributions were or were not elicited cross-tabulated with type of group (women only)

<table>
<thead>
<tr>
<th></th>
<th>Global attribution</th>
<th>Non-global attribution</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Non-clinical</td>
<td>1</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Totals:</td>
<td>6</td>
<td>13</td>
<td>19</td>
</tr>
</tbody>
</table>

Chi-square analysis of frequencies in Table 5 has yielded a significant association between group type (clinical versus non-clinical) and presence of global attributions (n=19), chi-square = 8.15, df=1, p=.004. Note, only 19 participants answered this question compared with a potential total of 27.

3.3. Social sharing of emotion with others and emotional recovery

Surprisingly, 63% of the women in the clinical group spoke with at least one other person (i.e., other than their error partner) about their error. On average, participants in the clinical sample spoke with an additional three confidants (sd=3.31). All of the participants who socially shared (n=5) did so with two or more confidants, and four of these women socially shared with three or more.

Interestingly, the only participants who experienced emotional recovery as a result of their social sharing (n=2) were also the only two who experienced emotional social sharing from their confidants. Only one participant both gave and received emotional social sharing, neither of which she experienced with her error partner.

Among the non-clinical group, the mean number of people spoken with
other than the error partner was 1.77. Frequencies totalling 28 for social sharing with three or more participants or not (excluding the error partner), have been subdivided according to sex of the participant; these frequencies are presented in Table 6.

Chi-square analysis of frequencies in Table 6 has yielded a significant difference between males and females regarding whether they socially shared with three or more confidants (n=28), chi-square = 4.73, df=1, p < .03.

Table 6. Sex of participant cross-tabulated with whether or not participant socially shared with three or more confidants

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social sharing with 3 or more confidants</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Not social sharing with 3 or more confidants</td>
<td>16</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Totals:</td>
<td>19</td>
<td>9</td>
<td>28</td>
</tr>
</tbody>
</table>

Notice that more than 50% of men (5/9) spoke with three or more confidants as compared to 15.8% of women (3/19). This result contrasts with earlier studies which suggest no significant sex difference in the number of social sharing recipients.

Among the clinical and non-clinical women, 63% of the women in each group spoke with someone other than their error partner about the error. When all participants were considered (i.e., not just those who socially shared), there was no difference between these groups, nor was there a difference between
the mean number of people with whom they socially shared (approximate mean =1.7 per participant per group). Yet as Table 7 demonstrates, the proportion of women in each group who socially shared with three or more confidants is greater in the clinical group than in the non-clinical group.

Table 7. Group type cross-tabulated with whether or not participant socially shared with three or more confidants (women only)

<table>
<thead>
<tr>
<th></th>
<th>Clinical</th>
<th>Non-clinical</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social sharing with 3 or more confidants</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Not social sharing with 3 or more confidants</td>
<td>4</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Totals:</td>
<td>8</td>
<td>19</td>
<td>27</td>
</tr>
</tbody>
</table>

There was a trend toward a significant association between social sharing with three or more confidants and type of group (n=27), chi-square=3.43, df=1, p=.06. While this relationship was not strong, only 16% of women (3/19) in the non-clinical group spoke with three or more confidants as compared with 50% of those in the clinical group (4/8).

The number of people spoken with, and whether or not emotional recovery occurred, did not approach significance within or between either group. Though the majority of participants (21/30) spoke with other confidants following a joint error, they were almost as likely to experience emotional recovery (n=11) as not (n=10). Moreover, type of social sharing content had no effect on whether or not participants felt better.
3.4. Social sharing of emotion with error partner and emotional recovery

Interestingly, the majority (7/8) of the clinical group spoke with their error partner about the incident. Emotional social sharing occurred from the participant to their error partner for 43% (3/7) of the cases; however, not one of these women were recipients of emotional social sharing from their partner. Yet, in contrast with some of Rimé’s findings regarding non-clinical populations, the majority (5/7) of clinical participants experienced emotional recovery (i.e., felt better) as a result of speaking with their partner about their error. Moreover, no significant association was found between any of the above variables and level of risk.

For the non-clinical group, joint errors were discussed with their error partner in 67% (20/30) of the cases. Thirty percent (6/20) of the non-clinical participants socially shared with their partner in an emotional manner, and 50% (10/20) were recipients of emotional social sharing. The majority (15/20) of participants felt better as a result of talking with their partner. Content of social sharing, however, was not significantly associated with emotional recovery.

For female participants, there was no significant association between type of group and whether or not participants’ socially shared with their partner or experienced emotional recovery.

Table 8 presents the frequencies with which each group (clinical versus non-clinical females) received emotional social sharing from their error partner.
Table 8. Number of incidents in which participants did or did not receive emotional social sharing from their error partner cross-tabulated with type of group (women only)

<table>
<thead>
<tr>
<th></th>
<th>Clinical</th>
<th>Non-Clinical</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional social sharing from partner</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>No emotional social sharing from partner</td>
<td>6</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Totals:</td>
<td>6</td>
<td>13</td>
<td>19</td>
</tr>
</tbody>
</table>

The association between type of group and emotional social sharing from error partner approached significance (n=19), chi-square 3.13, df=1, p = .08. Notice in Table 8 that not one (0/8) woman from the clinical group was a recipient of emotional social sharing from their partner as compared with 38% of women (5/13) from the non-clinical group. Of the two women who did not feel better as a result of speaking with their error partner, only one of those went on to speak with someone else (see section 3.3).

3.5. Social sharing, social problem-solving efficacy, and emotional response styles

The presence of interpersonal difficulties (or absence of social problem-solving efficacy) such as arguments, yelling, blaming, fighting, giving in, walking out, or doing nothing/freezing during social sharing episodes did not differ within or between the clinical and non-clinical groups.

Passive Response Style. This response style was found in two of the eight clinical participants but in no one from the non-clinical group; thus, insufficient variability did not allow for tests of significance.
Aggressive Response Style. This response style was found in one of the eight clinical participants but in none of the non-clinical group participants; thus, insufficient variability did not allow for tests of significance.

Notice that in the previous two examples, although absolutely none of the non-clinical sample (n=30) had either a passive or aggressive emotional response style, fully 38% of the clinical group did.

3.6. Presence and intensity of negative emotions

Within the clinical group, 88% (7/8) of participants experienced emotions as a result of their joint error. Of the 7, all participants felt anger, 43% (3/7) also felt fear, and 29% (2/7) felt sadness. The number of negative emotions (anger, sadness, and fear) experienced was not significantly related to the participant's level of risk (t=.122, df=26, p=.91). There was, however, a significant difference between the variance of the mean intensity of negative emotions experienced by the high (0=7.2, sd =4.25) and low (0=7.08, sd=.52) risk group (f=66.65, df=4, p=.016). Thus, experience of negative emotional intensity was more varied within the extreme risk group than within the low-to-moderate risk group.

Within the non-clinical group, 93% (28/30) experienced emotions. Proportionally, the women (17/19) in this group were more than one and a half times more likely to experience anger than the men (5/9), as can be seen in Table 9.
Table 9. Number of incidents in which anger was or was not experienced cross-tabulated with sex (non-clinical group only)

<table>
<thead>
<tr>
<th></th>
<th>Anger</th>
<th>No Anger</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>17</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Male</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Totals:</td>
<td>22</td>
<td>6</td>
<td>28</td>
</tr>
</tbody>
</table>

Unexpectedly, this association between anger and participants' gender was statistically significant (n = 28), chi-square = 4.17, df=1, p=.041. Note, two participants did not indicate their genders, therefore n=28 for all between-sex comparisons.

Surprisingly, females in this group were more than a third less likely to feel fear (4/19) than were males (5/9). Moreover, women were nearly 50% less likely to experience sadness (6/19) in response to their error than were men (6/9). Though these differences were not statistically significant at the p=.05 level, a trend towards significance was found for both sadness (chi-square 3.01, df=1, p=.08) and fear (chi-square 3.33, df=1, p=.07) when cross-tabulated with gender.

When negative emotions (anger, fear, and sadness) were combined, females experienced an average (mean) number of 2.2 (sd=2.2) negative emotions per error at an average intensity of 6.3 (sd=.61), while males averaged 2.3 (sd=1.23) at an average intensity of 5.33 (sd=2.50). These differences, however, did not approach statistical significance.

For the clinical and non-clinical women, the average number of negative emotions experienced was 2.8 (sd=1.40) and 2.2 (sd=.96), respectively.
Although the clinical group experienced slightly more negative emotions as a result of their joint error than the non-clinical group of women, this difference was not statistically significant (n=27), t=1.30, df=25, p=.22.

The average mean intensity of negative emotions experienced was 7.13 (sd=3.22) and 6.3 (sd=2.65) for the clinical and non-clinical women, respectively. Contrary to my hypothesis, this difference was not statistically significant (t=.70, df=25, p=.25). Anger, the most commonly experienced emotion following a joint error, was felt intensely by 86% (6/7) of the clinical group versus 63% (12/19) of the non-clinical women. However, neither this, nor mean intensity, for either fear or sadness was statistically significant between groups. That is, there was no significant difference between the clinical and non-clinical groups in their experience of negative emotions following an error in a joint plan.
The findings of this study suggest that the error diary is capable of tapping cognitive processes that are consistent with the hypothesis that mental models are evoked following an error in a joint plan. Contrary to predictions, feelings of anger, attribution of blame to one’s partner, and malign mental models of self-in-relation were typical responses to a mini life event for both the clinical and non-clinical groups. Moreover, errors in joint plans provoked a lot of social sharing, both with error partners and with other confidants. Although between-group differences were somewhat apparent for the women (clinical vs. non-clinical), the most robust findings were the social sharing differences within the non-clinical group (i.e., males vs. females).

I will now explain the primary findings in greater detail.

4.1. Mental models of self-in-relation

4.1.1. Malign mental models, emotions, and the attribution of fault

Contrary to predictions, a joint error led to maligning thoughts of self-in-relation with similar frequency within the clinical and non-clinical groups (61% vs. 75%, respectively). Moreover, the gap between these findings decreased to a difference of just 7% when women only were compared. This result was quite surprising. However, it is important to remind ourselves that the women in the clinical group, while at an increased risk for psychopathology, have also been undergoing psychotherapy designed to develop social problem-solving skills. Virtually all of these women commented to me on the difference that therapy with the Growing Together project has made in their lives, and the comments from their therapist, Dr. Denise Martyn, echoed their testimonials. Therefore, it is possible that these two groups of women were not as different in social
problem-solving efficacy as originally anticipated.

Likewise, it is also possible that the intense negative feelings which frequently follow an error contribute -- perhaps independently of social skills -- to the often hostile inner narratives many of the participants (in both groups) recorded. As this and other studies have found (cf. Larocque, 1996), errors evoked anger in more than 79% of participants, and frequently prompt people to direct the greatest amount of blame toward their error partner (on average participants blame their partners much more than themselves or other circumstances, ranging from an average of 5.7 on an 11-point scale for the non-clinical group to an average of 7.0 for the clinical group).

Appraisal theorists would likely account for these results (i.e., the angry thoughts and feelings which frequently accompany joint errors) by arguing that when a goal-disruptive event has occurred, we typically feel angry if we attribute fault to another's intentional or negligent actions (Levine, 1996). Participants, however, also felt angry without blaming their partners or blamed their partners without feeling angry. Although these instances were the exception rather than the rule, as Oatley and Johnson-Laird (1987) would likely argue, goal disruptions need not depend upon the perceived culpability of another to result in negative affect. The goal need only be important to the individual in question.

Those who attribute fault for an error to sources outside of anyone's control (i.e., by blaming other circumstances) are likely, according to appraisal theorists, to feel sad. In this study, this relationship was not statistically significant. In fact, those who blamed circumstances the most -- the clinical group -- (by 2 points on an 11-point scale) were the least likely (although only by 3%) to feel sad (when compared with the non-clinical women; the difference jumps to 38% when compared with the men). I think that this contradictory finding can be explained in terms of the apparent differences in the clinical
group's mental models and explanatory style, which will be further explored in section 4.2.2. In brief, blaming other circumstances may help to distance these women from their feelings of sadness while simultaneously keeping their expectations of others (and themselves) low. As one woman said, "I've learned not to hope for things or [to] depend on anyone". Others within this group appear to share her sentiments.

Before going on to the next section, I would like to comment very briefly on the interesting distribution of negative affect between the men and women within the non-clinical group. Among the women, 89% felt angry compared with only 33% of the men. With regards to sadness, 67% of the men versus 32% of the women experienced this emotion. Finally, 21% of women versus 56% of men felt fear as a result of their joint error. Previous research on errors has not encountered such sex-based differences in emotion (cf. Larocque, 1996). Thus, it may be that the current findings are either anomalous or are particular to this population (i.e., OISE graduate students). Why these results have occurred, I do not know; further research will be required in order to clarify this issue.

### 4.2. Global attributions

A resounding 71% of the clinical sample (vs. 8% of the non-clinical sample) made global attributions as a result of their error. Without a doubt, the women in the clinical group have experienced a variety of horrific life events, and most currently experience hand-to-mouth existences of poverty and single parenthood, any of which may have accounted for the vast discrepancy between the clinical and non-clinical groups. Participants from the clinical group appear to have developed (as many have said to me and their error diaries demonstrate, n=5), models of the world which continue to perceive events (in joint errors) as beyond anyone's control.
This kind of mental model of self-in-relation -- one that cannot, or does not, perceive others as responsible and in control of their actions -- may explain some of the repeated negative life events to which clinically at-risk women are prone. An empirically supported phenomenon, known as selective mating, is an example of this. There are of course social milieu issues (such as socioeconomic status) which increase the likelihood of marrying someone similar to oneself. However, the tendency to stay in relation with someone who perpetuates abuse or a lack of support may occur because indications that this person is abusive or irresponsible are explained away by -- or at least the responsibility is shared with -- random events beyond anyone’s control. Thus, life becomes a self- (in-relation-with-other-) fulfilling prophecy.

This may help to explain why one of the women in the clinical group condoned the following ‘silent treatment’ from her husband. Upon learning that he had spent their welfare check on beer at his favourite Karaoke club rather than keeping plans made with her for a much-anticipated dinner and movie evening alone, she asked him why he had broken his promise and made his own plans without consulting her. She described his response and indicated that he said nothing, he just stared at the wall. Interestingly, in spite of primarily blaming her husband for the error, this women also judged other circumstances to be nearly as responsible.

Moreover, as this research has shown, participants from the clinical group (n=5) tend to generalize beyond the current error in a negative, schemata consistent manner. For example, one woman from the clinical and one woman from the non-clinical group each experienced an error involving her babysitter. Each participant viewed her babysitter as irresponsible and as failing to meet joint agreements. The conclusion by the non-clinical mother was that her concerns about this babysitter were justified and, for the safety of her children,
she would hire a replacement babysitter as soon as possible. In contrast, the clinical mother concluded that “this just confirms my belief...that I can only count on myself and not on others”.

In another example, a woman from the non-clinical group experienced a horrific error involving the donation of her deceased mother’s organs. She was furious at the many screw-ups that happened during this process. She concluded that:

> It is always best to wait for emotions to settle before confronting someone. There’s too much anger and it taints the way you think and the things you say. Often, it’s too important to waste your words in the heat of the moment. It’s better to save them for when they think you aren’t overreacting because of emotions. I think they listen better and with more respect.

While her conclusions were global in nature, they were analytical and considering the situation, perhaps untypically non-maligning. In contrast, an error involving a woman from the clinical group, which also provoked rage and fury (because the participant’s ‘friend’ sold her VCR and discs which she had lent him), prompted her to conclude that although she felt better once she replaced her VCR, she was currently trying to “build trust” with a different friend “because we’ve both been kicked in the head by life”.

### 4.3. Emotional response style and social problem-solving efficacy

Contrary to expectations, the manner with which participants responded (aggressively or passively) and the effectiveness with which they believed they dealt with the error did not differ significantly between groups. The only participants who experienced either a passive or an aggressive response style, however, came from the clinical group. In spite of a much smaller sample, three out of eight participants from this group, versus 0 out of 30 from the non-clinical,
experienced a problematic response style following a mini life event. This suggests that these women (from the clinical group) may have a restricted behavioral and emotional repertoire from which to deal with interpersonal stressors, which in turn may be exacerbated during major life stresses that decrease their ability to cope effectively (Cohen & Will, 1985; Coyne & Downey, 1991; Peterson, Maier, & Seligman, 1993).

It is important to keep in mind that this study has examined people's reactions to only one joint error; while, of course, emotions vary within the same individual and across different situations (Billings & Moos, 1984; Levine, 1996). Nevertheless, to the extent that these appraisals may be examples of well organized heuristic mental models they can be viewed as more than just persnickety responses to internal and external cues. Rather, they can be seen as clues, however preliminary, to who we are, and what we value and expect from ourselves and others.

4.4. Social sharing

4.4.1. Quantity of confidants: Group and sex differences

As anticipated, errors in joint plans provoke social sharing with others (over 60% of the time on average). Of the 63% (n=5) of participants within the clinical group who spoke with others, all spoke with 2 or more people, and 80% did so with three or more; yet only the two recipients of emotional social sharing were left feeling better. None (n=7) of the women who spoke with their error partner were recipients of emotional social sharing but the majority (n=5) experienced emotional recovery as a result of their discussions. The 'social network' theory supports aspects of these findings yet its explanatory strength remains constrained by the unexpected corollary that women in the clinical group reported experiencing emotional recovery from their social sharing experiences -- in spite of an apparent lack of social support. It may be that
being able to vent their emotions was a sufficient, and perhaps all too infrequent, reinforcer for these women.

Women from the clinical sample spoke with more people than did the non-clinical women. This finding was unexpected given that lack of social support is one of the defining characteristics of the clinical group. This finding may reflect the absence of a supportive partnership (Brown & Harris, 1978; Oatley & Bolton, 1985) in these women’s lives, coupled with their desire to be heard, to connect, and to socially share their experiences.

This finding (regarding the clinical group) may be illustrative of a process noted by Coyne & Downey, that seekers of social support have poorer adaptational outcomes (Coyne, Aldwin, & Lazarus, 1981; Lieberman & Mullin, 1978, and Barrera, 1991, cited in Coyne & Downey 1991 p.412). Yet methodological problems, such as the loose operationalization of the social support construct (Winemiller et al., 1993), and failure to consider interpersonal difficulties and past history of psychopathology and risk factors (Coyne & Downey, 1991), shed doubts on such generalizations. In their review, Winemiller et al. (1993), concluded that “research has demonstrated that the propensity to utilize social support has predictive value in mental health outcomes and individual functioning” (Tolsdork, 1976; Vaux, 1985 cited in Winemiller et al., 1993, p.642). Yet, they concede that similar problems of design are present in these studies. This issue, contentious in the 1980s (Kessler, Price & Wortman, 1985), appears to be equally so today.

This study did not find statistically significant group differences between social sharing, emotional content, and emotional recovery. Women in the clinical group, however, were somewhat more likely to have socially shared in an emotional manner while at the same time receiving little (or no) emotional support from their partners. Conversely, participants in the non-clinical group
were more likely to receive emotional social sharing then they were to give it. Thus while both groups had some discrepancies of discourse, only the non-clinical group erred in the direction of residual emotional support (i.e., they were more likely to respond in an emotional manner to non-emotional utterances). This difference agrees with previous findings that have shown differences in the social support network of those at- and not at-risk for psychopathology (Coyne & Downey, 1991).

Because this study only examined minor life events, this finding raises concerns about the adequacy of the clinical group's support network during more stressful major life events. As Brown and Harris (1978) have shown, when negative life events strike, those without social support are much more vulnerable to psychiatric breakdown. Yet we cannot forget that the majority of participants in this group said they felt better as a result of talking with their partners. For them, emotional recovery does not appear to rely on emotional support. It may be, at least regarding this incident, that their confidants allowed them to express their feelings. This opportunity may be so discrepant regarding their previous experiences that it "felt" supportive. The perception of having received social support may, therefore, have acted somewhat independently of the quality of support (Winemiller, Mitchell, Sutcliff, & Cline, 1993).

Within the non-clinical group, men and women responded quite differently regarding the number of people with whom they socially shared. Contrary to cultural stereotyping, women in this study did not speak (i.e., gossip) with a lot of people. In fact, they were significantly (p<.03.) less likely to talk with 3 or more people about their errors than were men. These results would not be surprising to a variety of researchers. According to Brown & Harris (1978), protective sources of social support (of which social sharing is a component) differ according to sex. For women, having a partner with whom they can share
virtually everything and with whom they have a sexual relationship is highly beneficial (if the woman is single than having a close girlfriend is also protective). For men, however, belonging to a social network, such as at work or through sports, is often essential for their mental health (Oatley & Bolton, 1985). Because men tend to thrive within larger networks, the somewhat counter-intuitive finding that men are more likely to talk with three or more people than are women following a mini life event has some theoretical support.

There is also evidence that this talkative tendency may begin in childhood. In a study conducted among boys aged 8 to 12, Rimé and his colleagues found that the average (mode) number of people the boys socially shared with following a scary game at camp, was three (Rimé, Dozier, Vandenplas and Declercq cited in Rimé, 1996). In recall procedures involving over 900 adults, however, no sex effects were found, although each episode was discussed “several times with several persons” (Rimé et al., 1991, 1992). As Rimé himself argues, “...these studies [have] obvious limitations [such as] effects of selective and reconstructive memory biases [which] cannot be ruled out” (p.4, 1996). Knowing you have to keep a record of how many people with whom you have spoken, such as with the error diary method, may improve the validity of this procedure. However, this study’s small number does not permit such conclusions.

4.5. Limitations

The study of complex, dynamic, and interactional processes within and between human psyches is itself a difficult and complex process. In addition, this investigation has many limitations of its own. In particular, the lack of a controlled comparison group and the small number of participants limit the ability to generalize its results; as does having the results of only one joint error per participant.
This study has, however, begun to demonstrate that the structures which we have developed to organize information and generate explanations -- referred to here as mental models -- are capable of being elicited by relatively minor life stressors, and can differ according to life experience.
References


APPENDIX A: Error Diary

1. Today's date ___________________ Time ________

2. Date error occurred _________________ Time ________

3. What kind of a day were you having before the error occurred? Please circle one of the numbers below.
   one of the worst days 0 1 2 3 4 5 6 7 8 9 10 one of the best days of my life

4. Who was the plan made with? (e.g., friend, lover, neighbour, etc.) ________________

5. Their sex: (circle your answer) male female

6. What was supposed to happen? (i.e., what was the original plan or arrangement?)
   __________________________________________________
   __________________________________________________
   __________________________________________________

7. What happened instead? (i.e., what went wrong?)
   __________________________________________________
   __________________________________________________
   __________________________________________________

8. What were your first thoughts about why this error occurred?
   __________________________________________________
   __________________________________________________
   __________________________________________________

9. When this error happened, did your feelings toward this person change (even temporarily)?
   yes no

10. When the other person involved realized that an error had occurred, did you think their feelings toward you changed (even temporarily)?
    yes no

11. Please circle one answer for each of the following questions.
(a) When this error first happened, did you think it was due to something the other person did?
    not at all due to something the other person did 0 1 2 3 4 5 6 7 8 9 10 totally due to something the other person did

(b) How much did you think this error was due to something that you did?
    not at all due to something I did 0 1 2 3 4 5 6 7 8 9 10 totally due to something I did
(c) How much did you think that this error was due to other causes/circumstances?

<table>
<thead>
<tr>
<th>not at all due to other causes/circumstances</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>totally due to other causes/circumstances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. When the error first occurred, did you experience any 

emotions?  

Yes  No

You can recognize an emotion when:
* a bodily sensation happens (such as your heart beating faster),

or

* you have thoughts coming into your mind that are hard to stop,

or

* you find yourself acting or feeling like acting emotionally

If yes, please name the emotion(s) you felt. Also, please record how intense that emotion was. Place your answer within the brackets, using a number from 1 to 10.

<table>
<thead>
<tr>
<th>hardly felt anything at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>one of the strongest feelings I've ever had</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Emotion(s) you felt  Intensity Rating
A. ____________________________  ( )
B. ____________________________  ( )
C. ____________________________  ( )
D. ____________________________  ( )

13. Please list and rate the emotions you think the other person involved felt, using a number from 1 to 10.

<table>
<thead>
<tr>
<th>Emotion(s) they felt</th>
<th>Intensity Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. ____________________</td>
<td>( )</td>
</tr>
<tr>
<td>B. ____________________</td>
<td>( )</td>
</tr>
<tr>
<td>C. ____________________</td>
<td>( )</td>
</tr>
<tr>
<td>D. ____________________</td>
<td>( )</td>
</tr>
</tbody>
</table>

14. When you first found out about the error, what were your first thoughts or feelings about the other person?

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

15. When you first found out about the error, what did you think the other person's first thoughts about you were?

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
16. When the error first occurred, did you experience any of the following as a result? Please circle yes or no for each of the following:

(a) Helpless
(b) Hopeless
(c) Let down

17. Did you experience any of the following with the other person involved as a result of this error? Please circle yes or no for each of the following:

(a) Argument(s)
(b) Yelling
(c) Blaming (each other)
(d) Fighting
(e) Giving in
(f) Walking out
(g) Doing Nothing/Freezing
(h) Other problems

18. Did you talk to the other person involved about this error? yes no
If yes, please answer the following questions.
If no, please skip to (g)*

(a) Were you the first one to speak (to this person) about this error? yes no
(b) What was the first thing you said to them (about the error)?

(c) What did they say to you?

(d) Did talking to them make you feel better? yes no

(e) Have your feelings toward this person changed as a result of talking to them about this error? yes no

(f) Do you think this person's feelings toward you changed, as a result of talking to them (about the error)? yes no

*(g) If your answer to question 18 is no: Did you want to speak with the other person involved? yes no
19. Did you talk to anyone else about this error?   yes   no
   (a) If no, did you want to talk to anyone else about this error?   yes   no
   (b) If yes, how many people did you end up talking to besides the person you had the error with? ( )

20. Did you ask anyone for help or advice as a result of this error? yes no
   (a) If yes, what did you say to this person?
   __________________________________________________________
   __________________________________________________________
   (b) What did they say to you?
   __________________________________________________________
   __________________________________________________________
   (c) Did this make you feel better? yes no
   (d) Did you get the help or advice you were looking for? yes no

21. Do you think that you and the person you had the error with resolved (fixed) any problems caused by this error? yes no

22. Do you have any regrets or misgivings about how you dealt with or handled this error? yes no

23. Please write down anything else that you would like to add regarding what you felt, did, who you talked with, etc., as a result of this error.
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

Please call Carolyn Stallberg-White as soon as possible after completing this diary, to set up a time for your interview. I can be reached at: (416) 923-6641, extension 2353. If I am not there, please leave a message including your name and phone number, and I will return your call. Thank-you for filling out this diary.
APPENDIX B: Error Diary Categorization Manual

Mental Model Component (re: Error Diary Q.8: “What were your first thoughts about why this error occurred”?):

Categories

MALIGN MENTAL MODEL OF SELF-IN-RELATION
A mental model of self-in-relation is represented when reference is made to self, other, or self-in-relation in affective, behavioural, or cognitive terms. A malign mental model of self-in-relation is any kind of — actual or implied — derogatory comment, innuendo, label, blame, or other negative connotations directed toward self and/or other.

EXAMPLES —
“She didn’t care enough to come back; our friendship existed solely for her own selfish purposes”.
“He’s so disorganized. This always happens with us”.
“I just can’t get it together. Hopeless.”

CODE — MM

NO MALIGN MENTAL MODEL OF SELF-IN-RELATION
No reference is made to self, other, or self-in-relation. Utterances of non-malign mental models of self can include reference to other details, including ambiguous referents such as “miscommunication” but must be devoid of any kind of — actual or implied — derogatory comment, innuendo, label, blame, or other negative connotations directed toward self and/or other.

EXAMPLES —
“Wonder if the car broke down”?
“There was a delay”.
“Never clarified his/our expectations of visit — both made assumptions about others’ goals”.

CODE — NO MM

Attribution Component (re: Error Diary Q.25: “Please write down anything else that you would like to add regarding what you felt, did, who you talked with, etc., as a result of this error”:)

Categories

GLOBAL NEGATIVE ATTRIBUTION
A global attribution is represented when reference is made to self, other, or self-in-relation in general terms. A negative global attribution is an utterance that extends beyond the incident or relationship in question to ‘life in general’ in a pessimistic, negative, or hopeless manner.

EXAMPLES —
“You have to band together because life will get you in the end”.
“This sort of thing just always happens”.
“If something can go wrong it’ll happen to me”.

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Appendix B: Con’t

CODE – GNA

NO GLOBAL NEGATIVE ATTRIBUTION
Utterances that do not contain a negative global attribution do not extend beyond the incident or relationship in question to ‘life in general’ or if it does, does not do so in a pessimistic, negative, or hopeless manner but rather in a neutral, analytical, or optimistic style.

EXAMPLES –
“In general, we need to remember that everyone has bad days”.
“He and I are making a lot of mistakes lately that we have to work out”.
“Life has it ups and its downs for everyone”.

CODE – NO GNA

Content Component (re: Error Diary Q. 18 b, c, and 19 b, c (each scored separately)
“What was the first thing you said to them (about the error)?”; “What did they say to you”?;
“What did you say to this person”?; “What did they say to you?”, respectively):

Categories

EMOTIONAL CONTENT
Emotional content is words or successive statements that make a direct or implied reference to emotions or affective states, or content appears to be of an emotional nature (i.e., from written emphasis such as underlining a certain word or use of an exclamation point).

EXAMPLES –
“Why didn’t they bring me the pill? Why didn’t they call me to tell me they didn’t have anymore left? Why didn’t they call the next day to find out how I was feeling?”
“I asked why he did not show and that I had been very patient in waiting for his service”.
“I’m really, really sorry I forgot”.

CODE – E

NO EMOTIONAL CONTENT
No emotional content is words or successive statements that make a direct or implied reference to emotions or affective states, or content appears to be of an emotional nature (i.e., from written emphasis such as underlining a certain word or use of an exclamation point).

EXAMPLES –
“I went directly to the decorator’s shop to pick up the samples myself”.
“I talked to the dancers about it afterwards”.
“Sorry -- things got delayed”.

CODE – NO E
APPENDIX C:
Post-diary interview for clinical group only

Date of interview           Time lapsed between incident and interview           ID

Importance of plan
How important was the plan on a scale of 0 to 10 (0 = not at all important, 10 = one of the most important plans in their life)    Subject ___    Partner ___

Importance of relationship
When the plan was made, how important was this relationship to subject (0 = not at all important, 10 = a central relationship in their life) ___ Importance now? ___
If changed, explain:

Error Diary Questions: Follow up
Write explanations to the following:
Q. 9
Q. 10

Post social-sharing attribution of responsibility
(compare with diary Q.11) After talking with error partner, how much (0 = not at all, 10 = totally) does subject think the error was responsibility of:Partner ___ Subject ___
Explain: Other circumstances ___

Post-error emotions experienced and attributed
(re: Q.12) How does subj. feel about error now? ___________________ Intensity ___
Cause ________________________________

(re: Q.13) When discussing error with partner ... what emotions did partner feel and how intensely (scale: 1-10) ___________________ Intensity ___
...did subj. feel...(re: Q.16) Helpless  Hopeless  Let down  Other __________
If yes, explain

Error Diary Questions: Follow up
Q.16
Q.17
Q.18(d)
(e)
(f)
18(g)

What, if anything, did subject hope the error partner would have said?
Q.19(a)
(f)
(g)

Q.20
Appendix C: Con’t

Q.21

Q.22

Proclivity of Mental Model
To what extent is this atypical of subject’s response to similar situations?

Q.23

Problem-solving efficacy
Who first suggested a solution? Subject Partner Joint Other
Was this the final solution? Yes No
Who came up with the final solution? Subject Partner Joint Other
What were other possible solutions?
Why were these rejected?

Post-Interview social sharing affect
How does subject feel now? Emotion ______________ Intensity ____

COMMENTS