

Depression and diurnal cortisol variations associated with psychological abuse:

Moderation by appraisals and coping strategies.

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and Research of Carleton University in partial fulfillment of the requirements for the

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Abstract

Women in psychologically abusive and non-abusive dating relationships ($n=91$) completed a 2-3 week daily diary in which they identified how they coped with abusive and non-abusive relationship stressors. A subset of women ($n=64$) also provided appraisals of an abusive or neutral relationship scenario. Involvement in an abusive dating relationship was related to elevated depression, as was greater emotional dwelling. In addition, the relationship between abuse status and depression was moderated by the degree to which abused women used avoidant coping and the degree to which they appraised a neutral scenario as being one that was serious. Abused women were able to recognize blatant psychological abuse, but relative to non-abused women, they tended to see the male as more to blame in the neutral scenario. As well, in responding to their own stressful experiences, abused and non-abused women coped with relationship stressors (with an abusive component) in a similar manner. However, abused women used more avoidant coping and emotional dwelling when contending with non-abusive relationship stressors. In contrast, they did not use more problem-focused coping when dealing with non-abusive relationship stressors. Significant differences were not identified with regard to the cortisol response to awakening, and coping strategies did not appear to play a moderating role in this respect. Elevated depression that was seen among women in abusive dating relationships was related to appraisals and coping strategies endorsed to contend with both abusive and non-abusive relationship stressors. Abused women with increased depression may be more sensitive to cues concerning relationship conflict and ongoing abuse may canalize women's view of their coping options, thus trapping them in abusive relations.

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Table of Contents

Title	i
Abstract	ii
Acknowledgements.....	iii
Table of Contents.....	iv
List of Tables	v
List of Appendices	vi
Introduction.....	1
Method	20
Results.....	33
Discussion.....	50
Limitations	57
Summary	61
References.....	63
Appendices	78

List of Tables

Table 1: <i>Pearson zero-order correlations among coping dimensions.....</i>	26
Table 2: <i>Distribution of women categorized by abuse status and experiences of abuse over the diary period.....</i>	27
Table 3: <i>Mean (SD) scores for women categorized by abuse status (alone).....</i>	30
Table 4: <i>Mean (SD) scores for women categorized by abuse status and experiences of abuse over the diary period.</i>	31
Table 5: <i>Mean (SD) appraisals of an abusive or neutral relationship scenario by abused and non-abused women.....</i>	35
Table 6: <i>Mean (SD) degree to which each type of coping was used to contend with non-abusive relationship stressors.....</i>	40
Table 7: <i>Hierarchical regression analysis assessing the relationship between depression and coping with non-abusive relationship stressors, controlling for abuse status and experiences of abuse over the diary period</i>	42
Table 8: <i>Mean (SD) degree to which each type of coping was used to contend with abusive relationship stressors.....</i>	44
Table 9: <i>Hierarchical regression analysis assessing the relationship between depression and coping with abusive relationship stressors, controlling for abuse status.....</i>	46
Table 10: <i>Mean (SD) degree to which each type of coping was used by non-abused and abused women to contend with non-abusive and abusive relationship stressors.....</i>	47
Table 11: <i>Mean (SD) cortisol responses to waking by abuse status and experiences of abuse over the diary period</i>	49

List of Appendices

Appendix A - Informed Consents	78
Appendix B - Background Information	80
Appendix C - Daily Diary	81
Appendix D - Instructions for completing saliva samples	83
Appendix E - Abuse-Relevant Script	87
Appendix F - Neutral Script	90
Appendix G - Appraisals of Script	93
Appendix H - CTS-R	94
Appendix I - PPA	96
Appendix J - Beck Inventory	98
Appendix K - Debriefing	101
Appendix L - Contacts	102

Introduction

Exposure to traumatic events has been associated with the development of several illnesses, including depression and posttraumatic stress disorder (PTSD). Not unexpectedly, considerable inter-individual variability exists with respect to the emergence of such pathologies. Although there are no doubt multiple factors that determine the influence of stressors on well being, it is likely that the appraisals and coping strategies endorsed contribute to the impact of a stressful experience.

Coping is generally regarded as approaches taken by a person to minimize psychological distress, either by trying to alter or remove the source of stress or by trying to manage the emotional distress caused by the stressor (Lazarus & Folkman, 1984). Fundamental to this perspective is how an individual appraises the situation with which they are confronted. Presumably, coping efforts are only enlisted if an event is deemed to be stressful. In the case of women in abusive dating relations, the fact that they remain in such relationships might be an indication that they are either not interpreting abusive events appropriately, that they are not employing effective coping strategies (to leave the relationship or put an end to the abuse), or that other factors (e.g., financial or dependency needs) limit their options.

Determining the processes that maintain abusive dating relationships as well as the link between abuse and depressive symptoms are made difficult by the fact that most studies have assessed such processes in a retrospective manner (Herbert, Silver & Ellard, 1991; Coffey, Leitenberg, Henning, Bennett & Jankowski, 1996). Likewise, attempts to assess appraisal processes and coping endorsed by abused women have either assessed these features retrospectively (Pape & Arias, 1995; Coffey et al., 1996) or using

simulations of abuse (Claerhout, Elder & Janes, 1982). Unfortunately, data concerning the coping strategies that women employ on a day to day basis when dealing with ongoing or acute relationship stressors are presently unavailable. Assessing such coping strategies, even during a short segment of women's current dating relationships, may provide fundamental information regarding the relations between ongoing interpersonal stressors, coping strategies endorsed and behavioural disturbances.

The present investigation was conducted to determine the relationship between appraisal processes, coping strategies and involvement in an abusive or non-abusive dating relationship. Specifically, abused and non-abused women were asked to appraise a relationship scenario. In addition, the coping strategies used by abused and non-abused women to contend with ongoing or recent conflicts with their current dating partner were assessed daily over a 2-3 week period. We hypothesized that the severity of women's current depressive symptoms would be related to their involvement in an abusive vs. non-abusive dating relationship and would be moderated by their appraisals of relationship stressors and the coping strategies that they endorse when contending with abusive and non-abusive relationship stressors.

A second general purpose of the present study was to examine the relation between current involvement in an abusive vs. non-abusive dating relationship and levels of the stress hormone, cortisol. Ordinarily, circulating cortisol levels increase in response to stressors (Sapolsky, Romero & Munck, 2000) and cortisol has a regular diurnal rhythm comprising a peak about 30 minutes post-awakening (Clow, Thorn, Evans & Hucklebridge, 2004; Schmict-Reinwald et al., 1999), followed by a decline to lower afternoon/evening levels. These diurnal cortisol variations may be influenced by stressful

experiences. Specifically, among individuals undergoing relatively marked distress the early morning rise of cortisol may be exaggerated (Wust, Federenko, Hellhammer & Kirschbaum, 2000), by contrast, the experience of chronic or severe distress may instead be related to a blunted morning rise (Pruessner, Hellhammer & Kirschbaum, 1999). As well, some individuals do not exhibit the expected decline in cortisol throughout the day (Smyth et al., 1997; Stone et al., 2001), resulting in a flattened cortisol pattern (Lauc, Zvonar, Vuksic & Flogel, 2004). The present study assessed whether current coping strategies endorsed to contend with abusive and non-abusive relationship stressors moderated the direction and magnitude of alterations in the awakening cortisol response among women currently involved in psychologically abusive and non-abusive dating relationships.

Stress and coping

The categorization of coping methods

It has been suggested that when individuals initially encounter a stressor they make a primary appraisal of the threat (i.e., an assessment of the nature of the challenge), after which a secondary appraisal is made (namely, an assessment of whether they have the resources to deal with the stressor). If the stimulus is viewed as a genuine threat, then the secondary appraisal will guide, at least to a certain extent, the coping strategies that individuals endorse (Lazarus & Folkman, 1984).

Two major perspectives have been taken with respect to the categorization of coping. According to one view, individuals engage in either active/engagement or avoidant/disengagement coping (Moos, 1995). Active coping strategies include problem solving, cognitive restructuring, social support seeking and the expression of emotions,

whereas disengagement coping strategies comprise problem avoidance, wishful thinking, social withdrawal and self-criticism (Coffey et al., 1996). Both active and avoidant coping efforts increase in the face of negative life events (Holahan & Moos, 1987).

The second perspective groups coping efforts into problem vs. emotion-focused coping (Lazarus & Folkman, 1984), where the latter is perceived as having an avoidant/disengagement component. This perspective also often refers to a third categorization of coping, namely social support seeking, a method which is orthogonal to the other coping strategies, as it can be used in conjunction with emotion or problem-focused coping and can serve multiple functions (Carver, Scheier and Weintraub, 1989).

It is thought that certain situations are more likely to elicit certain types of coping (Mattlin, Wethington & Kessler, 1990). Problem-focused strategies tend to be employed more often when individuals have more resources (Holahan & Moos, 1987) or when individuals appraise that something constructive can be done or that more information is needed in order to contend with the stressor. In contrast, emotion-focused strategies tend to be employed more often when individuals appraise the stressor as one that simply must be endured or that holding back from responding to the stressor is more appropriate (Folkman & Lazarus, 1980). As such, problem-focused strategies may be more effective in dealing with anticipated stressors, whereas emotion-focused strategies may be more effective in dealing with ongoing situations that involve loss or harm (Aldwin, 1994).

Problem vs. emotion-focused coping

Problem-focused coping consists primarily of trying to resolve an ongoing or imminent stressor, whereas emotion-focused coping consists primarily of trying to deal with the emotions that arise as a result of a stressor (Carver et al., 1989). There is some

confusion as to whether emotion-focused strategies are adaptive or not, as scales to measure emotion-focused coping items frequently contain distress or self-deprecatory laden terminology. In actuality, emotions can serve important signaling functions and the recognition of one's emotions may be essential in order to be able to recognize the challenges and opportunities that are available (Stanton & Franz, 1999). Emotional competence requires an understanding of one's emotions, and those of others, and the ability to tolerate negative emotions in a strategic and flexible manner and be able to use such information to work towards one's goals (Saarni, 1997). In this regard, Stanton, Danoff, Cameron and Kirk (2000) defined two adaptive forms of emotion-focused coping; emotion processing (taking time to identify and understand one's feelings, and acknowledging that one's feelings are important and valid) and emotion expression (taking time to express one's emotions and feeling able to do so freely).

In many situations, people employ both problem and emotion-focused strategies to contend with the same stressor. For example, community-sampled monthly reports of coping with 1,332 specific stressor episodes revealed that both problem and emotion-focused strategies were reported as being used together to contend with 98% of stressor episodes (Folkman & Lazarus, 1980). As well, a 30-day diary study focusing on coping with the pain of rheumatoid arthritis, revealed that patients used both emotion and problem-focused strategies together on a greater percentage of days than would be expected by chance. As well, emotion-focused coping strategies were employed 4 times more often alongside problem-focused coping than they were employed alone (Tennen, Affleck, Armeli & Carney, 2000; Affleck et al., 1999). In addition, problem-focused coping on one day was more often followed by emotion-focused coping the next day if

pain levels increased from one day to the next. This finding suggests that emotion-focused strategies may become more prominent when an individual perceives his/her ability to control a stressful situation as being limited. In an abuse context, it might similarly be expected that women who were unable to apply effective problem-focused coping methods to put an end to the abuse may resort to more emotion-focused and less problem focused strategies to contend with current episodes of abuse.

Avoidant coping

Avoidant strategies are implemented in order to avoid thoughts, feelings and behaviours related to a stressor (Tobin et al., 1989) and focus primarily on disengagement with the situation either through (mental or physical) distraction, wishful thinking, escapism, denying the reality of the stressor, the cessation of working towards one's goals, or venting one's emotions (Carver & Scheier, 1994; Carver et al., 1989). An individual is also unlikely to engage in the entire spectrum of mental disengagement strategies and the implementation of different strategies may result in very different overall outcomes (Carver et al., 1989). As well, since interpersonal stressors (particularly abuse) are more likely to evoke feelings of shame, secrecy and helplessness, they are probably also more likely to lead to the endorsement of disengagement coping strategies, as an attempt to avoid such strong negative emotions (Gibson & Leitenberg, 2001). In fact, abused women were less likely to generate and use active problem solving strategies, and more likely to use passive coping strategies, to contend with a variety of real life (Finn, 1985) or simulated (Launius & Jensen, 1987) interpersonal stressors. Further, women in abusive relationships were more likely to attribute their problem solving capabilities to factors beyond their control (such as luck) and therefore tended to

invest more effort in trying to ignore, rather than trying to solve or address their problems (Finn, 1985).

Social support seeking

Social support, as a coping strategy, can serve in several different capacities. It can be sought in order to hash out a plan of how to contend with a stressor (problem-focused coping), to seek validation or support for one's feelings (emotion-focused coping), to distract oneself temporarily (potentially adaptive avoidant coping), or to vent one's emotions (potentially maladaptive avoidant coping). The effectiveness of social support seeking as a coping strategy may therefore depend on the concurrent coping strategies that are adopted (Carver et al., 1989).

The experience of having been abused by a loved one may instill a lack of trust in others, in general, and this may impact perceptions that abused women have regarding the availability of social support (Coffey et al., 1996). In fact, when asked what they would like to see happen through an intervention program, 79% of battered women expressed wanting more social support (Sullivan, Tan, Basta, Rumptz & Davidson, 1992). In addition, Gondolf & Fisher (1988) found that, contrary to popular belief, abused women do not give up, and in fact tend to actively seek out social support, but the support that is available does not always meet their needs. Further to this point, it is possible that the tendency of abused women to use avoidant coping strategies may lead friends and family, who would otherwise be supportive, to distance themselves; however the tendency of others to provide poor (avoidant) social support may also play a role that encourages abused women to endorse more avoidant coping strategies (Waldrop & Resick, 2004).

Important contextual factors when considering coping with abuse

The research concerning coping with abuse has largely focused on women in committed, long-term relationships, in which the abuse tends to be relatively severe and violent. Less research has been conducted regarding coping with abuse in the dating phase of an intimate relationship, and even fewer studies have focused on psychological abuse as a separate entity from physical abuse in dating relationships. Findings from the more severe abuse literature will be addressed first, and will then be followed by the limited research available concerning coping with abuse in dating relationships (Matheson et al., 2007; Coffey et al., 1996; Pape & Arias, 1995).

Women in abusive relationships engage in a variety of different coping efforts, but the severity and frequency of abuse that women endure and their current readiness to leave their abusive relationship are important factors that likely determine the number of risks a woman is willing to take in order to contend with an abusive incident (Waldrop & Resick, 2004; Carlson, 1997; Gondolf & Fisher, 1988). Frequent abuse has been associated with increased endorsements of avoidant coping efforts (Mitchell & Hodson, 1983). As well, some forms of active coping (such as taking steps to leave the relationship) increase as the frequency of abuse increases, whereas others (such as seeking out instrumental social support) do not (Gondolf & Fisher, 1988; Herbert et al., 1991). Women who remain in their abusive relationships tend to employ cognitive strategies that allow them to view their relationship in a positive light (irrespective of the frequency or severity of physical abuse, or whether they have left their partner in the past). However, women who experienced more frequent instances of verbal abuse were less likely to do so (Herbert et al., 1991).

Increased severity of abuse has been associated with increased other-blame (Miller & Porter, 1983) and shifts from cognitive (denial or rationalization) to more active forms of coping, such as making attempts to leave the relationship (Ferraro & Johnson, 1983). By contrast, increases in the duration of abuse have been associated with increased self-blame (Miller & Porter, 1983). Follingstad, Brennan, Hause, Polek and Rutledge (1991) found that when the severity of abuse remained stable, women in such relationships were more likely to seek psychological support for the abuse and when the severity of abuse declined over time, women were more likely to seek psychological support for other symptoms. However, women in relationships where the episodes of abuse became increasingly severe were least likely to seek out psychological support, probably due to an increased fear of their abusive partners and an increased sense of helplessness.

Waldrop and Resick (2004) were critical of existing studies for focusing on abused women who have already left their abusive relationships, as over-reliance on a subpopulation of women who eventually leave their abusive relationships may create a biased view of how abused women cope in general. As well, asking women to report how they coped with abuse that occurred in a past relationship is subject to the weaknesses of retrospective recall and may result in biased reports from women who have since removed themselves from abusive relationships and have potentially gained a different perspective. A day-to-day examination of how abused women cope with abusive episodes while still remaining in their abusive relationships would be helpful in objectively defining their coping methods.

Effective Coping

It has been suggested that the coping strategies endorsed to contend with stressors may be equally or more important in determining the outcome of a situation, than the overall severity or frequency of the stressors experienced (Zeidner & Hammer, 1990; Zeidner & Saklofske, 1996). Differentiating between adaptive and maladaptive coping strategies requires consideration of the person within the context of their current circumstance (Zeidner & Saklofske, 1996). Ideally, effective coping would result in the resolution or removal of the stressor; although the reduction of physiological responses to a stressor, the minimization of psychological distress caused by a stressor, the restoration of normative or pre-stress functioning or even the perception that current coping efforts are effective may also constitute adaptive coping (Lazarus & Folkman, 1984; Zeidner & Saklofske, 1996). Although feelings of distress are often associated with increased coping efforts, the implementation of coping does not always result in a decrease of negative emotions (Carver & Scheier, 1994). In fact, increased problem or avoidant coping efforts can sometimes result in increased feelings of distress or threat (Carver & Scheier, 1994). As well, a coping strategy that is adaptive to contend with one stressor may lead to the development or worsening of psychopathological symptoms in response to another stressor (Zeidner & Saklofske, 1996).

In general, most individuals prefer to use active coping strategies to contend with stressors. The implementation of such strategies allows attention to be diverted from the problem at hand, permits the discharge of energy stemming from the stressor, allows for mastery (or perceived control) to be attained and can be effective in reducing feelings of distress (Gal & Lazarus, 1975; Zeidner & Saklofske, 1996). Thus, the common

suggestion has been that problem-focused strategies are more adaptive than emotion-focused strategies, particularly when the situation could be ameliorated if action was taken (Lazarus & Folkman, 1984). Yet, effective emotion-focused coping may be essential in order to facilitate successful problem-focused strategies as emotions can interfere with proper cognitive processing (Folkman, Schaefer & Lazarus, 1979). The processing of one's emotions may lead to improvements in physical and psychological health, owing to potential gains of insight or causal thinking (Pennebaker, Mayne, & Francis, 1997), and the expression of one's emotions may be useful in prompting a social reaction, by signaling others that support, empathy or comfort is needed (Stanton & Franz, 1999). In this regard, increased emotional expression resulted in a better outcome and reduced distress for patients undergoing early breast cancer treatments, despite the fact that increased emotional processing was associated with greater feelings of distress (Stanton et al., 2000). This distinction may have been due to the ruminative component, often associated with emotional processing, where prolonged rumination, particularly passive rumination, can exacerbate feelings of distress or depressed mood (Morrow & Nolen-Hoeksema, 1990), possibly because it does not mobilize actions directed towards improving the situation at hand (Stanton et al., 2000).

Although greater use of emotion-focused coping was also associated with a reduced likelihood of silencing one's thoughts and feelings in a relationship setting (Stanton & Franz, 1999), individuals high in processing, but low in expression as well as individuals high in expression but low in processing fared best over time. This suggests that although emotion expression can result in a positive outcome, it may be most effective only once an individual has finished processing his/her emotions, perhaps

because it is only at this point that he or she can express his/her emotions in an appropriate and effective manner (Stanton & Franz, 1999).

In addition, the coping strategies associated with greater distress appear to differ between abused vs. non-abused women. Specifically, Pape and Arias (1995) found that abused women who reported greater amounts of distress also reported greater endorsements of both problem- and emotion-focused coping strategies. By contrast, non-abused women who reported greater amounts of distress, reported greater endorsements of emotion- but not problem-focused coping. This suggests that abused women experiencing more distress may increase all coping efforts, whereas non-abused women experiencing more distress may focus their coping efforts on dealing with the emotions that arise as a result of the stressor. The specific approach that is most effective has yet to be determined.

Avoidant coping is generally considered to be maladaptive. In fact, many individuals who report using avoidant coping acknowledge these strategies to be ineffective in resolving an ongoing problem (McCrae & Costa, 1986). However, avoidant coping may also provide the needed temporary relief from a stressor, thus allowing an individual time to adapt and subsequently implement more active coping strategies (Suls & Fletcher, 1985). Women who experienced sexual abuse in childhood were more likely to rate avoidant coping or the suppression of emotion as an effective coping strategy in the short-term (Leitenberg, Greenwald & Cado, 1992). However, the use of such strategies to contend with dating violence has been associated with greater feelings of distress and poorer psychological adjustment (Coffey et al., 1996). Avoidant coping strategies are likely associated with increased feelings of distress because such strategies

interfere with more appropriate action (Bolger, 1990; Litt, Tennen, Affleck & Klock, 1993; Carver et al., 1993; Roth & Cohen, 1986) and prevent the proper emotional and cognitive processing of traumatic experiences (Foa & Rothbaum, 1998; Resick & Schnicke, 1996).

It seems that all coping strategies appear to have areas in which they may confer adaptive benefits and areas in which they may be maladaptive. Greater flexibility in the selection and application of coping may result in better emotional adjustment (Mattlin et al., 1990). For example, trying different coping strategies in different combinations may be more adaptive than simply continuing to apply the same strategies across multiple situations (Zeidner & Saklofske, 1996). By contrast, the implementation of multiple coping efforts, applied randomly and simultaneously, to contend with any single stressor may result in ineffective coping (Carver et al., 1993).

Coping across different situations

As already noted, women in abusive relationships tend to endorse more avoidant and less active coping strategies when contending with abusive episodes (Launius & Jensen, 1987; Finn, 1985), but they also tend to do so when contending with more normal interpersonal (Launius & Jensen, 1987) or other life stressors (Coffey et al., 1996). As well, women in violent dating relationships tend to appraise and cope with violent and non-violent episodes similarly, believing that they had less control in both situations (Pape & Arias, 1995). The experience of dating violence may lower women's perceptions of control across a variety of situations, leading them to generally engage in less active coping strategies (Coffey et al., 1996). However, it is also possible that the

tendency for abused women to engage in less active coping efforts may be characteristic of their general coping style, and not a consequence of abuse experiences, per se.

Probing for coping style generally results in inflated reports of all coping types (Matheson et al., 2007; Carver et al., 1989) and reports of coping style may be poor predictors of moment-to-moment coping with specific stressors (Schwartz, Neale, Marco, Shiffman & Stone, 1999). Indeed, it has been suggested that coping style may reflect how individuals believe they should cope with a stressful event (Schwartz et al., 1999). When asked about their general coping style, women in psychologically or physically abusive dating relationships report greater endorsements of emotion-focused and avoidant coping, compared to non-abused women, but equal endorsements of problem-focused coping (Matheson et al., 2007). The fact that abused women did not differ from non-abused women in their reports of problem-focused endorsements may suggest that abused women may understand the value of applying problem-focused strategies as much as non-abused women do. However, their inflated endorsements of emotion-focused and avoidant strategies may reflect that in some situations abused women may believe that emotion-focused and avoidant strategies may be the best and only option to apply.

Cortisol function in relation to stressors

Normal cortisol function

In general, exposure to a stressor results in a transient increase of circulating cortisol, which is generally considered to be adaptive, as it serves in the mobilization of energy resources and the prevention of over-activation of the body's natural response to stressors, including immune system overshoot (Munck, Guyre & Holbrook, 1984; Sapolsky et al., 2000). Ordinarily cortisol has a diurnal pattern and is released in a

pulsatile fashion, with more frequent pulses early in the morning and less frequent pulses as the day progresses (Young, Abelson & Lightman, 2004). As such, adrenocorticotropin (ACTH) levels begin to increase in blood one hour before the expected time of awakening (Born, Hansen, Marshall, Molle & Fehm, 1999) and free cortisol levels have been reported to increase 50-160% (about 9 nmo/l) from waking to 30 minutes post-awakening (Clow et al., 2004; Pruessner et al., 1997). Following this peak, cortisol levels tend to decrease fairly rapidly, to return to waking baseline levels by about 1 hour post-awakening (Pruessner et al., 1997), and then continue to decrease at a more steady and gradual rate over the course of the day (Bailey & Heitkemper, 1991; Schmidt-Reinwald et al., 1999). Normal elevations of morning cortisol are believed to help mobilize energy stores, stimulate appetite for carbohydrates, increase interest in exploration and promote the acquisition and consolidation of learning (De Kloet, 1991; De Kloet, Vreugdenhil, Oitzl, & Joels, 1998). The response that occurs following awakening is likely among the most important when examining alterations in normal cortisol function (Pruessner et al., 1997).

The reduction or absence of the cortisol response to awakening is thought to be due to a number of potential causes, such as enhanced negative feedback due to increased glucocorticoid receptor sensitivity (Pruessner et al., 1997), reduced biosynthesis of cortisol, smaller adrenal glands, downregulation of corticotropin releasing hormone (CRH) or pituitary ACTH adrenal receptors, or increased corticosteroid-binding globulin (CBG) levels (Gunnar & Vazquez, 2001; Heim et al., 2000). Ordinarily CBG binds to free cortisol in blood, leaving less unbound cortisol available to be detected in saliva (note, this also suggests that salivary cortisol may be a better index for corticoid

functioning than plasma or serum cortisol levels, as saliva measures reflect only free cortisol levels, Gozansky, Lynn, Laudenslager & Kohrt, 2005). Waking at times earlier than expected have been associated with a blunted ACTH response in the hour prior to waking, but equivalent ACTH and cortisol levels 30 minutes post-awakening (Born et al., 1999). Consequently, Gunnar and Vazquez (2001) suggested that less predictable life schedules may contribute to alterations in the cortisol response to awakening. As well, the use of oral contraceptives has been associated with blunted cortisol responses to awakening, possibly owing to elevated CBG levels among women taking oral contraceptives (Pruessner et al., 1997).

Alterations in cortisol function

It has frequently been reported that morning cortisol levels are higher among individuals experiencing greater levels of life strain (Steptoe, Cropley, Griffith & Kirschbaum, 2000; Bauer, Vedhara, Perks, Wilcock, Lightman & Shanks, 2000). As well, the cortisol response to awakening may be more dramatic among individuals suffering from work overload (Schulz, Kirschbaum, Prussner & Hellhammer, 1998) or who report higher feelings of social stress, worry or lack of social recognition (Wust et al., 2000). Thus, it has been suggested that the morning cortisol rise may be an index of recent life strain.

Although this view has been widely accepted, it has also been reported that some individuals who suffer from greater home and work demands, job burnout or job stress or general economic hardship (i.e., periods of homelessness, evictions, inability to pay bills or to purchase needed clothes or health care) exhibit lower waking cortisol levels (Adam & Gunnar, 2001), lower overall morning cortisol levels (Caplan, Cobb & French, 1979)

and reduced cortisol responses to awakening (Ranjit, Young & Kaplan, 2005; Pruessner et al., 1999). In addition, some individuals who experience greater home and work demands also exhibit a reduction or absence of the normal decline in cortisol levels over the course of the day (Adam & Gunnar, 2001; Caplan et al., 1979). In line with the view that abuse represents a chronic stressor that places excessive demands on biological systems, Pico-Alfonso, Garcia-Linares, Celda-Navarro, Herbert and Martinez (2004) found flatter daily cortisol patterns among women who were victims of physical or psychological intimate partner violence. This was largely attributable to elevated evening cortisol levels among abused women (a time at which cortisol levels are expected to be reduced). Although abused women also reported greater current depressive and trauma-related symptoms, their current involvement in an abusive intimate relationship was the main predictor for altered cortisol function.

Like chronic stressors, PTSD related to a variety of causes (severe accident, violent crime, sexual assault or rape, Wessa, Rohleder, Kirschbaum & Flor, 2006) or war refugee status (Rohleder, Joksimovic, Wolf & Kirschbaum, 2004) has also been associated with a blunted cortisol response to awakening. As well, police officers with more years of service and more severe current PTSD symptoms were found to exhibit blunted cortisol profiles during the first hour following waking (Neylan et al., 2005). In addition to demonstrating suppressed morning cortisol levels (Boscarino, 1996), individuals presenting with PTSD also tend to exhibit elevated evening levels, resulting in a flattening of the normal cortisol function (Aardal-Eriksson, Eriksson & Thorell, 2001; Lauc et al., 2004). This flattened cortisol pattern was also more prevalent among veterans with PTSD, than among control veterans without PTSD (Lauc et al., 2004).

Thus, the relation between stressor experiences and morning cortisol levels does not appear to be linear, but rather, it may vary in a quadratic fashion in relation to the presence of PTSD characteristics as well as chronicity of the stressor experiences.

Although lower cortisol levels may arise as a consequence of prolonged elevated cortisol levels (stemming from trauma exposure or chronic stress) or in conjunction with the development of PTSD (Hellhammer & Wade, 1993), it is also possible, however, that pre-existing low levels of cortisol predispose someone to go on to develop PTSD after trauma exposure (Yehuda, 2005). It should be noted that cortisol levels post-trauma do not always predict who will ultimately develop PTSD (Bonne, Brandes, Segman, Pitman, Yehuda & Shalev, 2003), nor do they predict whether PTSD symptoms will persist 1 yr after trauma exposure (Anisman, Griffiths, Matheson, Ravindran & Merali, 2001). As well, alterations in daily outputs of cortisol may be subtle (Yehuda, 2005), as reduced 24-hr urinary cortisol excretions among Vietnam veterans with PTSD, found cortisol levels that could be considered within the normal range (“20-90 $\mu\text{g/day}$ ”) for both persons with and those without PTSD (Mason et al., 1986).

In effect, it seems that inconsistent and confusing findings have been reported with respect to morning cortisol changes associated with stressful experiences. Severe trauma was typically associated with reduced morning cortisol levels; however, chronic strain was sometimes associated with elevated hormone levels and at other times with blunted morning cortisol rise. It is difficult to discern what factors are responsible for these contradictory results, as different types of stressor experiences were examined, and it is difficult to define what constitutes a “chronic” stressor. Furthermore, the conflicting findings may be related to current coping mechanisms that individuals tend to employ,

and the current stressors that individuals are experiencing. In assessing cortisol variations, it may be particularly important to distinguish between the effects of previous and current stressors, as well as the duration of the stressor experience, and when the stressor was first experienced.

The present study

Stressor appraisals and coping are thought to be important moderators between exposure to stressors and health and well-being (Zeidner & Hammer, 1990; Zeidner & Saklofske, 1996). However, previous attempts to compare coping in relation to abuse have used retrospective approaches, asking participants to recall past events and indicate coping methods used to contend with such events (e.g., Pape & Arias, 1995; Coffey et al., 1996). Relying on retrospective accounts of coping may be confounded by participants' current affective state and participants may also respond with how they feel they should have coped, rather than how they actually coped with such events. In an attempt to minimize such biases, a daily diary approach was incorporated in the present study, wherein women described current and ongoing relationship stressors with their current dating partner and reported how they coped with such events. Coping and outcome variables were compared among women categorized as being involved in abusive vs. non-abusive dating relationships and among stressors rated by women as being relatively "more" or "less" psychologically abusive.

Outcome measures for the present investigation included current depressive symptoms and the cortisol response to awakening (which is thought to reflect ongoing distress, and may also have important links to aspects of health and well-being). Involvement in an abusive dating relationship was expected to be related to increased

depressive symptoms, as well as an elevated awakening cortisol response. In addition, however, appraisals of relationship stressors and coping strategies endorsed to contend with specific day to day relationship stressors were presumed to moderate the effect of current relationship status on depression and the cortisol response to awakening. As such, it was hypothesized that:

1. Women in more abusive dating relationships would report greater current depressive symptoms and would show altered cortisol responses to awakening, compared to women in less abusive dating relationships.
2. Women in abusive dating relationships would report more avoidant and passive coping strategies (including partner- and self-blame), coupled with fewer adaptive coping strategies (e.g., problem focused coping) when contending with relationship stressors, compared to women in non-abusive dating relationships.
3. Women in abusive dating relationships would be able to recognize psychological abuse that is blatantly present in a hypothetical relationship stressor, however, appraisals of more ambiguous situations may be altered among abused women and such altered appraisals may be tied to elevated current depression levels.
4. Among women in abusive dating relationships, greater endorsements of emotion focused coping would be directly related to greater current depressive symptoms and exaggerated elevations of morning cortisol.

Method

Participants.

University women ($N=91$; M age=19.33, $SD=1.94$ years) currently involved in heterosexual dating relationships of 3 months to 3 years ($M=16.91$, $SD=9.58$ months)

participated in a diary study on coping with relationship stressors. The majority of women ($n=88$, 96.7%) self-identified as “going out with someone” at the beginning of the study, whereas 3 (3.3%) were living with an intimate other (but were not married). By the end of the study 81 women (89%) were still “going out” with their intimate partner, 4 participants were living with their partner and 6 (6.6%) had broken up in the past 1-2 weeks. As a safety precaution, effort was made to exclude women from the present study if they indicated that they were presently living with their dating partner or if they were in a relationship that (also) entailed physical abuse. As well, women taking neuroleptics were not included in the present study, but women taking anti-depressants were included. Of the women reporting ethnic status, the majority was Euro-Caucasian ($n=75$, 82.4%), with the remainder indicating that they were Hispanic ($n=3$, 3.2%), Asian ($n=2$, 2.2%), South Asian ($n=2$, 2.2%), Middle Eastern ($n=2$, 2.2%), Black ($n=1$, 1.1%), or Native Canadian ($n=1$, 1.1%).

Procedure.

Participants were contacted by phone or email, and invited to come in for an introductory session. In this session participants were trained on how to complete the daily diary and how to provide saliva samples (see Appendix D). Women also provided written informed consent (see Appendix A) and completed a series of questionnaires, including demographics and relationship status (see Appendix B). Participants then completed a 2-3 week daily diary, in which they described the most recent stressful encounter that occurred with their dating partner each day, as well as how they appraised and coped with that event (see Appendix C). Following completion of the diary, participants were invited back to the laboratory for the final session, in which they

completed measures of depressive symptoms (see Appendix J) and conflict tactics (see Appendix H) used in their current dating relationship. In addition, a subset of these women ($n=64$) also completed a questionnaire that examined the degree to which various aspects of psychological abuse were present in their current relationship (see Appendix I). These women were also presented with a written script that portrayed either an abusive ($n=34$) or neutral ($n=30$) relationship (see Appendix E and F, respectively), and they responded with their appraisals of the scenario (see Appendix G).

Saliva samples were collected by participants on a day, about 1 week into the diary portion of the study. Women selected a day for their saliva samples in which they had limited class or work-related stress and felt most confident in being able to adhere to the saliva sampling schedule. On their chosen day, women provided 5 saliva samples at specific times; upon awakening, 30 min, 1 hr, 4 hr and 8 hr following awakening. Participants were instructed not to eat, chew gum, brush their teeth or drink 15 minutes prior to the collection of any sample and they were instructed to take their first saliva sample before getting out of bed. Using forms provided, participants recorded their exact time of awakening and the times at which each sample was taken (see Appendix D). Participants were encouraged to be honest when recording sampling times, even if samples were not taken exactly on time.

After completion of the laboratory session, women were debriefed and provided with contact information if they wished to seek help in regard to their relationship or their own well-being. Participants were compensated with up to \$80 or 4% course credit for completion of the study. The ethics review board approved all procedures.

Measures

Coping. Coping strategies were identified in regard to coping with abusive and non-abusive relationship stressors (as reported in women's diaries). Coping scores were averaged across all days identified as abusive and all days identified as non-abusive. Days were classified as abusive or not using women's own appraisals of her partner's behaviour. Days in which women reported her partner's behaviour to be abusive at a level of 2 or greater (on a 5-point scale ranging from 0 not at all to 4 definitely) were considered abusive and days rated at a level of 0 or 1 were considered non-abusive. For each event women reported whether or not they used each of 17 coping strategies to contend with the stressor. Each item was rated on a 3-point scale ranging from 0 (no or not applicable), 1 (sort of) and 2 (yes) (see Appendix C). Fourteen of the 17 coping methods corresponded directly to one of the coping subscales from the 50-item Survey of Coping Profiles Endorsed (SCOPE; Matheson & Anisman, 2003) and the remaining 3 coping strategies corresponded to the use of prescription drugs, alcohol and food to cope with the stressor described. The SCOPE has been shown to differentiate between individuals exhibiting various stress-related disorders (e.g. depression, anxiety and trauma symptoms) and among individuals exposed to different stressor events (Matheson & Anisman, 2003; Mantler, Matejcek, Matheson, Anisman, 2005; Matheson et al., 2005). In addition, the factor structure for the subscales was replicable (Mantler et al., 2005) and highly related to another commonly used self-report measure (Carver et al., 1989). The three additional coping methods were added because previous research suggested that, for a subset of the population, alcohol and drug use may be a form of

disengagement coping, even though substance use does not always load well with other forms of disengagement coping (Carver et al., 1989).

In order to facilitate interpretation of the data, principal component factor analysis was applied to the 17 coping items, as they pertained to coping with non-abusive relationship stressors. Although it has been suggested that factor structures for coping should be re-evaluated for each context, e.g., abusive vs. non-abusive events (Carver et al., 1989), given that it was desirable to make comparisons between reports of coping in each instance, the factor structure identified for coping with non-abusive relationship stressors was also applied to coping with abusive relationship stressors. Factor analysis was done based on reports of coping with non-abusive (as opposed to coping with abusive) relationship stressors as a greater proportion of participants ($n=88$ as opposed to 59 of 91) reported at least one non-abusive relationship stressor in their diary entries.

Following a principle components analysis, parallel analysis (comparing derived eigen values to average eigen values generated from random data sets) (Zwick & Velicer, 1986) indicated that the 17 coping items could be reduced to 3 coping dimensions, which accounted for 52% of the total variance of coping with non-abusive relationship stressors. A varimax rotation was then applied and loadings of 0.50 or higher were used to identify the items comprising each component. The first component comprised 7 items, reflecting *emotional dwelling* (rumination, social support seeking, emotional expression, self-blame, wishful thinking, avoidance with alcohol and avoidance with food). The second component comprised 5 items, reflecting *avoidant coping* (active distraction, avoidance, partner blame, emotional containment and passive resignation). The final component comprised 3 items, reflecting *problem-focused coping* (problem solving, humor and

positive re-appraisal/cognitive restructuring). Religion and the use of prescription drugs did not load onto any of the 3 components and thus were not considered further.

Reliabilities for these factors were acceptable for reports of coping with non-abusive relationship stressors ($\alpha=.80$, $.78$ and $.65$ respectively), but weak for reports of coping with more abusive relationship stressors ($\alpha=.72$, $.55$ and $.51$, respectively). It is not surprising that the factor structure suggested for coping with non-abusive relationship stressors would not map exceptionally well onto reports of coping with abusive relationship stressors. Yet, as it was important to be able to make comparisons between reports of coping with abusive and non-abusive relationship stressors, the factor structure derived from reports of coping with non-abusive relationship stressors was retained and applied to both coping with abusive and coping with non-abusive relationship stressors. Correlations between the coping components are reported in Table 1. Though similar, it appeared that the relationship between emotional-dwelling and avoidant coping was stronger for coping with non-abusive relationship stressors. This may be due to the fact that the coping structure was designed to be a better fit for coping with non-abusive relationship stressors.

It should be noted that the factor structure suggested when the same principal components analysis was applied to reports of coping with abusive relationship stressors resulted in a less intuitive solution compared to the present solution. Therefore the factor structure suggested by reports of coping with non-abusive relationship stressors was retained and the factor structure suggested by reports of coping with abusive relationship stressors was not considered further.

Table 1: *Pearson zero-order correlations among coping dimensions*

	1	2	4	5
Coping with non-abusive relationship stressors (n=88)				
1. Emotion-dwelling	-			
2. Avoidant	.53***			
3. Problem-focused	.33**	.31**		
Coping with abusive relationship stressors (n=59)				
4. Emotion-dwelling			-	
5. Avoidant			.33*	
6. Problem-focused			.38**	.29*

* $p < .05$; ** $p < .01$; *** $p < .001$

Abuse. Throughout the analysis two aspects of abuse were considered; (1) *abuse status*: are the problems/dysfunctions in the relationship severe enough for the relationship to be considered psychologically abusive? (2) *experiences of abuse over the diary period*: were any abusive conflicts reported over the diary period? For the sake of clarity, women will be referred to as abused or non-abused to represent their *abuse status* and they will be referred to as having experienced abuse to represent *experiences of abuse over the diary period*. Women were identified as being involved in psychologically abusive dating relationships (*abuse status*) based on multiple criteria. These criteria included their score on the psychological abuse subscale of the Conflict Tactics Scale (CTS-R; Straus, Hamby, Boney-McCoy, & Sugarman, 1996, see Appendix H), their scores on the Profile of Psychological Abuse subscales (PPA; Sackett & Saunders, 2001, see Appendix I), and

the number of days, over a 2-3 week period, that women reported dealing with an abusive partner-related event. Women were subdivided as to whether or not they *experienced abuse over the diary period* based on whether or not they reported at least one abusive event over the 2-3 week diary period.

Although these two aspects of abuse (*abuse status* and *experiences of abuse over the diary period*) were expected to be highly related (i.e., a woman in an abusive dating relationship was expected to experience abuse over the diary period and a woman who experienced abuse over the diary period was expected to be classified as abused), categorizations were not always mutually exclusive (see Table 2). Given the complex nature of the distribution of abused and non-abused women, analyses were done based on whether women's relationships could be considered abusive (*abuse status*) and whether women *experienced abuse over the diary period*; degrees of freedom varied accordingly, depending on which women could be included in each analysis.

Table 2: *Distribution of women categorized by abuse status and experiences of abuse over the diary period.*

n=		<i>Experiences of abuse over the diary period</i>	
		No	Yes
<i>Abuse Status</i>	Non-Abused	28	29
	Abused	4	30

To be categorized as abused (*abuse status*), women had to score above a threshold (≥ 6) on the psychological abuse subscale of the CTS-R and above threshold on either the PPA subscales or on the number of days in which they reported an abusive event over the diary period. Consequently, they could also be categorized as abused if they scored above a lower threshold on the psychological abuse subscale of the CTS-R (≥ 3) and above

threshold on both the PPA subscales and on the number of days in which they reported an abusive event over the diary period.

The CTS-R comprises several components to assess the use of negotiation, psychological aggression, sexual coercion, physical assault and injury to deal with conflicts (see Appendix H). The present study focused on the 8-item psychological aggression subscale, for which participants provided responses on a 6-point scale ranging from 0 (never) to 5 (more than 10 times) for the frequency that psychological aggression was used towards them by their current dating partner in the past 3 months. Possible scores on the psychological abuse subscale ranged from 0 to 40. Reliability for the CTS-R psychological abuse subscale was fair (*Cronbach's alpha*=.68) and lower than what has been reported in previous studies when this scale was used for events in the past month (α =.86, Offman & Matheson, 2004). Thirty-seven percent ($n=34$) of women scored above the higher threshold (≥ 6) and 56% ($n=51$) scored above the lower threshold (≥ 3). Previous research suggested that about 25% of university women would experience ≥ 3 psychologically abusive acts in the past month (Offman & Matheson, 2004). However, given that women in the present study were pre-selected such that at least 50% would be in abusive dating relationships, we expected a relatively high proportion of abused participants.

The PPA consists of 5 subscales that address acts of jealousy and control, ignoring, ridiculing traits, criticising behaviour and fear of abuse (see Appendix I). Participants provided responses using the same 6-point scale as the CTS-R, for how often each item occurred, in the past 3 months. Possible scores for each of the subscales ranged from 0 to 40 for jealous control, 0 to 25 for ignoring, 0 to 25 for ridiculing traits, 0 to 15

for criticising behaviour and 0 to 30 for fear of abuse. In order for women to be identified as being involved in an abusive dating relationship they needed to score above the median on at least 2 of the 5 subscales; median scores were set at ≥ 3 for jealous/control, ignoring and fear of abuse and ≥ 1 for ridiculing traits and criticising behaviour. Thirty-eight women surpassed this threshold; however, as mentioned earlier, only 64 of the 91 participants completed the PPA in the present study. Reliabilities for 4 of the 5 subscales were acceptable ($\alpha = .89, .75, .76$ and $.80$ for jealous/control, ignoring, criticising behaviour and fear of abuse, respectively), but reliability for the ridiculing traits subscale was fair ($\alpha = .59$).

As previously mentioned, diary entries were classified as abusive or non-abusive based on the degree to which women appraised their partner's behaviour to entail emotional abuse (see Appendix C). It will be recalled that entries with partner abuse ratings ranging from 2 to 4 were considered abusive and entries with partner abuse ratings of 0 or 1 were considered non-abusive. A threshold of having experienced ≥ 2 abusive days over the diary period was set and 45 participants surpassed this criteria.

As will be recalled, women scoring ≥ 6 on the CTS-R psychological abuse subscale ($n=34$) needed to score above threshold on the PPA subscales or on the number of abusive days to be considered abused, whereas women scoring ≥ 3 but < 6 ($n=17$) needed to score above threshold on both the PPA subscales and on the number of abusive days to be considered abused. The multiple criteria resulted in 34 women (37%) being classified as abused and 57 women (63%) being classified as non-abused (by *abuse status*). Table 3 presents the difference in abuse and depression scores for women classified as abused and women classified as non-abused using this composite score.

Table 3: Mean (SD) scores for women categorized by abuse status (alone).

	CTS-R	PPA					# abusive days	Dep. Score
		Jealous/ Control	Ignore	Ridicule	Criticise	Fear of Abuse		
Non-Abused (n=57)	2.14 (2.96)	2.43 (4.70)	2.70 (3.41)	1.03 (1.83)	0.19 (0.46)	2.16 (3.23)	1.54 (2.89)	6.68 (5.56)
Abused (n=34)	8.26 (3.35)	8.59 (8.36)	6.69 (5.26)	3.83 (3.74)	1.07 (2.06)	6.50 (5.78)	5.00 (4.87)	10.41 (7.48)

As already mentioned (and shown in Table 2), a certain proportion of non-abused women also reported experiencing some abusive events over the diary period ($n=29$). If *experiences of abuse over the diary period* were also considered, abused women continued to be distinguishable from non-abused women on their CTS-R and PPA scores (see Table 4). Specifically, non-abused women with experiences of abuse over the diary period and non-abused women with no experiences of abuse over the diary period scored about the same on the CTS-R and PPA measures and both groups scored lower than abused women on these measures. However, the number of abusive days differed significantly across the three groups of women, $F(2,84)=19.39, p<.001$ (see Table 4). It should also be noted that non-abused women with no experiences of abuse over the diary period tended to be in longer term relationships, $M=21.18, SD=10.82$ months, $F(2,84)=6.12, p<.01$, relative to (a) non-abused women with experiences of abuse over the diary period, $M=13.95, SD=8.95$, and (b) abused women with experiences of abuse over the diary period, $M=13.68, SD=7.60$. Mean scores from the 4 abused women who did not report any abusive experiences over the diary period were not included in Table 4 as these women were excluded from many of the analyses.

Table 4: Mean (SD) scores for women categorized by abuse status and experiences of abuse over the diary period.

	CTS-R	PPA					# abusive days	Dep. Score
		Jealous/ Control	Ignore	Ridicule	Criticise	Fear of Abuse		
Non-Abused with no abusive days (n=28)	2.28 (3.56)	3.44 (6.39)	2.44 (2.57)	0.44 (1.24)	0.16 (0.38)	1.77 (2.83)	0 (0)	5.21 (4.49)
Non-Abused with some abusive days (n=29)	2.0 (2.28)	1.47 (1.89)	2.94 (4.11)	1.57 (2.14)	0.21 (0.53)	2.52 (3.59)	3.03 (3.46)	8.10 (6.17)
Abused with some abusive days (n=30)	8.26 (3.45)	8.86 (8.96)	7.58 (5.16)	4.06 (3.82)	1.26 (2.17)	7.32 (5.83)	5.66 (4.80)	10.93 (7.50)

Previous research suggested that a mean of ~8 psychologically abusive acts ought to be reported by women who self-identify as being involved in an abusive dating relationship (Offman & Matheson, 2004). However, previous research also suggested that psychological and physical abuse are often highly correlated in dating relationships ($r=0.69$, Offman & Matheson, 2004). Given that the present study excluded women who were also experiencing physical abuse, the frequency of psychological abuse reported by women categorized as abused (by *abuse status*) is statistically acceptable.

Depressive symptoms. The Beck Depression Inventory (BDI; Beck & Beck, 1972) was used to assess depressive symptoms. The BDI comprises 21 items, each consisting of 4-6 statements, from which participants must select the statement that best reflects how they

currently feel (see Appendix J). Responses were summed to provide an index of depressive affect. Possible scores ranged from 0 to 63 ($\alpha=.87$).

Appraisals. Women were presented with either a neutral ($n=30$) or abusive ($n=34$) story. The neutral story had the female character coming home from school and interacting with a friend and her roommate. The neutral story made reference to the female character's boyfriend, in that she planned to watch a video with him that evening and that it would be his choice of video. The female's partner was not present in the neutral story (see Appendix F). The abusive story portrayed a series of interactions between a dating couple in which the male character utilized a variety of psychologically abusive tactics, such as criticizing behaviour, jealous/control and ridiculing traits (see Appendix E). After reading the story women were asked to appraise the severity of the problems between the dating couple, how likely things were to get worse and the degree to which each character was to blame for the problems (see Appendix G). Appraisals were made on a 7-point scale ranging from 0 (not at all) to 6 (extremely/definitely).

Cortisol. As mentioned, participants collected saliva samples on one day over the diary period. Upon collection, saliva samples were stored in participants' fridges, for up to 10 days, and subsequently stored at -80°C . Salivary cortisol levels were determined, in duplicate, by means of a solid phase radio-immuno assay using ^{125}I kits obtained from ICN Biomedicals Inc., CA. The inter- and intra-assay variability is typically less than 10%.

Results

Depression

Participants generally indicated low levels of depressive symptomatology, ranging from 0 to 25, $M = 8.08$, $SD = 6.56$. Comparisons across the 3 groups presented in Table 4 revealed that there was a significant difference in BDI scores reported by women in abusive vs. women in non-abusive dating relationships, $F(2,84)=6.13$, $p<.01$. *Post hoc* comparisons revealed that higher BDI scores were evident among abused women who reported experiences of abuse over the diary period compared to non-abused women who reported no experiences of abuse over the diary period, $p<.01$. Non-abused women who reported some experiences of abuse over the diary period had mean depression scores that fell in between that of abused women with experiences of abuse over the diary period and non-abused women with no experiences of abuse over the diary period. *Post hoc* comparisons confirmed that non-abused women with experiences of abuse over the diary period did not differ from the other two groups with respect to their BDI scores.

When *abuse status* and *experiences of abuse over the diary period* were considered together among women reporting non-abusive relationship stressors ($n=88$) only *experiences of abuse over the diary period* was a significant predictor for depression scores, $t(85)=2.04$, $p<.05$, $\beta=.23$. Current *abuse status*, by contrast, was not a significant predictor of depression levels, $t(85)=1.36$, $p=.18$, $\beta=.15$. This may have been due to shared variance between *abuse status* and *experiences of abuse over the diary period*, as both measures correlated positively with depressive symptoms, $r=.24$ and $.28$, $p<.05$ and $.01$, respectively. In addition, *abuse status* (when considered alone) also failed to predict depression levels among women who reported abusive relationship stressors in the diary

period ($n=59$), $t(57)=1.58$, $p=.12$, $\beta=.21$, and among the 64 women who read the abusive or neutral relationship scenario, $t(61)=1.86$, $p=.07$, $\beta=.24$. This was likely due to a loss of power, as each analysis allowed fewer participants to be included ($n=59$ to 64).

Appraisals

Given that appraisals of relationship conflicts might influence coping as well as the development of depressive symptoms, it was of interest to explore whether there were differences in how abused and non-abused women appraised a neutral or abusive relationship scenario. As such, a 2 (*abuse status*: women in psychologically abusive or non-abusive dating relationships) x 2 (*story type*: neutral vs. abusive scenario) between groups MANOVA was conducted in which appraisals of the severity of the scenario, likeliness to get worse, and blame placed on the male and female character were assessed. Of the 64 women who read the neutral or abuse relevant scenario, abused and non-abused women, alike, appraised the abusive story differently than they appraised the neutral story, Pillai's $\lambda=.835$, $F(4,57)=72.07$, $p<.001$. Specifically, they rated the abusive story as more serious, more likely to get worse, and they appraised the male character as being more to blame (compared to the neutral scenario; see Table 5). There was no difference in the degree to which abused and non-abused women placed blame on the female character across both stories (see Table 5). In addition, there was no multivariate main effect of *abuse status*, Pillai's $\lambda=.077$, $F(4,57)=1.19$, $p=.32$, $\eta^2=.08$, nor was there a significant interaction between *abuse status* and *story type*, Pillai's $\lambda=.102$, $F(4,57)=1.62$, $p=.18$, $\eta^2=.10$. However, based on *a priori* predictions, univariate analyses were conducted and a significant interaction between *abuse status* and *story type* was found for the degree to which blame was placed on the male character, $F(1,60)=5.52$,

$p < .05$, $\eta^2 = .08$. This interaction corresponded to abused women placing more blame on the male character in the neutral story, compared to non-abused women exposed to the same neutral story. This difference was not evident among women exposed to the abusive story (see Table 5).

Table 5: Mean (SD) appraisals of an abusive or neutral relationship scenario by abused and non-abused women.

Appraisals	Story Type		
	Neutral (n=30)	Abusive (n=34)	
Seriousness	1.20 (1.40)	5.41 (0.70)	$F(1,60)=196.26$, $p < .001$
Likely to get worse	1.57 (1.52)	5.74 (0.45)	$F(1,60)=186.89$, $p < .001$
Male to blame	1.67 (1.58)	5.50 (0.79)	$F(1,60)=125.17$, $p < .001$
	Non-Abused (n=22): 1.32 (1.55)	Non-Abused (n=15): 5.60 (0.83)	
	Abused (n=8): 2.63 (1.30)	Abused (n=19): 5.42 (0.77)	
	$F(1,60)=7.25$, $p < .01$	$F < 1$, <i>ns</i>	
Female to blame	1.47 (1.46)	1.26 (1.44)	$F < 1$, <i>ns</i>

These data suggest that women in abusive dating relationships are able to recognize an abusive situation for what it is, at least insofar as they could see it when it was blatantly present in another person's relationship. However, given that the two stories were so drastically different (completely neutral vs. definitely abusive) and the abusive story was blatantly abusive, there may have been a ceiling effect with regard to appraisals of the abusive story. This may have consequently prevented detection of subtle differences in how abused and non-abused women appraised the abusive scenario. Nevertheless, it is interesting that abused women placed more blame on the male character in the neutral story, suggesting that abused women may be more sensitized to see potential problems in a relationship as stemming from the male partner being to blame.

Appraisals and Depression

Although abused and non-abused women appraised the neutral and abusive story similarly, it was of interest to explore whether certain appraisals were associated with elevated depression levels. It might be expected that women who perceived the neutral scenario as worse than it actually was might also exhibit greater depression levels owing to a negative bias regarding potential relationship conflicts. As such, a series of hierarchical regressions (one for each of the 4 appraisals) were conducted wherein *abuse status* and *story type* were entered on the first step and each of the 4 appraisals was entered on the second step (each in a separate analysis). Two-way interactions between appraisal and *abuse status* and appraisal and *story type* were entered on the third step and the corresponding three-way interaction was entered on the final step. Finally, depression level was set as the outcome variable.

Among women exposed to one of the two story types (neutral or abuse relevant; $n=64$), there was no main effect of *abuse status*, $t(61)=1.86$, $p=.07$, $\beta=.24$, or *story type*, $t(61)=-1.28$, ns , $R^2=.06$, on depression levels. Once *abuse status* and *story type* were controlled for, there was also no significant main effect for appraisals of the seriousness of the events, $t(60)=1.30$, ns . Two-way interactions were also non-significant, $t(58)=.11$ and -1.85 , ns , for the interaction between appraisals of seriousness and *abuse status* and between appraisals of seriousness and *story type*, respectively. However, there was a significant three-way interaction, $t(57)=-2.34$, $p<.05$, $\beta=1.31$, $R^2\text{change}=.08$. Follow-up simple effects analysis revealed a significant main effect of appraisals of the seriousness of the events among abused women who read the neutral story, $t(57)=2.74$, $p<.01$, $\beta=.71$, $R^2=.50$. Specifically, the more serious an abused women rated the neutral scenario, the

more depressed she reported herself to be. There was no relation between appraisals of seriousness and depression among women who read the abuse story, or among non-abused women who read the neutral story.

Likewise, once *abuse status* and *story type* were controlled for, there was no significant main effect for appraisals of the likeliness that things would get worse, $t(60)=.95$, *ns*. Two- and three-way interactions were also non-significant, $t(58)=-.98$ and $-.63$, *ns*, for the interactions between appraisals of likeliness to get worse and *abuse status* and appraisals of likeliness to get worse and *story type* and $t(57)=-.89$, *ns* for the three-way interaction.

Once *abuse status* and *story type* were controlled for, the main effect of appraisals of the degree to which the female character was to blame was not significant, $t(60)=1.72$, $p=.09$. However, there was a significant two-way interaction between appraisals of the female being to blame and *abuse status*, $t(58)=2.25$, $p<.05$, but the two-way interaction between appraisals of the female being to blame and *story type* was non-significant, $t(58)=-1.9$, $p=.06$. Follow-up simple effects analysis revealed that abused women who placed more blame on the female character (in either story) were more likely to show greater depression levels, $t(57)=2.04$, $p<.05$, $\beta=.36$; this was not the case for non-abused women, $t(57)=.24$, *ns*.

Finally, once *abuse status* and *story type* were controlled for, the degree to which women placed blame on the male character was significantly related to increased depressive symptomatology, $t(60)=2.14$, $p<.05$, $\beta=.49$, $R^2 \text{ change}=.07$. Two-way interactions between appraisals of the male being to blame and *abuse status* and between appraisals of the male being to blame and *story type* were non-significant, $t(58)=.11$ and -

.89, *ns*, but the three-way interaction approached significance, $t(57)=-1.9$, $p=.07$, $\beta=-.92$. Follow-up simple effects analysis revealed that only among abused women reading the neutral story were appraisals of the male being to blame related to elevated depression levels, $t(57)=2.36$, $p<.05$, $\beta=.62$, $R^2=.39$; this was not the case among women reading the abuse story, nor among non-abused women reading the neutral story.

Collectively these data suggest that the more abused women appraised the neutral scenario to be serious and the more blame they placed on the male character in the neutral scenario, the more likely they were to show elevated depression levels. In addition, the more abused women placed blame on the female character in either story, the more likely they were to show elevated depression levels. It appears that appraisals of relationship conflicts were related to depression levels among abused women, particularly in how abused women attributed blame. Subtle differences of this sort were not evident among women exposed to the abuse relevant scenario; however, this may have been due to the aforementioned ceiling effect as the abuse scenario was too blatantly obvious, so that all women appraised it similarly. It is interesting that differences in appraisals of seriousness and blame were associated with elevated depression levels, suggesting that a negative bias to see events as serious and to see partners as being to blame could represent a partial cause or consequence of increased depression levels.

Coping with non-abusive relationship stressors

In addition to assessing appraisal of relationship conflicts, it is important to examine how abused and non-abused women actually cope with relationship stressors over a short period of time in their dating relationship (i.e., 2-3 weeks). Before examining how abused and non-abused women contend with more abusive relationship stressors, it

was of interest to examine how abused and non-abused women contended with non-abusive relationship stressors. Of the 91 women included in the study, 88 reported non-abusive relationship stressors in their diary entries; 28 were non-abused and had no experiences of abuse over the diary period, 28 were non-abused and had some experiences of abuse over the diary period and 28 were abused and had both experiences of abuse and non-abuse over the diary period. Four women were categorized as being abused, but did not experience abuse over the diary period and thus were excluded from the present analysis.

Coping with non-abusive relationship stressors were assessed using an ANOVA with coping (the 3 coping factors) treated as a within-subject variable and a trichotomous variable separating non-abused women with no experiences of abuse over the diary period from non-abused women with some experiences of abuse over the diary period and abused women (with experiences of abuse over the diary period) treated as the between subjects variable. There was a significant difference in how these groups of women dealt with non-abusive relationship stressors, $F(4,162)=5.45, p<.001, \eta^2=.12$. A MANOVA using the same trichotomous variable as the between subject variable to assess the degree to which emotional-dwelling, avoidant coping and problem-focused coping were used to contend with non-abusive relationship stressors also resulted in a significant overall difference in how abused and non-abused women coped with non-abusive relationship stressors, Pillai's $=.273, F(6,160)= 4.22, p<.001, \eta^2=.14$. Specifically, abused women used more emotional dwelling than non-abused women with no experiences of abuse over the diary period, and more avoidant coping than non-abused

women (regardless of *experiences of abuse over the diary period*), but equal amounts of problem-focused coping compared to non-abused women (see Table 6).

Table 6: *Mean (SD) degree to which each type of coping was used to contend with non-abusive relationship stressors.*

Coping Factor	<i>Abuse status and experiences of abuse over the diary period</i>			
	Non-abused with no experiences of abuse (n=28)	Non-abused with experiences of abuse (n=28)	Abused with experiences of abuse (n=28)	
Emotional-dwelling	0.31 (0.17) _a	0.44 (0.23) _{ab}	0.53 (0.37) _b	$F(2,81)=4.94$, $p<.01$, $\eta^2=.11$
Avoidant coping	0.56 (0.28) _a	0.68 (0.30) _a	0.91 (0.38) _b	$F(2,81)=8.40$, $p<.001$, $\eta^2=.17$
Problem-focused	0.68 (0.34) _a	0.79 (0.33) _a	0.66 (0.35) _a	$F(2,81)=1.25$, <i>ns</i>

_{a, b} items without common subscripts in each row differ at the $p=.05$ level.

Coping with non-abusive relationship stressors and depression

To assess whether the manner in which women coped with non-abusive relationship stressors was associated with severity of current depressive symptoms, a hierarchical regression analysis was performed wherein *abuse status* and *experiences of abuse over the diary period* were entered on the first-step. The 3 coping dimensions were entered on the second step. Finally, the two-way interactions between each of the coping dimensions and *abuse status* and two-way interactions between each of the coping dimensions and *experiences of abuse over the diary period* were entered on the final step; depression level was set as the outcome variable.

Abuse status was not a significant predictor of depression levels, but *experiences of abuse over the diary period* was (see Table 7). In addition, the degree to which women used the three coping strategies to contend with non-abusive relationship stressors also accounted for additional unique variance in depressive affect, after controlling for *abuse status* and *experiences of abuse over the diary period*, R^2 change = .219,

$F_{change}(3,82)=8.80, p < .001$. As illustrated in Table 7, both emotional dwelling and avoidant coping were positively correlated with depression symptoms; however, when considered together, only emotional dwelling was associated with unique variance resulting in increased depressive symptomatology. In addition, there was a significant interaction between the degree to which women reported using avoidant coping and *abuse status* and a moderately significant interaction between women's *experiences of abuse over the diary period* and the degree to which they reported using avoidant coping to contend with non-abusive relationship stressors. Follow-up simple effects analysis revealed that the degree to which abused women reported using avoidant coping to contend with non-abusive relationship stressors was related to elevated depression levels, $t(86)=4.03, p < 0.001, \beta = .61$; but this was not the case for non-abused women, $t(86) < 1.0, ns$. Likewise, the degree to which women who experienced abuse over the diary period used avoidant coping to contend with non-abusive relationship stressors was related to elevated depression levels, $t(86)=2.23, p < .05, \beta = .27$. Importantly, this was not the case for women who experienced no abuse over the diary period, $t(86)=1.59, ns$.

Finally, the degree to which women reported using problem-focused coping to contend with non-abusive relationship stressors was not directly related to current depression levels after *abuse status* and *experiences of abuse over the diary period* were controlled for. Similarly, *abuse status* and *experiences of abuse over the diary period* did not moderate the relationship between problem-focused coping with non-abusive relationship stressors and current depressive symptoms (see Table 7).

Table 7: Hierarchical regression analysis assessing the relationship between depression and coping with non-abusive relationship stressors, controlling for abuse status and experiences of abuse over the diary period

	<i>r</i>	β	$R^{2\text{change}}$
Step 1: Abuse Variables			.100**
Abuse status	.24*	.15	
Experience of abuse over diary period	.28**	.23*	
Step 2: Coping			.219***
Emotional-dwelling	.53***	.48***	
Avoidant	.35***	.10	
Problem-focused	.05	-.15	
Step 3: Coping x Abuse Variables			.072
Emotional-dwelling x Abuse status	.46***	.06	
Avoidant x Abuse status	.40***	.77*	
Problem-focused x Abuse status	.28**	.00	
Emotional-dwelling x Experience of abuse	.52***	.28	
Avoidant x Experience of abuse	.36***	-.74 ⁺	
Problem-focused x Experience of abuse	.25**	-.08	

⁺ <0.1, * <0.05, ** <0.01, *** <0.001

These data suggest that the degree to which abused and non-abused women, alike, used emotion-focused coping to contend with non-abusive relationship stressors was related to increased depression levels. However the degree to which women used avoidant coping to contend with non-abusive relationship stressors was only related to greater depression levels among women in abusive dating relationships (*abuse status*) or among women who reported *experiencing abuse over the diary period*. It seems that avoidant coping, even when contending with non-abusive relationship stressors, may be related to elevated depression levels if the context is within an abusive relationship, or within a relationship where some psychological abuse is present. By contrast, the degree to which abused and non-abused women used problem-focused coping to contend with non-abusive relationship stressors was unrelated to current depression levels.

Coping with abusive relationship stressors

Given that some non-abused women ($n=29$) reported coping with abusive relationship stressors in their diary, it was possible to compare how abused and non-abused women coped with abusive, as well as non-abusive, relationship stressors. It was of interest to make this further comparison to see if differences in coping (between abused and non-abused women) continued to exist when relationship stressors became more abusive.

Coping profiles for contending with abusive relationship stressors were assessed using an ANOVA with coping (the 3 coping dimensions) treated as a within-subject variable and *abuse status* (abused vs. non-abused women) treated as the between subjects variable. At this level there was no significant difference in how abused vs. non-abused women dealt with abusive relationship stressors, $F(2,114)=1.66, ns$. A MANOVA using

the same dichotomous variable (*abuse status*) as the between subject variable to assess the degree to which emotional-dwelling, avoidant coping and problem-focused coping were used to contend with abusive relationship stressors also resulted in no significant overall difference in how abused and non-abused women coped with abusive relationship stressors, Pillai's =0.89, $F(3,55)= 1.79$, *ns* (see Table 8).

Thus, these data suggest that although differences are evident in how abused and non-abused women cope with non-abusive relationships stressors, when relationship stressors become more abusive, abused and non-abused women use comparable amounts of emotional dwelling, avoidant and problem-focused coping.

Table 8: Mean (SD) degree to which each type of coping was used to contend with abusive relationship stressors.

Coping Factor	Abuse status and experiences of abuse over the diary period		
	Non-abused with experiences of abuse (n=29)	Abused with experiences of abuse (n=30)	
Emotional-dwelling	0.56 (0.32) _a	0.70 (0.35) _a	$F(1,57)=2.45, p=.10$
Avoidant coping	0.89 (0.37) _a	1.04 (0.33) _a	$F(1,57)=2.74, p=.12$
Problem-focused	0.63 (0.40) _a	0.60 (0.36) _a	$F(1,57)=0.07, p=.80$

_a items with common subscripts in each row do NOT differ at the $p=.05$ level.

Coping with abusive relationship stressors and depression

To assess whether the manner in which women coped with abusive relationship stressors was associated with severity of depressive symptoms, a hierarchical regression analysis was performed. For this analysis, *abuse status* was entered on the first-step, the 3 coping dimensions were entered on the second step and two-way interactions between each of the coping dimensions and *abuse status* were entered on the final step; depression level was set as the outcome variable. Table 9 shows that, although *abuse status* was not a significant predictor of depressive symptoms, in this subset of women ($n=59$), $R^2=.042$,

$F(1,57)=2.49, p=.12$, the coping strategies endorsed to contend with abusive relationship stressors accounted for a significant amount of unique variance in depressive affect after controlling for *abuse status*, $R^2 \text{ change} = .141, F \text{ change} = 3.11, p < .05$. Specifically, the degree to which women reported emotional dwelling, when it came to coping with abusive relationship stressors, was associated with increased depressive symptoms and the relationship between avoidant coping and current depressive symptoms was moderated by *abuse status*. Follow-up simple effects analysis revealed that greater avoidant coping among abused women to contend with abusive relationship stressors was associated with elevated depression levels, $F(1,56)=5.18, p < .05, \beta = .39$; this was not the case for non-abused women, $F(1,56)=1.49, ns$. Finally, the degree to which women used problem-focused coping to contend with abusive relationship stressors was not related to depressive symptoms, above and beyond abuse status, nor did it moderate this relationship.

These data show that, as with coping with non-abusive relationship stressors, emotional dwelling continued to be directly related to increased depressive symptomatology, and avoidant coping by abused women continued to be related to elevated depression levels. Problem-focused coping continued not to play a role in regard to depression levels.

Table 9: Hierarchical regression analysis assessing the relationship between depression and coping with abusive relationship stressors, controlling for abuse status

	<i>r</i>	β	$R^{2\text{change}}$
Step 1: Abuse Variable(s)			.042
Abuse status	.21 ⁺	.21	
Step 2: Coping			.141 [*]
Emotional-dwelling	.41 ^{***}	.39 ^{**}	
Avoidant	.12	-.03	
Problem-focused	.13	-.00	
Step 3: Coping x Abuse Status			.095 ⁺
Emotional-dwelling x Abuse status	.37 ^{**}	.17	
Avoidant x Abuse status	.31 ^{**}	1.03 [*]	
Problem-focused x Abuse status	.24 [*]	-.22	

⁺ <0.1, ^{*} <0.05, ^{**} <0.01, ^{***} <0.001

Differences in coping with abusive vs. non-abusive relationship stressors

In order to assess the differences in how women coped with abusive vs. non-abusive relationship stressors, one final ANOVA was performed, including only women who experienced both abusive and non-abusive relationship stressors over the diary period. In this analysis, *abuse status* (abused or non-abused) was treated as the between subject variable and coping (the 3 coping dimensions) and *event type* (abusive or not) were treated as within-subject variables. It was found that coping profiles differed as a function of *abuse status*, $F(2,108)=5.91$, $p<.01$, $\eta^2=.10$ and as a function of *event type*,

$F(2,108)=11.54, p<.001, \eta^2=.18$, but the interaction between *abuse status* and *event type* for differences in overall coping profiles was non-significant, $F(1.5,83.2)<1, ns$ (Greenhouse-Geisser).

Even though the two-way interaction was non-significant, based on *a priori* predictions, data were split and examined at the cell level. Follow up analysis revealed that abused women used more emotional dwelling, $F(1,27)=9.29, p<.01, \eta^2=.26$ and more avoidant coping, $F(1,27)=4.71, p<.05, \eta^2=.15$, when contending with abusive (vs. non-abusive) relationship stressors, but equal amounts of problem-focused coping, $F(1,27)<1, ns$. Likewise, non-abused women used more emotional dwelling, $F(1,27)=4.37, p<.05, \eta^2=.14$ and more avoidant coping $F(1,27)=7.78, p<.01, \eta^2=.22$, when contending with abusive (vs. non-abusive) relationship stressors. However, non-abused women also used more problem-focused coping when contending with non-abusive (as opposed to abusive) relationship stressors, $F(1,27)=4.36, \eta^2=.14$. Table 10 presents differences in mean levels of each coping type, endorsed by non-abused and abused women, to contend with non-abusive and abusive relationship stressors.

Table 10: Mean (SD) degree to which each type of coping was used by non-abused and abused women to contend with non-abusive and abusive relationship stressors

Coping Factor	Non-Abused Women (n=28)		Abused Women (n=28)	
	Non-abusive Event	Abusive Event	Non-abusive Event	Abusive Event
Emotional-dwelling	0.44 (0.23) _a	0.56 (0.33) _c	0.53 (0.37) _b	0.68 (0.36) _c
Avoidant coping	0.68 (0.30) _a	0.88 (0.38) _c	0.91 (0.38) _b	1.04 (0.34) _c
Problem-focused	0.79 (0.33) _b	0.62 (0.41) _a	0.66 (0.35) _a	0.60 (0.37) _a

_{a, b, c} items without common subscripts in each row differ at the $p=.05$ level.

Although abused and non-abused women coped with abusive relationship stressors similarly, differences in coping were apparent when we examined how these women coped with non-abusive relationship stressors. Specifically, abused women used

more emotional dwelling and more avoidant coping than non-abused women when contending with non-abusive relationship stressors and abused women failed to use more problem-focused coping. This difference of coping profiles might suggest that in comparison to non-abused women, the abused women were less flexible in their coping repertoire and might therefore have treated non-abusive situations more similarly to abusive situations. In addition, given that avoidant coping was only related to elevated depression among abused women, whereas emotional dwelling was related to elevated depression among both abused and non-abused women, suggests that avoidant coping may be particularly detrimental when used in the context of an abusive relationship. By contrast emotional-dwelling may be detrimental regardless of relationship or stressor context (abusive or not).

Cortisol Response to Waking

In order to explore whether experiences of abuse and coping strategies endorsed were related to differences in the natural diurnal variations of cortisol, 89 women provided saliva samples at awakening and 30 minutes following waking. Thirteen of these women provided one or both of these samples more than 10 minutes late, 1 woman reported having alcohol poisoning on the sampling day and another woman reported that she entered the wrong times when recording when her samples were taken; these women were removed from the analysis. As well, 3 abused women with no experiences of abuse in the diary period were also removed from the present analysis.

The response to waking was calculated by taking the cortisol level 30 minutes following waking, subtracting the cortisol level at waking and then dividing by the cortisol level at waking to attain the proportional increase of cortisol from waking to 30

minutes post-waking. Women demonstrated cortisol responses to waking ranging from a decrease of 50% to an increase of 316%, $M=63%$, $SD=82%$, and comprised 24 non-abused women with no experiences of abuse over the diary period, 24 non-abused women with some experiences of abuse over the diary period and 23 abused women with some experiences of abuse over the diary period.

The analysis indicated that there were no main effects of *abuse status* or *experiences of abuse over the diary period* on women's cortisol response to waking, $F_s < 1$, *ns*. However, there was a trend for abused women with experiences of abuse over the diary period to have the highest cortisol rise following awakening (see Table 11).

Table 11: Mean (SD) cortisol responses to waking by abuse status and experiences of abuse over the diary period

	<i>Abuse status and experiences of abuse over the diary period</i>			
	Non-abused with no experiences of abuse ($n=24$)	Non-abused with experiences of abuse ($n=24$)	Abused with experiences of abuse ($n=23$)	
Cortisol response to waking	0.56 (0.64) _a	0.63 (0.92) _a	0.72 (0.89) _a	$F < 1$, <i>ns</i>

_a items with common subscripts in each row do NOT differ at the $p=.05$ level.

The inability to show significant differences between the groups appears to be in part due to high variability between responses of women in each group, particularly among women in the abused groups. In addition, although it was expected that all individuals would show an increase in cortisol levels in the first 30 minutes following waking, 13 of the 71 women (4 non-abused women with no experiences of abuse over the diary period, 5 non-abused women with experiences of abuse over the diary period and 4 abused women with experiences of abuse over the diary period) showed decreases in cortisol across the two sampling times. Declining cortisol responses following awakening were likely due to samples not being taken on time relative to time of waking. Although

precaution was taken to remove participants who admittedly took their samples more than 10 minutes late, if wake times were poorly recognized or recorded, identifying late sampling becomes impossible. Even worse, it is possible that some women with modest cortisol responses to waking also showed such responses, in part, due to poorly calculated times of waking.

The degree to which abused and non-abused women used emotional dwelling, avoidant and problem-focused coping to contend with abusive and non-abusive relationship stressors also did not predict nor moderate the impact of *abuse status* or *experiences of abuse over the diary period* on the cortisol response to waking.

Discussion

There have been several reports documenting the adverse psychological and physical consequences associated with abusive relationships. However, in the main, these studies focused on battered women, and few examined the consequences of abuse among young women in dating relationships. As well, even though vulnerability to psychological disturbances is thought to go hand-in-hand with appraisals of stressors and coping strategies (Lazarus & Folkman, 1984), few studies have determined whether the psychological ramifications of abusive dating relations were moderated by appraisals and coping strategies that women endorsed. Studies that examined coping methods among abused women, tended to do so using hypothetical abusive and non-abusive relationship scenarios (e.g., Claerhout et al., 1982) or by asking participants to try to recall how they coped with events that occurred in the distant past (e.g., Matheson et al., 2007; Pape & Arias, 1995; Coffey et al., 1996). The present study, by contrast, had women provide appraisals of hypothetical abusive and neutral relationship scenarios and asked them how

they coped with abusive and non-abusive relationship stressors as they occurred, on a day to day basis, in their own dating relationships.

Appraisals and depression

Consistent with previous reports regarding depressive symptoms (e.g., Matheson et al., 2007), it was observed that abused women reported greater current depressive symptomatology than did non-abused women. Although it might be assumed that problems arise because abused women are not able to properly appraise and cope with abusive relationship stressors, the present study found that abused women were equally able (as non-abused women) to recognize an abusive scenario as more serious and more likely to get worse (than a neutral scenario). They were also equally likely to place blame on the abusive male character. In addition, differences in coping (between abused and non-abused women) were more evident when we examined coping with non-abusive relationship stressors and ties to depressive symptoms were related to how abused women appraised the neutral scenario. Specifically, abused women tended to place more blame on the male partner in the neutral scenario, and greater depressive symptoms were apparent among abused women who saw the neutral stressor as more serious, the male as more to blame (in the neutral scenario) and the female as more to blame (in general). Collectively these data suggest that it is not that abused women are unable to recognize abuse when it is present, but rather that their views of ambiguous relationship stressors may be biased to be more negative and this may affect their coping choice. Abused women may be sensitized to any cues of relationship conflict, perhaps as a result of current depression (McKendree-Smith & Scogin, 2000; Beck, 1967) or as a consequence of exposure to abuse in current or past relationships (Purdie & Downey, 2000). A more

negative view of relationship stressors might lead some women to be more likely to enter into and remain in an abusive dating relationship, as they might see all relationships as somewhat abusive (Downey & Feldman, 1996).

Coping among abused women

We posited that abused women would use more avoidant coping and less problem-focused coping than non-abused women when contending with relationship stressors. We found that both abused and non-abused women used more emotional dwelling and avoidant coping when contending with abusive (vs. non-abusive) relationship stressors. Moreover, abused women used more emotional dwelling and avoidant coping than did non-abused women when contending with non-abusive relationship stressors. It was of particular interest that, unlike non-abused women, abused women also did not use significantly more problem-focused coping when dealing with non-abusive (vs. abusive) relationship stressors. Collectively, these data suggest that relative to non-abused women, the abused women tended to cope with non-abusive relationship stressors in a manner that was more similar to abusive relationship stressors. This is not the first instance where abused women have been reported to use the same maladaptive coping strategies in response to non-abusive stressors as they would in response to more abusive stressors (Finn, 1985; Launius & Jensen, 1987; Pape & Arias, 1995). Given that it has been suggested that problem-focused coping may be more effective in dealing with anticipated stressors (Aldwin, 1994) and that problem-focused coping should become more prominent in situations that are deemed to be more controllable (Holahan & Moos, 1987; Folkman & Lazarus, 1980), our findings beg the question as to whether abused women view relationship stressors as something they can

anticipate and at least partially control? Given the coping profile presented by abused women, the answer may be negative.

Abused women may cope with non-abusive relationship stressors more similarly to abusive relationship stressors because they see relationship conflicts as something that they must simply endure. Elevated distress caused by constant psychological abuse may canalize women's views of coping options, narrowing their repertoire of possible coping responses. This may leave only default coping strategies available to be applied, regardless of the stressor context. Abused women may fail to recognize that they have more control in some situations compared to others and they may have less faith in their problem-focused coping ability. As a result abused women may fail to use more problem-focused coping strategies when they can, and thus they may fail to leave an abusive dating relationship or attempt to negotiate better ways of resolving conflicts. To be fair, it may be the case that women in abusive dating relationships may have limited control over the peaceful resolution of any relationship stressor. However, given that greater flexibility in the selection and application of coping may be particularly adaptive (Zeidner & Saklofske, 1996) and may result in better adjustment (Mattlin et al., 1990), it is possible that the development of a narrow and inflexible coping profile may further trap abused women in abusive dating relations and may thus contribute to their reduced psychological wellbeing.

Coping and depression

Although it had been suggested that emotion-focused coping, particularly emotional expression and emotion processing may result in better psychological adjustment (Stanton et al., 2000; Folkman et al., 1979; Pennebaker et al., 1997; Stanton &

Franz, 1999), in line with previous findings, we found that emotional dwelling was associated with elevated depression among abused and non-abused women (Morrow & Nolen-Hoeksema, 1990). In addition, although it was suggested that avoidant coping may provide the necessary temporary relief from a stressor (Suls & Fletcher, 1985), like previous studies (Coffey et al., 1997), we found that avoidant coping was associated with elevated depression among abused women. This was not surprising, as prolonged emotional dwelling, particularly rumination, may interfere with the mobilization of action towards attenuating the impact of a stressful situation (Stanton et al., 2000) and avoidant coping has been suggested to interfere with the proper processing of abusive or traumatic experiences (Bolger, 1990; Litt et al., 1993; Carver et al., 1993; Roth & Cohen, 1986; Foa & Rothbaum, 1998; Resick & Schnicke, 1996). In addition, investments in emotion and avoidant coping efforts might exhaust psychological resources, preventing efforts from being utilized in a more effective manner (Baumeister, Bratslavsky, Muraven & Tice et al., 1999). Interestingly, the degree to which women reported using problem-focused coping showed no relation to current depressive symptoms.

Abuse and cortisol function

As mentioned earlier, exposure to stressors generally results in an increase of circulating cortisol (Sapolsky et al., 2000). Exaggerated physiological responses to psychological stressors have also been noted among women with depression and/or PTSD (Heim et al., 2000; Bremner et al., 2003). We hypothesized that abused women who demonstrated more emotion-focused coping would show exaggerated cortisol responses following awakening. Previous research suggested that greater life strain would be associated with an exaggerated cortisol rise (Steptoe et al., 2000; Bauer et al., 2000;

Schulz et al., 1998; Wust et al., 2000). Yet, it has also been reported that chronic distress was associated with a blunted rise (Adam & Gunnar, 2001; Caplan et al., 1979; Ranjit et al., 2005; Pruessner et al., 1999). Although involvement in a psychologically abusive dating relationship may qualify as greater life strain or as elevated chronic stress, we were unable to show statistically significant differences in the cortisol response following awakening.

It should be noted, however, that we expected average increases of 50-150% in cortisol levels from waking to 30 minutes post-waking (Clow et al., 2004; Pruessner et al., 1997). By contrast, we found that in a number of women the cortisol rise was much lower and in some cases cortisol levels actually declined. These unexpected results suggest that some women likely took their samples late relative to their actual time of waking. Procedural factors may have also been an issue here as women were asked to provide saliva samples on a weekend day or one without classes and this resulted in wake up times that ranged from 5:49am to 1:05pm. In addition, of those participants giving an indication of how they woke up (69%), 43% ($n=21$) indicated that they awoke naturally and slowly, 45% ($n=22$) woke by alarm or by somebody else and 12% ($n=6$) reported waking up many times due to worry. Given that wake time and wake methods may influence the cortisol response (Kudielka & Kirschbaum, 2001), the wide range of wake times reported by participants may, in part, explain why such high within group variability was observed. Although, negative results were evenly distributed among the groups of abused and non-abused women and removing such women did not result in significantly different results, being more strict about when and how samples are taken

(i.e., by having participants select sampling on days in which they have to get up at similar/set times) may be helpful in reducing error variance.

It should also be noted, however, that excessive variability in the cortisol response to awakening was found to be more evident among abused women. This suggests that moderating factors likely exist with regard to the cortisol response to waking. Although it has been suggested that coping strategies endorsed to contend with chronic stressors might influence alterations of cortisol function (Miller, Chen & Zhou, 2007), the present study found that coping strategies endorsed to contend with relationship stressors did not influence the relationship between abuse status and the cortisol response to awakening. Other candidates for moderating factors include time since stressor onset and perceived controllability of the stressor (Miller et al., 2007). As such, it would have been advantageous to determine how long abused women had been in their current relationship, and how long the abuse had been experienced. However, as psychological abuse may be insidious and often there is uncertainty as to the meaning of potentially abusive behaviors, it would be difficult to determine abuse in a retrospective manner. Furthermore, many women do not self-identify as being involved in abusive relationships, even if their relationship could clearly be classified as abusive (Pipes & LeBov-Keeler, 1997).

The similar pattern seen between depression levels exhibited by the three groups of women and their cortisol response to waking suggest that these two factors (depression and the cortisol response to waking) may be related in a dose dependent manner. Specifically, the degree to which psychological abuse is present in women's current dating relationships may be related to the degree to which women's cortisol function is

altered and the degree to which they exhibit depressive symptoms. Also, given that elevated depression and the cortisol rise was evident among women with the occasional perceived abusive encounter suggests that the mere experience of some psychologically abusive events may be sufficient to promote altered cortisol functioning and elevated depression.

One strength of the present investigation is that women were observed while they were still involved in their dating relations, as opposed to after the fact. Previous studies tended to examine alterations in the cortisol function after years of intimate partner violence (Pico-Alfonso et al., 2004) or after the abusive relationship had terminated (e.g., Seedat, Stein, Kennedy & Hauger, 2003). The present study focused on changes in diurnal function that may be present early with chronic stressor experience. It also dealt with psychological abuse rather than the physical abusive features that comprise battered woman syndrome. Although our findings were non-significant, there was a modest trend consistent with the idea that the cortisol response to waking becomes elevated with greater life stress and current exposure to a chronic social stressor. Clearly, however, it will be necessary to conduct analyses that are better controlled with respect to cortisol sampling times.

Limitations

Due to the complex nature of the present investigation, several limitations will be noted. First, as alluded to earlier, the factor structure identified for coping with non-abusive relationship stressors was not a precise match for reports of coping with abusive relationship stressors. This was not surprising as the structure for coping strategies was expected to differ across situations. Although it would have been ideal to utilize a factor

structure that was a better fit for both contexts (abusive and not), given the available data, the present approach offered the most parsimonious solution.

Second, although we were able to compare how abused and non-abused women coped with both abusive and non-abusive relationship stressors, there was no way of knowing whether an abusive stressor for a non-abused woman was truly comparable to an abusive stressor for an abused woman. Although having women respond to set abusive and neutral scenarios allowed us to compare certain appraisal factors, the scenarios only offered two extreme ends of the spectrum (definitely abusive and essentially neutral). It would have been preferable to assess the response to varying levels of abuse, especially encounters that comprised ambiguous situations in line with women's actual experiences. In addition, when we examined differences in coping with abusive vs. non-abusive relationship stressors among abused and non-abused women we necessarily needed to include only women who experienced both types of stressors over the diary period. As a result, non-abused women with no experiences of abuse over the diary period could not be included in this analysis.

Third, as already mentioned, cortisol analysis was limited due to high within group variability and low number of participants per group. It would have also been ideal to exclude women taking hormonal contraception from cortisol analysis, as the use of hormonal contraceptives has been associated with blunted cortisol responses to waking (Pruessner et al., 1997). Doing so, however, would result in only 25 (as opposed to 71) participants being eligible for cortisol analysis. If this were the case, the trend for women in abusive dating relationships ($n=6$) to demonstrate higher cortisol responses to waking,

$M=135\%$ $SD=1.04$, compared to women in non-abusive dating relationships ($n=19$), $M=73\%$, $SD=.87$, remained stable, but non-significant, $F(1,22)=2.06$, $\eta^2=.09$, $p=.17$.

An interesting finding of the present investigation was that abused women who were more likely to see the neutral event as more serious, were also more likely to be depressed. As the data were of a correlational nature, it is uncertain whether these women, as a result of their depression, simply had a more negative view of relationships in general. It is likewise possible that depressed women also report more abuse in their current relationship because their current affective state colors their perceptions of ongoing events. Given that all of our assessments were self-report in nature and no information was gathered from women's partners to support or dispute women's reports, it is not possible to disentangle the directionality of various relationships that may exist.

Before generalizing results from the present study to the greater population of abused women, it should be considered that women in the present study were university students, currently involved in non-cohabiting, dating relationships that varied in the degree to which they would be considered psychologically abusive, but in which no physical abuse was present. From this perspective the data are not generalizable to women that experienced physical abuse, nor is it necessarily the case that the results of the present study are meaningful in the analysis of psychological abuse within a community sample. As well, the type of women that would be willing and able to safely enter into such an intrusive study is limited. As well, given that dichotomous variables were used to group women as abused or otherwise and reports of coping were averaged across all abusive and non-abusive relationship stressors, several aspects of the severity

and frequency of abuse and the temporal nature of events and coping were lost in the present analysis.

Another drawback of the present study is that it only considered women's current dating relationships. Although some women may not currently be involved in an abusive dating relationship, they may have previously been involved in such a relationship, or they may have had an abusive experience that caused them to leave or adjust a previous relationship. In addition, the accumulation of prior stressful experiences likely creates a unique context upon which the effect of each new stressor must be considered (Wheaton et al., 1997). In this respect, experiences of childhood abuse or neglect have been associated with an increased risk of entering and not leaving abusive dating relationships (Coffey et al., 1996; Matheson et al., 2007; De Bellis, 2001). Likewise, past assaultive experiences (not limited to abuse in childhood, but also including threats of violence, previous partner abuse and stalking) were also associated with a greater likelihood of being involved in an abusive dating relationship (Matheson et al., 2007). Women with a history of abuse, neglect or violence within their family home were also more likely to use avoidant coping strategies when contending with current abuse (Leitenberg, Gibson & Novy, 2004). Furthermore, when previous assaultive experiences were controlled for, the association between current abuse and the degree to which avoidant coping strategies were endorsed disappeared, suggesting that the avoidant coping styles evident among women in abusive dating relationships may be rooted in earlier experiences of assault (Matheson et al., 2007). Indeed, it has been maintained that previous experiences of abuse may also affect future coping by altering one's perceptions of control or competence in being able to contend with abusive situations (Walker, 2005). Although it

is possible that previous experiences of assault contributed to current appraisals, coping and depression levels, such data were not examined in the present investigation.

The present study does not allow us to draw causal inferences between exposure to psychological abuse, appraisals, coping tendencies and current depression levels. It may be that elevated depression leads to greater likelihood of using emotion-focused or avoidant coping, of entering into and not leaving abusive dating relationships, or of seeing neutral relationship conflicts as more severe. Conversely, it is possible that appraisals, coping and other factors lead to depressive affect.

Summary

Abused women were able to recognize abuse when it was blatantly present and were more likely to blame the male character, even when abuse was absent or subtle. In addition, abused women, particularly those who used more avoidant coping and saw the neutral relationship stressor as more serious were more likely to present with elevated depression symptoms. Thus, one might ask why abused women, especially given that they are university-aged and in non-cohabitating dating relationships (where they should have fewer financial ties to their significant other), would remain in such relations. Perhaps, depression or the tendency to use avoidant coping prevents abused women from leaving an abusive relationship. Or perhaps, as suggested, the negative bias to view all relationships as somewhat abusive, causes them to expect no different. Essentially, these women might perceive psychological abuse as being the norm, which doesn't call for exit strategies to be established. Alternatively, of course, as discussed earlier, abused women may be canalized in their view of possible coping options, possibly as a result of being

exposed to chronic strain, and this may cause them to become trapped in their current relationship.

Finally, although one might be tempted to focus analysis on coping and appraisals in an abusive context, it appears that differences in coping and appraisals of non-abusive relationship stressors provides insight into why some abused women may exhibit more depressive symptoms and why some abused women may remain in such relationships. Thus, continuing to examine differences in appraisals and coping among abused and non-abused women in both abusive and non-abusive relationship settings may be a useful experimental strategy to define the factors that allow abusive relationships to continue, and the ramifications of these situations on well being.

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Appendix C - Daily Diary

Please describe the most stressful encounter that you experienced with your partner in the past 24 hours. If you did not experience a stressful encounter with your partner in the past 24 hours, please describe an ongoing stressor between you and your partner.

Would you describe your partner's behaviour as psychologically or emotionally abusive?
 Not at all 0 1 2 3 4 Partner/other was definitely abusive

In response to this conflict, I ... (recoded to 0=No/NA, 1=Sort Of, 2=Yes)

1. Tried to find a solution.

0	1	2	3
N/A	No	Sort of	Yes

2. Got involved in other activities.

0	1	2	3
N/A	No	Sort of	Yes

3. Tried to keep my mind off how upset I was.

0	1	2	3
N/A	No	Sort of	Yes

4. Spent a lot of time thinking about it.

0	1	2	3
N/A	No	Sort of	Yes

5. Tried to laugh about it.

0	1	2	3
N/A	No	Sort of	Yes

6. Talked with friends/family about how I felt, or what to do.

0	1	2	3
N/A	No	Sort of	Yes

7. Got extremely emotional.

0	1	2	3
N/A	No	Sort of	Yes

8. Thought a lot about how my partner (or the other person) caused this conflict.

0	1	2	3
N/A	No	Sort of	Yes

9. Thought about how I brought the situation on myself.

0	1	2	3
N/A	No	Sort of	Yes

10. Tried to hide my feelings, and keep them in.

0	1	2	3
N/A	No	Sort of	Yes

11. Decided to wait and see how things turn out.

0	1	2	3
N/A	No	Sort of	Yes

12. Turned to God or my faith.

0	1	2	3
N/A	No	Sort of	Yes

13. Wished I was a stronger person or better at dealing with problems.

0	1	2	3
N/A	No	Sort of	Yes

14. Used prescription drugs to try to make me feel better.

0	1	2	3
N/A	No	Sort of	Yes

15. Used alcohol to try to make me feel better.

0	1	2	3
N/A	No	Sort of	Yes

16. Used food to try to make me feel better.

0	1	2	3
N/A	No	Sort of	Yes

17. Looked for how I could learn something/grow from the experience.

0	1	2	3
N/A	No	Sort of	Yes

Appendix E - Abuse-Relevant Script

Please read the following 3-page passage and respond to the subsequent questions ...

Background - Frannie and Mickey are university students and they have been dating for a few months. Mickey has recently been put on academic probation and is being forced to take electives and he must wait until next September before re-entering in his program.

(Frannie and her classmates decided to go to the campus bar after class. Mickey usually frequents this bar and Frannie is going today in the hopes of seeing him there. She is wearing a sexy top that she bought to cheer him up- he has been feeling down lately about school. She is asking her classmates if they think he will like it when he walks into the bar, unnoticed. He watches her from the other side of the room. Frannie starts telling a story loudly to her classmates, and when she gets up to go to the bar, she stumbles slightly but laughs it off).

(Mickey walks over to meet her at the bar)

Mickey: Hey,! Nice fall! Bet you weren't expecting me to show up. Where'd you get that? (Pointing to Frannie's shirt)

Frannie: Hey Mickey! I bought it for you and yes of course I knew you'd be here.

Mickey: Well, I wish you wouldn't dress and act so stupid. You should have more respect for yourself. You know they're all laughing at you. (pointing to her classmates)

Frannie: They're not laughing at me, they're my friends.

Mickey: They're not your friends and you're acting like an idiot! Who are you trying to be with that shirt anyways? I think you look ridiculous! Why don't you just go home and change!?!

Frannie: (her eyes well up with tears) I only wore this for you... I bought it because I thought you'd like it. But, I guess I'll go home now!

Mickey: Good. My friends will be here soon and I don't want them to see you acting like this anyways!

(New day) (Mickey notices a new bracelet on Frannie's arm).

Mickey: Hey! (Pointing to the bracelet) ...where'd you get that?

Frannie: In Montreal.

Mickey: In Montreal? When were you in Montreal?

Frannie: Oh, Chrissy wanted to go see her boyfriend. She really misses him. So we went up for the day, saw him and went shopping.

Mickey: I told you never to go anywhere without me.

Frannie: Well, we didn't plan it. I had the day off and you had class today, so I didn't think you'd mind or want to come. You don't even like Chrissy...

Micky: I don't care about her...I just like to know what you are up to.

Frannie: I don't need to report to you!

Mickey: You do if you still want to be my girlfriend.

(Frannie brushes it off and walks away. They don't talk for a few days.)

(New day) (Frannie's been staying at Chrissy's for the weekend and Mickey has not been able to get in touch with her. Mickey calls Frannie's house and finds out where she is and goes to Chrissy's house and knocks on the door)

Mickey: (as Chrissy opens the door)...I am looking for Frannie, is she here?

(Chrissy is hesitant but Frannie comes to the door and says it's ok)

Mickey: I miss you Frannie.

Frannie: Are you feeling more reasonable now?

Mickey: Frannie, I'm so sorry! I'm all straightened out now and I want us to be together.

Frannie: I don't want to go back to the way it was.

Mickey: C'mon Frannie, nobody knows me like you do. Tell me you missed me.

Frannie: Yah Mickey, I miss you.

Mickey: I promise things will be different this time...I promise.

(Frannie takes his hand and they leave together)

(New day) (Mickey comes over and Frannie is working hard on a dinner to celebrate that they are back together again.)

Mickey: What are you making? It stinks!!! (making a face) You know I don't like ethnic food.

Frannie: Well, I wanted to try something new and I think you will like it.

Mickey: But you know pizza is my favourite and at least I know THAT'S something that's pretty hard for you to screw.

Frannie: Mickey, I worked hard on this dinner and I think you will like it. Besides, I'm trying to save money because I took fewer shifts at work this week so that I can spend more time on my 30 page paper.

Mickey: 30 pages!!! You'll never finish that Fran! You know that school isn't exactly your forte. Besides wouldn't you rather spend more time with me? You never have time for me any more!

Frannie: Mickey, I've been working so hard to graduate. I know I might not be the smartest but I have come along way and I only need this course and then I'm done!

Mickey: You're never going to graduate Fran. You can't finish anything you start!

Frannie: C'mon, give me a chance.

Mickey: Aw Fran, you're just not cut out for academic life. What are you going to do with a psychology degree anyways?

(Frannie sighs, turns off the stove and takes the food that she was cooking off the element)

Frannie: (after a short pause) Well, what do you want to eat then? Should I just order pizza?

Appendix F - Neutral Script

Please read the following 3-page passage and respond to the subsequent questions ...

Background – Its mid-October, Thursday, 3:30pm. Frannie is riding the bus home from school. It is her last class of the week and she is thinking about the upcoming weekend when Chrissy, an old friend, who she has not seen in a while, gets on the bus. Chrissy notices Frannie right away and comes over to sit by her.

Chrissy: Hey Frannie, how's it going?

Frannie: Ok, you?

Chrissy: Pretty good, where you off to?

Frannie: Home.

Chrissy: Oh. Did you have class?

Frannie: Yeah. Personality Psyc.

Chrissy: Oh cool, yeah, I took that last semester, how's it going? Lots of reading, eh?

Frannie: Yeah. It's ok though, I have it under control. How are things going with Todd?

Chrissy: Oh, good. He's coming home this weekend, which'll be nice. I haven't seen him since school started.

Frannie: Oh, that's cool. Any plans?

Chrissy: No, not yet. He just wants to relax. He's been so busy with school and sports. He's just looking forward to doing nothing and spending time with me (sigh). How's Mickey doing?

Frannie: Oh he's good. He's coming over tonight. I think were going to watch a movie.

Chrissy: Any idea which one?

Frannie: No. Its his pick. Probably some guy movie.

Chrissy: Oh well, have fun. This is my stop, have a good time tonight. It was nice catching up with you.

Frannie: Yeah, you too, take care! Have a good weekend. Say hi to Todd for me.

Chrissy: Will do (as she gets off the bus).

(Frannie has a few more stops to go before she's home, and she starts eavesdropping on the conversation behind her.)

Guy #1: So you going to the meeting tomorrow?

Guy #2: Yeah, I have to. Its kind of a pain though, cause I was going to take the day off.

Guy #1: Well, can't you? I mean, can't they just fill you in later?

Guy #2: Yeah, but I'm kind of new and I don't know everyone yet. And last time I missed a meeting they forgot to tell me something pretty important.

Guy #1: Oh, that sucks. How's work going anyways? You're full-time there now, right?

Guy #2: Yeah. Its ok...I'm working on this document though, that I need to figure out how to merge it with another data file. But I'm sure I'll figure it out.

Guy #1: Oh, sounds interesting (hint of sarcasm). But at least you don't have exams anymore. I have two midterms next week. Should be pretty brutal.

Guy #2: Aw, you always do well.

Guy #1: Yeah, I know.

(Its Frannie's stop, so she gets off the bus and continues her walk home. On the way she runs into her roommate Jane.)

Frannie: Hey Jane, you heading home?

Jane: Yup! Just went to the grocery store. I got us some more milk. We were out.

Frannie: Oh, thanks.

(They walk home together)

Jane: (as they open the front door) Oh, hey Fran, are you going to be home tonight?

Frannie: Yeah, I think Mickey is coming over to watch a movie? Why?

Jane: Oh, I was just going to meet with my study group, but we can do it at the library, or at someone else's house if you want the place to yourself.

Frannie: Oh, it's not a big deal. We can even go to Mickey's if that's better for you.

Jane: Ah, whatever, I'll just let the group sort it out. I don't really care. Do you have a lot of studying to do before Mickey comes over?

Frannie: I was going to do some readings, but I don't have to. Why, you wanna do something?

Jane: Nah, I'm just going to watch Dr. Phil at 5, I was wondering if you wanted to watch with me?

Frannie: Sure. Its on at 5, right? Yeah, I think I can get my readings done between now and then. That'll give me about an hour. Just let me know when it comes on.

Jane: Cool, I'll call you when it's on.

(Frannie goes off to her room. Jane goes into the kitchen to put away the groceries and then she goes to her room to check her email).

(Time passes. Its almost 5pm. Jane comes out of her room and into the livingroom to put on the TV. She finds the station for Dr. Phil and calls out to Frannie)

Jane: (shouting) Hey Fran! Dr Phil's on!

Frannie: Thanks, (shouting back from her room). I'll be right there.

(A few minutes later, Fran comes into the living room and joins Jane on the couch. Dr Phil has gone to commercials.)

Jane: Hey, get your readings done?

Frannie: Yup, perfect timing.

Jane: Cool. You just missed the intro, nothing much (referring to the TV show which still on commercial).

Frannie: Thanks. Hey, is your group coming over?

Jane: Nah, a couple of the girls couldn't make it tonight, so were going to get together over the weekend instead. I'll probably just stay in and work on my essay or relax.

Frannie: Ok, cool.

(The show comes back on, and they watch together)

Appendix G - Appraisals of Script

In response to what you've read, please answer the following questions as best you can.

1. How serious do you think the problems between Frannie and Mickey are?

Not at all	0	1	2	3	4	5	6	Extremely serious
------------	---	---	---	---	---	---	---	-------------------

2. How likely is it that things will get worse?

Not at all	0	1	2	3	4	5	6	Extremely likely
------------	---	---	---	---	---	---	---	------------------

3. Do you think Frannie is to blame for any of the problems with Mickey?

Not at all	0	1	2	3	4	5	6	Definitely her fault
------------	---	---	---	---	---	---	---	----------------------

4. Do you think Mickey is to blame for any of the problems with Frannie?

Not at all	0	1	2	3	4	5	6	Definitely his fault
------------	---	---	---	---	---	---	---	----------------------

Appendix H - CTS-R

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have fights because they are in a bad mood, tired, or for some other reason. Couples also have many different ways of trying to settle their differences. Below is a list of things that might have been done to you by your partner. For each statement, please indicate how often your partner has behaved this way toward you in the past 3 months by writing a number in the space to the right of each statement using the following rating scale:

In the past 3 months...

0 Never	1 Once	2 Twice	3 3 - 5 times	4 6 - 10 times	5 More than 10 times
------------	-----------	------------	---------------------	----------------------	----------------------------

1. My partner showed care for me even though we disagreed. _____
2. My partner explained his/her side of a disagreement to me. _____
3. My partner insulted or swore at me. _____
4. My partner threw something at me that could hurt. _____
5. My partner twisted my arm or pulled my hair. _____
6. I had a sprain, bruise, or small cut because of a fight with my partner. _____
7. My partner showed respect for my feelings about an issue. _____
8. My partner made me have sex without a condom. _____
9. My partner pushed or shoved me. _____
10. My partner used force (like hitting, holding down, or using a weapon) to make me have oral or anal sex. _____
11. My partner used a knife or gun on me. _____
12. I passed out from being hit on the head by my partner in a fight. _____
13. My partner called me fat or ugly. _____
14. My partner punched or hit me. _____
15. My partner destroyed something belonging to me. _____
16. I went to a doctor because of a fight with my partner. _____
17. My partner choked me. _____
18. My partner shouted or yelled at me. _____

In the past 3 months...

	0	1	2	3	4	5	
	Never	Once	Twice	3 – 5 times	6 - 10 times	More than 10 times	
19. My partner slammed me against a wall.							_____
20. My partner said he/she was sure we could work things out.							_____
21. I needed to see a doctor because of a fight with my partner, but I didn't.							_____
22. My partner beat me up.							_____
23. My partner grabbed me.							_____
24. My partner used force (like hitting, holding down, or using a weapon) to make me have sex.							_____
25. My partner stomped out of the room or house during the disagreement.							_____
26. My partner insisted on sex when I didn't want to (but didn't use physical force).							_____
27. My partner slapped me.							_____
28. I had a broken bone from a fight with my partner.							_____
29. My partner used threats to make me have oral or anal sex.							_____
30. My partner suggested a compromise to a disagreement.							_____
31. My partner burned or scalded me on purpose.							_____
32. My partner insisted I have oral or anal sex (but didn't use physical force).							_____
33. My partner accused me of being a lousy lover.							_____
34. My partner did something to spite me.							_____
35. My partner threatened to hit or throw something at me.							_____
36. I felt physical pain that still hurt the next day because of a fight with my partner.							_____
37. My partner kicked me.							_____
38. My partner used threats to make me have sex.							_____
39. My partner agreed to try a solution to a disagreement I suggested.							_____

Appendix I - PPA

We are interested in knowing about your interactions with your **current intimate partner**. Some of these questions may be hard to answer, but please try to be as accurate as possible, using the rating scale below. For each statement, please indicate how often your partner has behaved this way toward you **in the past 3 months** by writing a number in the space to the right of each statement using the following rating scale:

0	1	2	3	4	5
Never	Once	Twice	3 – 5 times	6 - 10 times	More than 10 times

How often does your partner:

1. ____ Become angry or upset if you want to be with someone else and not with him?
2. ____ Ignore your need for assistance when you're sick, tired, or over-worked?
3. ____ Tell you that you are a horrible lover, worthless, or no good?
4. ____ After you've done something, tell you it's not right and ask you to do it over again until he decides it's done right?
5. ____ Make you feel guilty or ashamed for something he asked you to do?
6. ____ Intercept your e-mail, telephone calls, or drill you about who called you, who wrote you a message, or what you were talking about?
7. ____ Make the TV, a magazine, the newspaper, or other people seem more important than you are?
8. ____ Ridicule the traits you admire or value most in yourself?
9. ____ Inspect your work and make overly critical comments?
10. ____ Make you account for every minute you spend away from him?
11. ____ Become jealous about your friends, family or pets?
12. ____ Complain or ridicule you if you are upset or ask for emotional support?
13. ____ Check up on you throughout the day? (calls you every 15 minutes, has others tell her/him your whereabouts, etc.)
14. ____ Request that everything be done in a precise way or it will be unacceptable?
15. ____ Threaten to hurt a prized possession, pets, friends, or relatives if you don't comply with his wishes?
16. ____ Suggest you're crazy or stupid?
17. ____ Yell at you, either accusing you of having affairs or accusing you of other things?
18. ____ Make you feel as if you're "walking on egg shells" when you're around him?

In the past 3 months, how often does your partner?

0	1	2	3	4	5
Never	Once	Twice	3 - 5 times	6 - 10 times	More than 10 times

19. ___ Ignore your suggestion to have sex, or doesn't do what excites or satisfies you?
20. ___ Call you names with sexual connotations such as "slut" or "whore" or "cunt"?
21. ___ Ignore you when you begin a conversation?
22. ___ Make fun of your triumphs, discourage your plans, or minimize your successes?
23. ___ Ask for detailed reports of your hourly activities?

How often:

24. ___ Do you worry that what you do will make your partner angry?
25. ___ Do you do things your partner wants you to do because you feel afraid?
26. ___ Do you fear that your partner will hit you if you don't comply with his wishes?
27. ___ Do you try to second-guess how your partner will act?

Appendix J - Beck Inventory

On this questionnaire are groups of statements. Please read the entire group of statements of each category. Then pick out ONE statement in that group which best describes the way you feel. Check off the number beside the statement you have chosen.

1. 0 = I do not feel sad
 1 = I feel sad or blue
 2a = I am blue or sad all of the time and I can't snap out of it
 2b = I am so sad or unhappy that it is very painful
 3 = I am so sad or unhappy that I can't stand it

2. 0 = I am not particularly pessimistic or discouraged about the future
 1 = I feel discouraged about the future
 2a = I feel I have nothing to look forward to
 2b = I feel I won't every get over my troubles
 3 = I feel that the future is hopeless and things cannot improve

3. 0 = I do not feel like a failure
 1 = I feel I have failed more than the average person
 2a = I feel I have accomplished very little that is worthwhile or that means anything
 2b = As I look back on my life, all I can see is a lot of failures
 3 = I feel I am a complete failure as a person

4. 0 = I am not particularly dissatisfied
 1a = I feel bored most of the time
 1b = I don't enjoy things the way I used to
 2 = I don't get satisfaction out of anything anymore
 3 = I am dissatisfied with everything

5. 0 = I don't feel particularly guilty
 1 = I feel bad or unworthy a good part of the time
 2a = I feel quite guilty
 2b = I feel bad or unworthy practically of the time now
 3 = I feel as though I am very bad or worthless

6. 0 = I don't feel I am being punished
 1 = I have a feeling that something bad may happen to me
 2 = I feel I am being punished or will be punished
 3a = I feel I deserve to be punished
 3b = I want to be punished

7. 0 = I don't feel disappointed in myself
 1a = I am disappointed in myself
 1b = I don't like myself
 2 = I am disgusted with myself
 3 = I hate myself

8. 0 = I do not feel I am any worse than anybody else
 1 = I am very critical of myself for my weaknesses or mistakes
 2a = I blame myself for everything that goes wrong
 2b = I feel I have many bad faults

9. ___ 0 = I don't have thoughts of harming myself
 ___ 1 = I have thoughts of harming myself but I would not carry them out
 ___ 2a = I feel I would be better off dead
 ___ 2b = I have definite plans about committing suicide
 ___ 2c = I feel my family would be better off if I were dead
 ___ 3 = I would kill myself if I could
10. ___ 0 = I don't cry anymore than usual
 ___ 1 = I cry more now than I used to
 ___ 2 = I cry all the time now. I can't stop it
 ___ 3 = I used to be able to cry but now I can't cry at all even though I want to
11. ___ 0 = I am no more irritated now than I ever am
 ___ 1 = I get annoyed or irritated more easily than I used to
 ___ 2 = I get irritated all the time
 ___ 3 = I don't get irritated at all the things that used to irritate me.
12. ___ 0 = I have not lost interest in other people
 ___ 1 = I am less interested in other people than I used to be
 ___ 2 = I have lost most of my interest in other people and I have little feeling for them
 ___ 3 = I have lost all my interest in other people and don't care about them at all
13. ___ 0 = I make decisions about as well as ever
 ___ 1 = I am less sure of myself now and try to put off making decisions
 ___ 2 = I can't make decisions anymore without help
 ___ 3 = I can't make decisions at all anymore
14. ___ 0 = I don't feel I look any worse than I used to
 ___ 1 = I am worried that I am looking old or unattractive
 ___ 2 = I feel that there permanent changes in my appearance and they make me look unattractive
 ___ 3 = I feel that I am ugly or repulsive looking
15. ___ 0 = I can work about as well as before
 ___ 1a = It takes extra effort to get started at doing something
 ___ 1b = I don't work as well as I used to
 ___ 2 = I have to push myself very hard to do anything
 ___ 3 = I can't do any work at all
16. ___ 0 = I can sleep as well as usual
 ___ 1 = I wake up more tired in the morning than I used to
 ___ 2 = I wake up 1-2 hours earlier than usual and find it hard to get back to sleep
 ___ 3 = I wake up early every day and can't get more than 5 hours sleep
17. ___ 0 = I don't get anymore tired than usual
 ___ 1 = I get tired more easily than I used to
 ___ 2 = I get tired from doing anything
 ___ 3 = I get too tired to do anything
18. ___ 0 = My appetite is no worse than usual
 ___ 1 = My appetite is not as good as it used to be
 ___ 2 = My appetite is much worse now
 ___ 3 = I have no appetite at all any more

19. ___ 0 = I haven't lost much weight, if any, lately
___ 1 = I have lost more than 5 pounds
___ 2 = I have lost more than 10 pounds
___ 3 = I have lost more than 15 pounds
20. ___ 0 = I am no more concerned about my health than usual
___ 1 = I am concerned about aches and pains or upset stomach or constipation or other unpleasant feelings in my body
___ 2 = I am so concerned with how I feel or what I feel that it's hard to think of much else
___ 3 = I am completely absorbed in what I feel
21. ___ 0 = I have not noticed any recent change in my interest in sex
___ 1 = I am less interested in sex than I used to be
___ 2 = I am much less interested in sex now
___ 3 = I have lost interest in sex completely

Appendix K - Debriefing

“Due to the sensitive nature of this study, we will be doing the debriefing orally ...

In this study, we have been interested in how women appraise and deal with different daily or ongoing stressful encounters with their intimate partner. We were particularly interested in events that could be interpreted as emotionally or psychologically abusive. Studies have shown that intimate partner abuse may begin early in a relationship, and among university women, one-third report having experienced physical abuse from their dating partners in the past six months, and almost 80% report a psychologically abusive incident. Several factors may increase the risk of becoming involved and remaining in an abusive relationship. Some of these include a history of previous abuse or neglect within the family home, having friends who have experienced dating abuse and/or who see such behaviour as acceptable, and higher levels of drinking among peers. It is possible that these factors influence how a person interprets an abusive experience when they encounter it, and how they choose to cope with it. For example, some people in abusive relationships interpret such events as normal or acceptable because things ‘could be worse’. Others interpret abusive behaviours as ‘joking around’, or even as a sign of love and affection. When interpreted like this, it is unlikely that someone who is being abused will end the relationship, and as a result they may become vulnerable not only to further abuse, but their own well-being may suffer.

In this study we had you report on events as they occurred, so that we would not have to rely on intact memory for details and interpretations of events after the fact or after things have been resolved. Some of the events you described may have entailed abuse, and others not. We were interested in how you dealt with various kinds of events on a day-to-to-day basis, and in how they made you feel. In today session, we also had you complete a series of questionnaires about yourself and the people that surround you in your life.

We also had you provide 2-3 days worth of saliva samples. The saliva samples will allow us to compare daily patterns of normal stress hormones (like cortisol), to see if there is a common pattern of change in persons who undergo more stress in their relationship or who self-report more negative health symptoms. The idea is to see if events happening in your life coincide with differences in biological functioning, and to explore whether this a pathway through which some people become more vulnerable to stress-related physical or psychological health problems.

While many who have participated in this study are not in abusive relationships, some of you are. If you believe that you are in an abusive relationship, it is important to be able to recognize it, to prevent further escalation of abuse, and it is important to understand that you are not to blame. If you have concerns related to your relationships, or to your own well-being, we are providing some numbers and information about services that you can contact for more information and/or help. [** tear out and give CONTACT sheet from FINAL Q PACK **]

Thank you very much for your participation in this study. You were a very important collaborator and without your outstanding commitment to the study, this research certainly would not have been possible.”