

Anticipatory Anniversary Effects and Bereavement:

Development of an Integrated Explanatory Model

Amy Y. M. Chow

Department of Social Work & Social Administration,

University of Hong Kong

Hong Kong

Running Head: Anticipatory Anniversary Effects and Bereavement

Acknowledgment:

The data described in this paper was from a larger study that was substantially supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project No. HKU 7110/01H). The authors would also like to express their sincere gratitude to the staff of the Jessie and Thomas Tam Centre (JTTC), the Society for the Promotion of Hospice Care and Nam Long Hospital of Hospital Authority in Hong Kong for their support and assistance given to the study.

Address: Department of Social Work and Social Administration, the University of Hong Kong, Pokfulam Road, Hong Kong SAR, China.

Tel: (852) 2242 5530 Fax: (852) 28587604

Email: chowamy@hku.hk

Abstract

Anniversary effects have been previously noted in bereavement but there is little empirical support for this observation. This article reports on the development of an anniversary effects model with intrapersonal, interpersonal and environmental determinants based on literature review on anniversary reactions. A secondary analysis of a cross-sectional study of Chinese bereaved persons in Hong Kong was undertaken and anticipatory bereavement anniversary effects were observed among the Chinese rather than the bereavement anniversary effects reported in the literature. Based on a further literature review, the first model was amended to form an integrative model of anticipatory anniversary effects. The revised model integrated concepts of appraisal and coping, as well as postulating their relationship to anniversary reactions.

Anticipatory Anniversary Effects and Bereavement:

Development of an Integrative Explanatory Model

Anniversary reactions refer to the psychological, somatic and behavioral responses that occur at a specific time, usually the anniversary of a significant trauma or loss. The responses can be conscious or unconscious, and are perceived to be attempts at mastery of the trauma. The anniversary effect refers to the recurrence of the reactions (Gabriel, 1992). Earl and Wolf (1963) reported the multiple periodic anniversary reactions of a patient. She had annual recurrent hay fever, diarrhea and rashes for 38, 20, and 11 years respectively. The symptoms came and went away in specific months linked with three specific loss experiences. In a recent nationwide study of widowed individuals, Carnelley, Wortman, Bolger & Burke (2006) found that anniversary reactions were common for up to 7-8 years post-loss, and could last for decades. Their data found that it could take 53 years for the anniversary reactions to disappear entirely.

Anniversary effects in relation to emotionally distressing events other than bereavement have been reported in the literature including abortion (Franco, Campbell, Tamburrino, Jurs, Pentz, & Toledo, 1989); accidents (Beratis, Gourzis, & Gabriel, 1994); termination of significant relationships (Earls & Wolf, 1963), childhood incest (Green, 1982), natural disasters (Assanangkoenchai, Tangboonngam,

Sam-angsri, & Edwards, 2007), suicide or homicide (Pollock, 1975), terrorist attacks (Argyrides & Downey, 2004; Jordan, 2003), and war (Morgan, Hill, Fox, Kingham, & Southwick, 1999; Morgan, Kingham, Nicolaou & Southwick, 1998). Anniversary reactions were also reported in the course of normal grief (Raphael, 1983; Shuchter & Zisook, 1993; Zisook, Devaul, & Click, 1982), although some considered unresolved grief as a necessary condition for anniversary reactions (Musaph, 1990; Smith, 1997). Bereavement support units sometimes send anniversary cards to bereaved families based on the belief that the anniversary of a death is a difficult time (Field, Payne, Relf & Reid, 2007). No contraindications were found in relation to sending these cards and, sometimes, it helped in raising donations. However the actual impact on the recipients has not been systematically examined (Hutchison, 1995).

Anniversary Reactions

Anniversary effects are usually related to traumatic events; thus some of the anniversary effects are reactivated traumatic reactions such as recurring intrusive images or thoughts, persistent avoidance, numbness or conversely hyper-arousal. Other reactions like sleeping problems, irritability, or physical hyperactivity have also been found. Depending on the nature of the trauma, a sense of insecurity, hopelessness and frustration could also be re-experienced (Jordan, 2003). Other frequently reported reactions include memories, dreams, and feelings. Anniversaries

are emotion-laden periods so it is not surprising that a wide range of emotional reactions is reported. Heightened grief, sadness, regret, fear, anxiety, stress, frustration, anger and avoidance are commonly experienced emotions (Meyers, 1994).

Gabriel (1992) reported higher morbidity levels associated with anniversary reactions, including ulcers, colitis, colds and depression. An increased proneness to accidents was also identified. More alarming is the re-enactment of traumatic events, especially at the anniversary of a suicide or homicide (Gabriel, 1992, p.179-180). Attitudinal changes are also possible reactions. Argyrides & Downey (2004) found from their study on the aftermath of the terrorist events of September 11, that the aggression scores of non-victims on the first anniversary were increased when compared with scores taken earlier.

Specifically, one of the anniversary reactions of bereavement is experiencing somatic symptoms similar to those experienced by the deceased. This seems to be a way of reviving the dead, or punishing the self for having survived (Renvoize & Jain, 1986). Anniversaries of traumas can affect more than just those closest to the deceased, particularly in their capacity to remind people of their own vulnerability, or similar losses of their own (Jordan, 2003).

Explaining Anniversary Reactions

The anniversary effect has been explained from a psychoanalytic view. This view

considers them as an unconscious replication of earlier behavior. They have also been perceived as a form of resistance that hinders attempts to remember and gain insight and thus prevent change (Cohen, 2007). Mintz (1971) adopted the psychoanalytic view, but proposed that anniversary reactions were the outcomes of the psyche's attempt to revisit suppressed trauma to increase mastery through re-experience. He further suggested two types of anniversary reaction, depending on whether the reaction evolved from conscious stimulus or not. The emotional view of conscious stimulus is then related to the behavioral view.

From the behavioral perspective, anniversary reactions are responses to environmental triggers. Even changes in weather and seasons can act as a trigger. Other triggers include sight, sounds, and smells – anything that brings back the trauma. These sensitivities have biological roots and are thought to protect people from repeated trauma by increasing their sensitivity to signals from potential threats (Myers, 1994). Yet, this oversensitivity can induce stress and be energy consuming. To understand triggers among bereaved people, Rando (1993) suggested a new concept, subsequent temporary upsurges of grief. (STUG). In addition, she proposed a detailed classification of precipitants of STUG, namely cyclic, linear and stimulus-cued precipitants. The social and cultural prescription of anniversary celebrations can induce stimulus-cued precipitants. Among various cultures in Asia, it

is the practice for family members to gather and share a meal on the death day of deceased family members. People in Israel adopt Jewish practice and recite Kaddish prayer on the annual anniversary days (Possick, Buchbinder, Etzion, Yehoshu-Halevi, Fishbein, & Nissim-Frankel, 2007). Similarly in western countries, bereaved people put memoriam notices in newspapers on the anniversary of a loved one's death. The stimuli can also arise unconsciously. Hertz (2002) in her qualitative study with women who had experienced the loss of a loved one found a common theme of body memory during the anniversary of loss. She suggested a cyclical pattern for the grieving process. 'Knowing the time was not just measured in calendar days or months. Knowing the time was as the body perceived the time, like knowing when to get up in the morning without an alarm clock. The body just knew. It was not a conscious, rational process' (Hertz, 2002, p.169). Memory-based triggers tend to surface more frequently around anniversaries.

The anniversary reactions of bereaved people are sometimes looked on as incomplete mourning, or inadequate intrapsychic processing when faced with the loss of a loved one. The anniversary then becomes another chance to work through the grief (Gabriel, 1992; Pollock, 1975). Rosenblatt (1983) suggested that the grief process is triggered by external events and persons, in much the same way as other thought processes. Bereaved people have many commitments in their lives and

have to detach themselves from the grieving process periodically but reminders and triggers bring the grief back. Following this line of thought, scholars have also suggested that an anniversary reaction is a natural response in the grieving process (Rando, 1993; Raphael, 1983, Shuchter & Zisook, 1993).

Sometimes anniversary reactions are viewed as constructive. Taking the September 11 terrorist attack as an example, some of those affected perceived the first anniversary as a time for closure, landmark point in recovery (Myers, 1994) as well as a positive time at the community level (Jordan, 2003).

In a nutshell, anniversary reactions are common and instigated by different determinants. These can be at the intrapersonal level - unconscious triggers that appear within oneself, including dreams, or flashbacks. Another type of determinant occurs at the interpersonal level, when another person brings up a reminder. The third type of determinant is at the environmental level, in the form of images, sounds, weather, or smells. These can be memory-based, reminder-inspired, music-elicited or stimulus-cued precipitants. The three types of determinants interact with one another and further influence the intensity of the reactions. These determinants are expected to occur more frequently at anniversaries and are thus called anniversary reactions.

Empirical Studies of Anniversary Reactions

The concept of anniversary reaction is widely accepted with frequent clinical

reports supporting the phenomenon, yet rigorous empirical studies of anniversary reactions are rare. Three relevant studies have been identified but they are all about the prevalence of anniversary reactions rather than the mechanism of the development of the phenomenon. Bornstein & Clayton (1972) followed-up 92 widows and widowers and found that four of them demonstrated anniversary reactions on the first anniversary of the death of their spouse. Although the phenomenon of anniversary reactions was identified, the occurrence was not as frequent as expected. The second one was a study of veterans. Morgan and colleagues (1998, 1999) explored the anniversary reactions of Gulf War veterans two and six years after the event. In the two-year follow-up, 59 subjects were recruited, and 18 were identified as having anniversary reactions, double that expected by chance. Among the 18 respondents, 12 of them actually witnessed the death of another human being. In the six-year follow-up, 12 respondents were found to have anniversary reactions, including eight of them who were had had anniversary effects at the two-year follow-up. This number was still twice the occurrence expected by chance. With this larger sample size, as well as the more traumatic nature of the event, the reported phenomenon was more frequent when compared with the study of conjugal bereavement. This study lacks precision because of the difficulty of establishing an exact anniversary date.

Recently, Assanangkornchai et al. (2007) investigated the anniversary reactions

of over 590 flood victims residing in four regions in Thailand. The respondents reported a decrease of symptoms and increase in general health over the twelve-month period. Within the four regions, the respondents who dwelt in the region that had the highest risk of flooding reported having gradual reduction in symptoms over time, but a significant increase on the anniversary of the flood. From these findings, Assanangkornchai et al. (2007) concluded that some flood victims did have anniversary reactions. Although the authors acknowledged the limitations of the study, the major challenge to their conclusion is the problem in differentiating the anniversary reactions from the actual threat of being flooded again. The respondents were facing the real risk of flood because of their unchanged living environment and climate.

There is much room for development in research concerning anniversary responses and a first step is to devise an integrated model that would facilitate the analysis and examination of anniversary responses in a systematic way. The model shown in Figure 1 is a preliminary attempt to do this. It is intended that the model will provide directions for studying the phenomenon of anniversary reactions. Firstly, it highlights the diversity of anniversary reactions. For systematic analysis, the need for a consensus in defining outcomes as well as the comprehensiveness of chosen outcomes is made clear. Secondly, the diversified determinants of anniversary

responses are taken into account. More importantly, these determinants are theory based. Thirdly, instead of describing a linear relationship, the interactions among determinants are stressed.

Observations of Bereaved Persons in Hong Kong

A secondary data analysis was carried out on a cross-sectional study of 292 bereaved persons in Hong Kong (Chow, 2006; Chow, Chan & Ho, 2007). The participants were bereaved persons who had lost either a spouse or a parent within two years. They were 140 respondents recruited from a community-based bereavement counseling center and 152 respondents from a cancer hospital, with a response rate of 46.4% and 16.7% respectively. Data was collected via mailed questionnaires. The outcome dependent variables included the emotional reactions of anxiety and depression measured by the Hospital Anxiety and Depression Scale (HADS; Leung, Wing, Kwong, Lo & Shum; Zigmond & Snaith, 1983). One of the independent variables was time measured by the number of months since the bereavement.

As shown in Figures 2 and 3, both anxiety and depression scores rose at 10 and 22 months after the bereavement. The mean scores for anxiety at the tenth and twenty-second month were 10.88 ($SD=4.42$) and 11.56 ($SD =4.64$) respectively, which is more than the overall mean of 8.34 ($SD = 4.57$). Statistically significant

differences were found between the mean of the twenty-second month and those of the other months ($t(239) = -2.167, p = .031$). Means for the tenth and twenty-second months were higher than those at the twelfth and twenty-fourth months 6.87 ($SD = 5.13$) and 8.65 ($SD = 4.50$). The mean scores for depression at the tenth and the twenty-second months were 10.60 ($SD = 5.34$) and 9.22 ($SD = 5.43$) respectively, more than the overall mean of 7.98 ($SD = 4.65$). These differences were not statistically significant, but the difference between means at the tenth month and the first anniversary was significant ($t(31) = 2.33, p = .026$).

Anticipatory Anniversary Reactions

In the three empirical studies reviewed earlier, anniversary reactions were defined as happening within the same month as the trauma or bereavement. If we had used this definition for the data on Hong Kong Chinese bereaved people, the conclusion would have been that there were no anniversary reactions among the participants, as the emotional spikes did not occur in the twelfth and twenty-fourth months post-death. Instead they happened two months prior to the first and second anniversaries. This pattern led us to identify the phenomenon of anticipatory anniversary reactions, rather than anniversary reactions.

Developing a model of anticipatory anniversary reactions

The anticipation of stressful events is frequently found to be accompanied by

heightened anxiety. This has been known to happen with public speaking (Behnke & Sawyer, 1999), medical procedures (Jacobsen, Bovbjerg, & Redd, 1993), school examinations (Martin, 1997) or even a simple social event in the case of people with social phobia (Vassilopoulos, 2005). Anxiety is viewed as a future oriented cognitive-affective-somatic state, which is characterized by a sense of lack of control over future negative events. Thus, its manifestations include negative or pessimistic thoughts, feelings of helplessness, as well as somatic responses that can be accounted for by changes in neurological and brain functioning (Chua, Krams, Toni, Passingham, & Dolan, 1999). Anticipation of future stressful events, as tested by Van Boven & Ashworth (2007), was found to elicit more intense emotions when compared with retrospection. It is possible that this could be the mechanism to explain our observed anticipatory anniversary reactions, although ours were compared with actual anniversary reactions rather than retrospective anniversary reactions. Van Boven & Ashworth (2007) suggested three postulations that could explain the evocativeness of anticipation. First, the uncertainty associated with future events is believed to amplify emotion. Secondly, extreme expectations (expecting the best or the worst) may heighten anxiety. In the case of bereavement, people would have strong negative emotions. Thirdly, people are more inclined to be mentally stimulated by future events than by past events; what is past is known but what lies in the future is still uncertain.

This is likely to cause people to think more about what is to come and thinking about future stressful events may amplify emotional arousal.

Thus the heightened anxiety paradigm fits anniversary reactions. Furthermore, the socially prescribed rituals that mark the anniversary of death are themselves a potential source of stress, both real and anticipatory in nature. Differences in opinion among family members about arrangements, and being forced to spend time in the company of others one may not get along with for the sake of duty are examples of actual stress. Worrying about how well the arrangements that have been made will work and fear of being criticized for not organizing the event properly are examples of anticipatory stress. Following this line of thinking it is proposed that anticipatory anniversary reactions may be defined as the integration of primary and secondary responses towards real and imaginary stressors.

The contribution of stress and coping to the model

Anticipatory reactions can be explained by the stress and coping model proposed by Lazarus & Folkman(1984). The reactions are mediated by two important components: cognitive appraisal and coping. Cognitive appraisal refers to the evaluation of the significance of the specific event to oneself and may be further divided into two types: primary and secondary appraisal. Primary appraisal is the evaluation of the event based on individual assumptions and beliefs about oneself and

the world. Secondary evaluation is based on an appraisal of the resources available to assist with coping and viable choices stemming from those resources.

Coping denotes both the cognition and behaviors adopted in managing the demands of the stressful event (Lazarus & Folkman, 1984; Folkman & Moskowitz, 2004). Aspinwall & Taylor (1997) coined the term proactive coping, suggesting that it comprises of efforts to prevent and modify potential future stressful events. They suggested a five-stage model of proactive coping: resource accumulation, recognition of potential stressors, initial appraisals of emerging stressors, initial coping efforts, and elicitation and use of feedback. This model not only explicates the mechanism of anticipatory anniversary reactions but, more importantly, it provides directions for the alleviation or modification of anniversary reactions. The second important development – dual process coping – originates from Stroebe & Schut (1999) who are experts in bereavement research. This concept emphasizes the dynamic nature of the process of coping. Oscillations between loss- or restoration-oriented coping, approach and avoidance, and positive and negative appraisals happen throughout the process of bereavement. Although this model applies to the general bereavement process, it can also be applied specifically to the understanding of coping with bereavement anniversary reactions.

The appraisal and coping model of dealing with stressful events provides a rich

framework in which to modify the model of anticipatory anniversary reactions, which is shown in Figure 4. Cognitive appraisal of anniversary effects includes both primary and secondary appraisal. At the primary level, the affected person evaluates what impact the anniversary effect is likely to have on his or her life, and at secondary level available resources to face the challenge are assessed. The appraisal process will be very stressful, as it contains so many uncertainties. These focus on the why, when, what and how questions about how intensive the reactions will be that are expected to surface during the anniversary. At primary level, these uncertainties challenge one's sense of control and competence, and push individuals to face their vulnerability. The emergence of reactions near the anniversary can be interpreted as a relapse after a few months' of emotional stability. On the other hand, if the affected person has little reaction as the anniversary approaches, this can be interpreted as insufficient love for the deceased. Secondary appraisal might not be feasible given the unclear nature of the stressful event, the anniversary effect. It is difficult to evaluate one's resources, when there are no clues as to what they are for. The uncertainty of not knowing how one is going to feel may induce extra stress, in addition to the main effect of the anniversary reactions. This also makes appropriate coping difficult to carry out for the same reason.

Myers (1994) pointed out that not every one who has gone through trauma or

bereavement experienced anniversary reactions. Yet, many do have and are having unexpected reactions while remaining ignorant about their cause or purpose. In parallel with this view, Jordan (2003) suggested that ‘...the anniversary effects need to be addressed preventively, not reactively.’ (Jordan, 2003, p.111). These views indicate the value of support before the actual anniversary and suggest that counselors should pay more attention to the anticipation rather than the effects.

In addition to anniversary reactions, increased intensity of reaction can also happen at other times such as birthdays, festive holidays, specific days, or specific seasons of the year. Cohen (2007) suggested that this affect-laden connection could be observed at other times with specific labels such as Sunday neurosis, Christmas neurosis, birthday syndrome, holiday depression and ancestor syndrome. Thus the model proposed for anticipatory anniversary effects could also apply to these periodic effects. There is a Chinese saying that ‘... attachment to the dead is doubled during festive times’ (*mei feng jia jie bei si qin*) which reflects the same notion. My clinical experiences with bereaved people also resonate with this postulation. They commonly have difficulty facing holidays without their loved ones. Thus if the deaths occur around holidays there could be a cumulative effect. This merging of effects is likely to be greater than those precipitated by an individual event alone.

Conclusion

This article has proposed an integrated model in explaining and analyzing the phenomenon of anniversary reactions. The model is based on secondary data analysis of the bereavement reactions of a cross-sectional sample of bereaved people which showed spikes in measured levels of anxiety and depression occurring two months before the anniversary date in the first and second years following the bereavement. This implies an element of anticipation in anniversary reactions that has not previously been reported in the literature. The element of anticipation has been added to the model. Due to the cross-sectional nature of the study, the occurrence of anticipatory anniversary effects needs further empirical testing to support its validity.

The phenomenon of anniversary reactions is a complex one that has so far attracted limited empirical investigation. More exploration is necessary before common practices, like sending anniversary cards to bereaved persons, and offering anniversary memorial services for trauma victims, can be supported. The proposed integrative model hopes to identify possible pathways for examining the phenomenon systematically. This model was developed conceptually rather than empirically and is still in an early phase of the model-building process. Thus, it remains open for amendment. As the model is a complex one, testing it in a single empirical study is not feasible. Investigation with specific foci will yield more insights. Of particular importance is determining a better definition of expected outcomes, identifying the

determinants or triggers that have more research value, and finally discovering the mechanism that links the triggers to the outcomes. Exploring the existence of anticipatory anniversary reactions is important as it informs practitioners about the timing of intervention. Additionally, further exploration of how the stress and coping model may be applied to this phenomenon will be of significance. It is hoped that the model will encourage the systematic testing and examination of the phenomenon.

Author's Manuscript

References

- American Psychiatric Association (APA) (1994). *Diagnostic and statistical manual of mental disorders (DSM IV)* (4th ed.). Washington, DC: American Psychiatric Association.
- Argyrides, M., & Downey, J. L. (2004). September 11: Immediate and long term effects on measures of aggression, prejudice, and person perception. *North American Journal of Psychology*, 6(1), 175-188.
- Aspinwall, L. S. & Taylor, S. E. (1997). A stitch in time: self-regulation and proactive coping. *Psychological Bulletin*, 121(3), 417-436.
- Assanangkoenchai, S., Tangboonngam, S., Sam-angsri, N. & Edwards, J. G. (2007). A Thai community's anniversary reaction to a major catastrophe. *Stress and Health*, 23, 43-50.
- Bhenke, R. R., & Sawyer, C. R. (1999). Milestones of anticipatory public speaking anxiety. *Communication Education*, 48, 165-172.
- Beratis, S., Gourzis, P., & Gabriel, J. (1994). Anniversary reaction as seasonal mood disorder. *Psychopathology*, 27(1-2), 12-18.
- Bornstein, P. E. & Clayton, P. J. (1972). The anniversary reaction. *Diseases of the Nervous System*, 33, 470-472.
- Carnelley, K. B., Wortman, C. B., Bolger, N. & Nurke, C. T. (2006). The time course

of grief reactions to spousal loss: evidence from a national probability sample.

Journal of Personality and Social Psychology, 91(3), 476-492.

Chow, A. Y. M. (2006). *The bereavement experience of Chinese persons in Hong Kong*. Unpublished doctoral dissertation, University of Hong Kong

Chow, A. Y. M., Chan, C. L. W., & Ho, S. M. Y. (2007). The social sharing experiences of bereavement by Chinese bereaved persons in Hong Kong. *Death Studies*, 31(7), 601 – 618.

Chua, P., Krams, M., Toni, I., Passingham, R., & Dolan, R. (1999). A functional anatomy of anticipatory anxiety. *NeuroImage*, 9, 563-571.

Cohen, P. F. (2007). Anniversary reactions in the therapy group. *International journal of Group Psychotherapy*, 57(2), 153- 166.

Earls, L. J. H. & Wolf, S. (1963). A report of multiple periodic anniversary reactions in one individual. *Annals of Internal Medicine*, 58(3), 530 -533.

Field, D., Payne, S., Relf, M., & Reid, D. (2007). Some issues in the provision of adult bereavement support by UK hospices. *Social Science and Medicine*, 64, 428-438.

Folkman, S. & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745-774.

Franco, K., Campbell, N., Tamburrino, M., Jurs, S., Pentz, J., & Evans, C. (1989).

Anniversary reactions and due date responses following abortion.

Psychotherapy and Psychosomatics, 52(103), 151-154.

Gabriel, M. A. (1992). Anniversary reactions: Trauma revisited. *Clinical Social Work Journal*, 20(2), 179-192.

Green, C. M. (1982). Filicidal impulses as an anniversary reaction to childhood incest. *American Journal of Psychotherapy*, 36(2), 264-271.

Hertz, P. (2002). The body remembers: grieving and a circle of time. *Qualitative Health Research*, 12(2), 161-172.

Hutchison, S. M. (1995). Evaluation of bereavement anniversary cards. *Journal of Palliative Care*. 11(3), 32-34.

Jacobsen, P. B., Bovbjerg, D. H., & Redd, W. H. (1993). Anticipatory anxiety in women receiving chemotherapy for breast cancer. *Health Psychology*, 12(6), 469-475.

Jordan, K. (2003). What we learnt from the 9/11 first anniversary. *The Family Journal: Counseling and Therapy for Couples and Families*, 11(2), 110-116.

Lazarus, R. S. & Folkman, S. (1984). *Stress, appraisal, and coping*. New York:

Springer.

Leung, C. M., Wing, Y. K., Kwong, P. K., Lo, A., & Shum, K. (1999). Validation of the Chinese-Cantonese version of the Hospital Anxiety and Depression Scale

- and comparison with the Hamilton Rating Scale of Depression. *Acta Psychiatrica Scandinavica*, 100(6), 456-461.
- Martin, M. (1997). Emotional and cognitive effects of examination proximity in female and male students. *Oxford Review of Education*, 23, 479-486.
- Mintz, I. (1971). The anniversary reaction: A response to the unconscious sense of time. *Journal of Psycho-Analysis*, 46, 303-314.
- Morgan, C. A., Hill, S., Fox, P., Kingham, P., & Southwick, S. M. (1999). Anniversary reactions in Gulf war veterans: a follow-up inquiry 6 years after the war. *American Journal of Psychiatry*, 156(7), 1075- 1079.
- Morgan, C. A., Kingham, P., Nicolaou, A. & Southwick, S. M. (1998). Anniversary reactions in Gulf War veterans: a naturalistic inquiry 2 years after the Gulf War. *Journal of Traumatic Stress*, 11(1), 165-170.
- Musaph, H. (1990). Anniversary reaction as a symptom of grief in traumatized persons. *Israel Journal of Psychiatry and Related Sciences*, 27(3), 175-179.
- Myers, D. (1994). *Disaster response and recovery: A handbook for mental health professionals*. Rockville, MD: Centre for Mental Health Services.
- Pollock, G. (1975). On anniversary suicide and mourning. In E. J. Anthony and T. Benedek (Eds.). *Depression and human existence*, 369-393.
- Possick, C., Buchbinder, E., Etzion, L., Yehoshu-Halevi, A., Fishbein, S., &

- Nissim-Frankel, M. (2007). Reconstructing the loss: Hantzacha commemoration following the death of a spouse in a terror attack. *Journal of Loss and Trauma*, 12(2), 111-126.
- Raphael, B. (1983). *The anatomy of bereavement*. New York: Basic Books.
- Rando, T. A. (1993). *Treatment of complicated mourning*. Champaign, IL: Research Press.
- Renvoize, E. B. & Jain, J. (1986). Anniversary reactions. *British Journal of Psychiatry*, 148, 322-324.
- Rosenblatt, P. (1983). *Bitter, bitter tears: Nineteenth-century diarists and twentieth century grief theories*. Minneapolis: University of Minnesota Press.
- Shuchter, S. R., & Zisook, S. (1993). The course of normal grief. In M. S. Stroebe, W. Stroebe, & R. O. Hansson (Eds.), *Handbook of bereavement* (pp.23-43). Cambridge: Cambridge University Press.
- Smith, D. L. (1997). Anniversary phenomena as a function of traumatic events, post-traumatic stress reactions, unresolved grief, and psychological stress. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 57(10-B), 6595.
- Stroebe, M. S., & Schut, H. (1999). The dual process model of coping with bereavement: Rationale and description. *Death Studies*, 23(3), 197-224.

Van Boven, L. & Ashworth, L. (2005). Looking forward, looking back: Anticipation is

more evocative than retrospection. *Journal of Experimental Psychology:*

General, 136(2), 289-300.

Vassilopoulos, S. P. (2005). Anticipatory processing plays a role in maintaining social

anxiety. *Anxiety, Stress, and Coping*. 18(4), 321-332.

Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale.

Acta Psychiatrica Scandinavica, 67(6), 361-370.

Zisook, S., Devaul, R. A., & Click, M. A. (1982). Measuring symptoms of grief and

bereavement. *American Journal of Psychiatry*, 139(12), 1590-1593.

Author's Manuscript

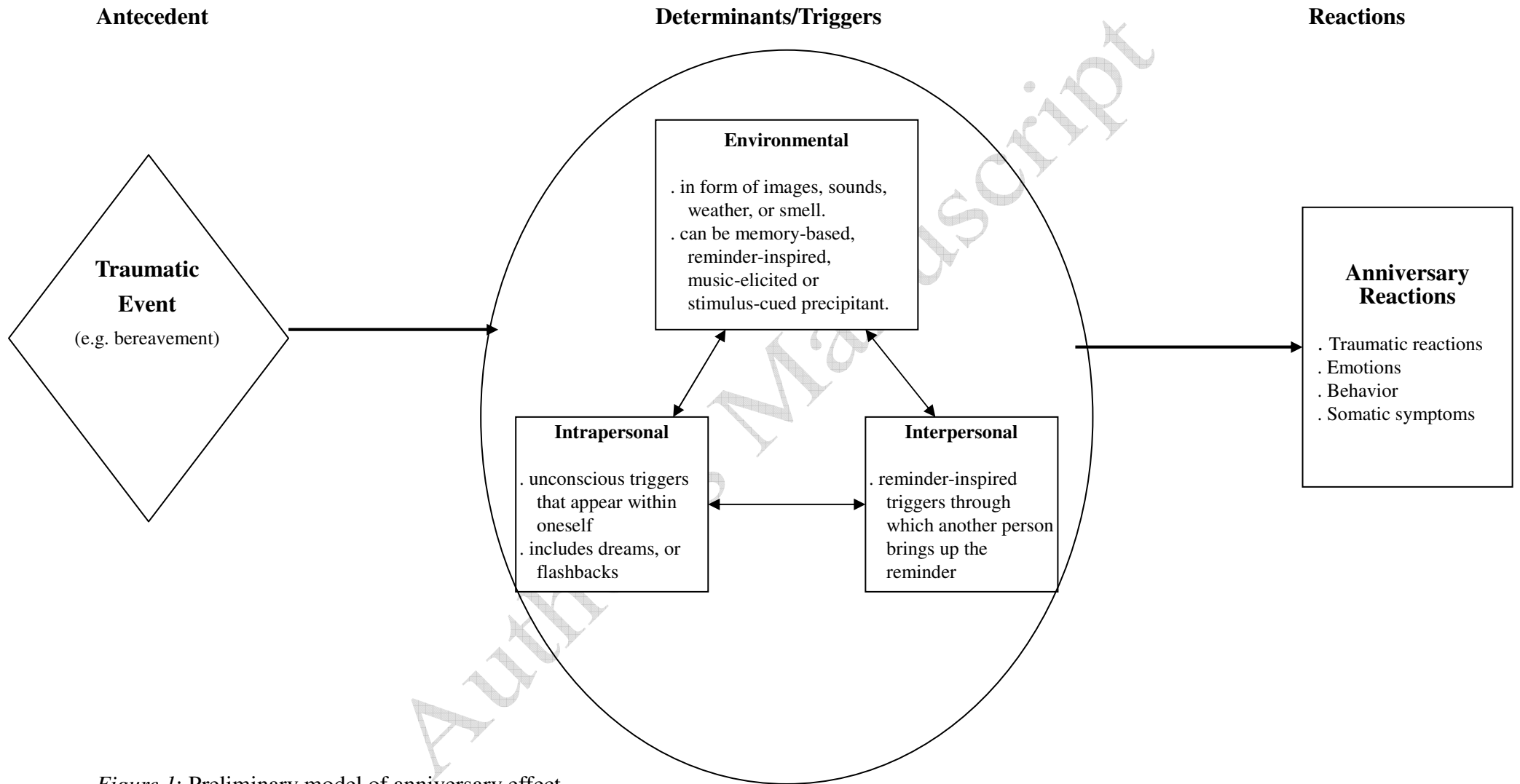
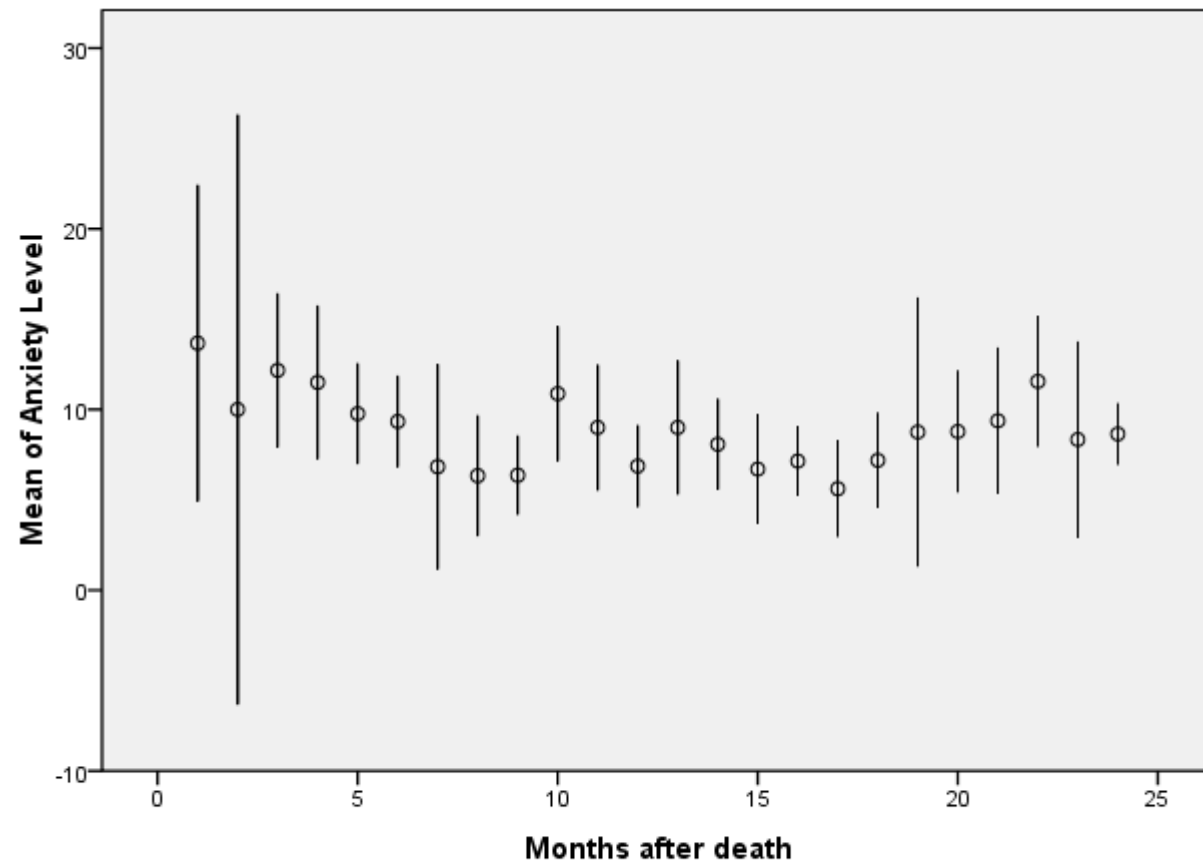


Figure 1: Preliminary model of anniversary effect



Error Bars: 95% CI

Figure 2: Means of Anxiety Score for groups of different length of bereavement. Vertical lines depict standard error bars of 95% confidence level.

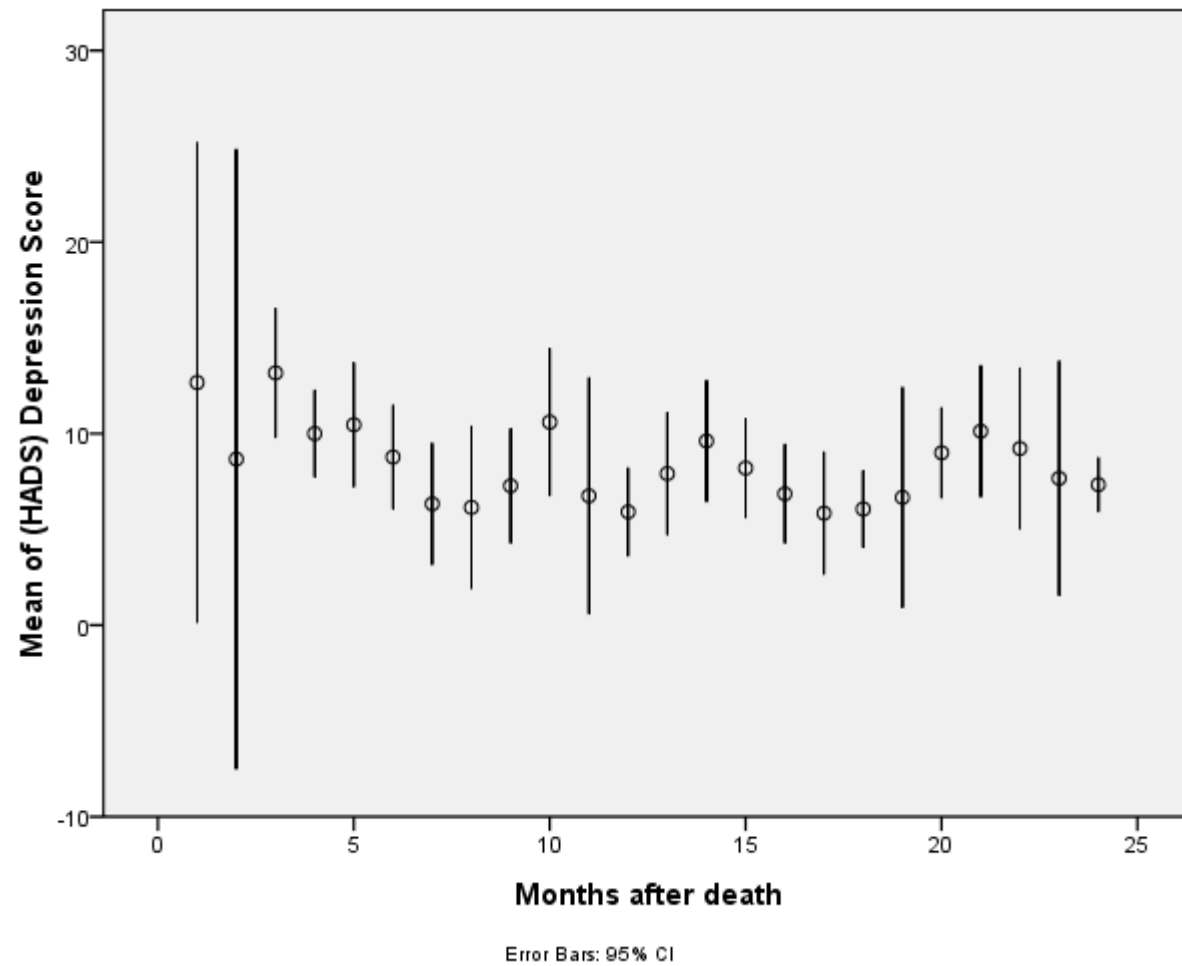


Figure 3: Means of Depression Score for groups of different length of bereavement. Vertical lines depict standard error bars of 95% confidence level.

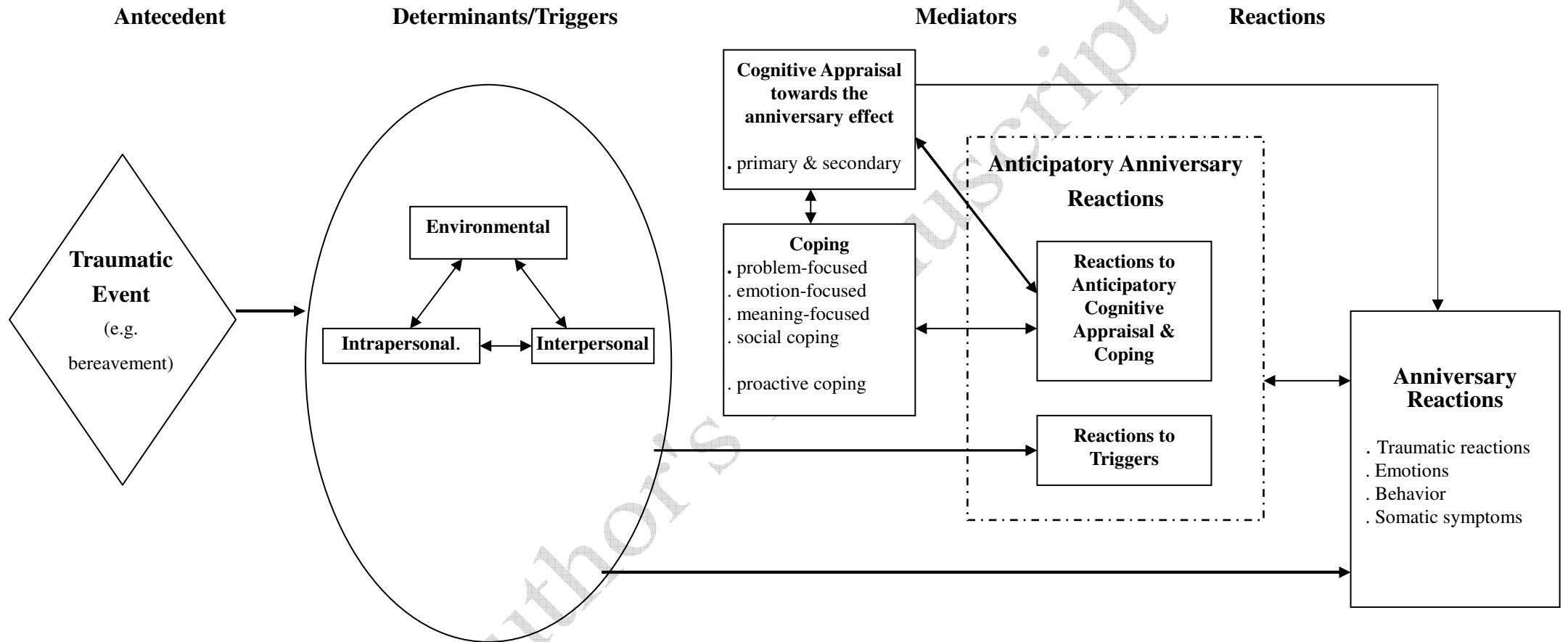


Figure 4: Integrated model of anticipatory anniversary effect