Thesis

Posttraumatic Growth and Recovery in People with First Episode Psychosis.

An Investigation into the Role of Self-Disclosure, Rumination and Posttraumatic Symptoms.

Magdalena Pietruch

1st July 2010

Thesis submitted in part fulfilment of the degree of

Doctorate in Clinical Psychology

University of East Anglia

Abstract

Objectives

The study aimed to, first, investigate whether posttraumatic symptoms, self-disclosure and rumination following a psychotic episode are associated with posttraumatic growth (PTG), as hypothesised by Tedeschi and Calhoun's model (2004). Second, the study sought to investigate whether posttraumatic symptoms, self-disclosure and rumination are associated with recovery from psychosis. Third, the study explored the relationship between PTG and recovery.

Design

The study used a cross-sectional correlational design to investigate the relationships between the studied variables.

Methods

Thirty-four clients receiving support from six early intervention teams in East Anglia participated in the study. Participants completed self-report measures at one point in time.

Results

The results highlighted that people who have experienced psychosis may report PTG. The findings did not provide evidence that posttraumatic symptoms are related to the development of PTG. Consistent with the predictions made by the PTG model, the results showed that self-disclosure is associated with PTG. In contrast to the PTG theory, there was no evidence supporting the positive association between intrusive rumination and PTG.

As expected, the results demonstrated that posttraumatic symptoms are negatively associated with recovery. Consistent with the hypotheses, the results showed that self-disclosure is positively correlated with recovery. Finally, the study provided evidence that intrusive rumination is negatively associated with recovery.

Conclusion

The results provided partial support for the predictions made by the PTG model. The findings suggest that clinicians need to be mindful that clients may recognize some positive aspects of their experience, despite the distress caused by psychosis. Services should enable people with early psychosis to disclose and process their potentially traumatic experiences, as this may support both the process of recovery and the development of PTG. Future research should be carried out with larger samples and aim to further explore variables that may play a role in the development of PTG.

Contents

Word Count: 24.585

List of Tables

List of Figures

Acknowledgements

First of all I would like to thank all those who participated in the study. I would also like to thank the staff of the early intervention teams involved in the study for their advice and support, and for distributing the questionnaires among the participants. Finally, I would like to thank my supervisor, Laura Jobson, for her encouragement and helpful suggestions.

1. Introduction

1.1 Overview

Traditionally, trauma literature has focused on the negative consequences of traumatic experiences. There is, however, a growing body of evidence suggesting that people exposed to traumatic life events can experience positive changes as a result of their struggle with trauma. These changes have been referred to as Posttraumatic Growth (PTG, Tedeschi & Calhoun, 1995). PTG involves changes in self-perception, changes in interpersonal relationships, recognition of new goals in life, a greater appreciation of life and changes in one's philosophy of life. Some of the factors that are believed to play an important role in the development of PTG are self-disclosure, rumination and posttraumatic symptoms. Research shows that psychotic episodes are frequently experienced as traumatic events. Although considerable research has focused on recovery from psychosis, PTG following psychosis has not yet been systematically studied. The aim of this study, therefore, is to investigate the role of self-disclosure, rumination and posttraumatic symptoms in PTG and recovery in people who have experienced psychosis.

Chapter 1 provides an introduction to the study. First, psychological consequences of trauma such as Posttraumatic Stress Disorder (PTSD) and PTG are presented. Second, a review of the research literature on possible predictors of PTG is presented with an emphasis on the empirical evidence on the role of PTSD symptoms, self-disclosure and rumination in the development of PTG. Third, the concept of psychosis as trauma is given consideration. This is followed by a review of the research literature on recovery from psychosis and PTG in the context of psychosis. The introduction concludes with the study's aims, research questions and

hypotheses.

1.2 Definition of Trauma

The American Psychiatric Association (APA, 1994) defines a traumatic event as an event in which the person's own life or somebody else's life is perceived to be in danger. Additionally, the response of the person who is exposed to a traumatic incident must be one of intense fear, helplessness or horror. At some point in life most people will experience an event that could be categorised as traumatic. Norris (1992) found that approximately 70% of the general population have experienced a traumatic event. Many different kinds of traumatic events have been studied in recent years. Examples of trauma include being exposed to gunfire, being exposed to a natural disaster such as an earthquake, being exposed to a man-made disaster such as a terrorist attack, being exposed to a physical or a sexual attack, being involved in a serious accident and witnessing extreme human suffering or death (Brewin, 2003).

1.3 "Negative" Psychological Reactions to Trauma - Posttraumatic Stress Disorder

1.3.1 Definition of PTSD

Out of those people who had been exposed to a traumatic event up to 24% will develop reactions that can be classified as PTSD (Breslau, Davis, Andreski, & Peterson, 1991). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, APA, 1994) PTSD is characterised by three clusters of symptoms: 1) recurrent and intrusive re-experiencing of the event; 2) persistent avoidance of the stimuli associated with the trauma; and 3) symptoms of increased arousal. In order to be diagnosed with PTSD a person must experience these symptoms as a result of a traumatic event which meets the presented earlier

definition of trauma (APA, 1994). Additionally, a diagnosis of PTSD requires that a person has experienced all three clusters of symptoms for at least one month and these symptoms must result in significant clinical distress or significant impairment in the person's functioning (DSM-IV, APA, 1994).

PTSD is often accompanied by symptoms of depression (Owens, Steger, Whitesell, & Herrera, 2009) and can result in drug and alcohol abuse (Back, 2010), anxiety disorders (Brady, Killeen, Brewerton & Lucerini, 2000) and physical health problems (Spitzer, et al., 2009). In the general population the lifetime prevalence of PTSD is about 9% (Breslau et al., 1991).

1.3.2 Models of PTSD

There are several models explaining the development and maintenance of PTSD (see Brewin & Holmes, 2003 for a review). These models will now be outlined but will not be discussed in detail, as the focus of the current study is PTG.

1.3.2.1 Emotional processing model.

According to this model (Foa & Rauch, 2006), PTSD develops when the individual continues to experience intense and unrealistic fear after the threat has been removed. The pathological fear structures of trauma survivors include interconnected representations of feared stimuli, fear responses and their meanings. The main two types of cognitions held by people who experienced trauma are: 1) that the world is completely dangerous, and 2) that one's self is completely incompetent. When individuals avoid trauma-related thoughts and activities these cognitions cannot be disconfirmed. This process maintains the PTSD symptoms.

1.3.2.2 Dual representation theory.

Brewin, Dagleish, and Joseph (1996) based their model of PTSD on the idea

that there are two memory systems: VAMs (verbally accessible memories) and SAMs (situationally accessible memories). The VAMs system contains a series of autobiographical memories about trauma which are conscious and can be deliberately accessed. In contrast, memories stored in the SAMs system cannot be deliberately accessed and are composed of sensory information. These memories are retrieved when the person is faced with situational reminders of the trauma. The activation of the SAM system results in the individual experiencing flashbacks accompanied by strong emotions which had been coded into the trauma memory. The dual representation theory suggests that PTSD develops when trauma memories contained in the SAMs system have not been fully integrated into the VAMs system (Brewin et al., 1996).

1.3.2.3 Cognitive model.

Ehlers and Clark (2000) suggest that PTSD develops when individuals process the trauma in a way that leads to a sense of serious, current threat. The two mechanisms which are involved in the development of such a threat are: 1) excessively negative appraisals of trauma or its sequelae and 2) a disturbance in trauma memory. The sense of current threat is maintained by maladaptive cognitive and behavioural strategies, such as thought suppression or avoidance (Ehlers & Clark, 2000).

1.3.2.4 Theory of shattered assumptions.

Janoff-Bulman (1992) based her theory on the idea that all individuals develop and hold sets of beliefs about themselves, about others and about the world. The three key assumptions that provide structure and meaning in people's lives are the assumption of personal invulnerability, the perception of the world as

meaningful and benevolent, and the view of the self as worthy. According to Janoff-Bulman (1992) traumatic experiences "shatter" the assumptions about the world being comprehensible, meaningful or manageable. PTSD develops as a consequence of the individual being confused, helpless and struggling to make sense of the trauma.

1.4 "Positive" Psychological Reactions to Trauma - Posttraumatic Growth (PTG)

Research has suggested that people might experience positive psychological changes following traumatic life events. These positive changes have been referred to as *posttraumatic growth* (Tedeschi & Calhoun, 1995), *stress-related growth* (Park, Cohen, & Murch, 1996) or *adversarial growth* (Linley & Joseph, 2004). This study will refer to these positive changes as posttraumatic growth, following the conceptualization developed by Tedeschi and Calhoun (2004). These authors have developed the most comprehensive theoretical base of the concept (Zoellner & Maercker, 2006) as well as a standardised measure which reflects the theoretical elements of the concept (Posttraumatic Growth Inventory; PTGI, Tedeschi & Calhoun, 1996).

1.4.1 Definition of PTG and its five domains

Tedeschi and Calhoun (1995) defined PTG as an experience of positive psychological change, beyond the previous levels of functioning, reported by an individual as a result of their struggle with trauma. Based on reviews of the literature and interviews with people who have experienced trauma, Tedeschi and Calhoun (1995) proposed that the experience of dealing with negative events produces five types of outcomes: 1) changes in self-perception; 2) improved interpersonal relationships; 3) recognition of new goals in life; 4) a greater appreciation of life and

5) changes in one's philosophy of life. These five domains of PTG will now be presented in more detail.

1.4.1.1 Changes in self-perception.

According to Tedeschi and Calhoun (1995) the experience of trauma provides information about an individual's ability to rely on oneself. Changes in perception of self include both the recognition of one's vulnerability and the recognition of one's resilience. People reporting such changes describe feeling more experienced about life and having an increased sense of personal strength and maturity (Smith & Kelly, 2001). They also feel more confident and capable of dealing with future difficulties (Updegraff, Taylor, Kemeny, & Wyatt, 2002).

1.4.1.2 Changes in interpersonal relationships.

An experience of trauma may result in improved relationships with others as the individual realizes how important these relationships are. In a study by Calhoun and Tedeschi (1989), 83% of the sample reported that through their trauma they realized that they had family and friends on whom they could depend and 60% found themselves expressing emotions in a more open way. When people are confronted with traumatic events, the need to discuss the consequences of these events and the need to cope can lead them to become more involved with others. People who have experienced trauma are also more likely to invest more in their relationships and offer emotional support to others. This positive development of social relationships comes from increased compassion, a greater sensitivity to the needs and feelings of other people and efforts directed at improving relationships (Collins, Taylor, & Skokan, 1990).

1.4.1.3 Recognition of new goals in life.

According to Tedeschi and Calhoun (1995) some of those who have been through trauma report an improved sense of priority about what is important in life. They describe a development of new interests, discovering new opportunities and an inclination to make changes in one's life.

1.4.1.4 Greater appreciation of life.

Tedeschi and Calhoun (1995) suggest that a greater appreciation of life is a consequence of the individuals losing their sense of invulnerability. Some people recognise, for the first time, that their time and relationships are precious. They acquire a renewed appreciation of everyday moments life as well as relationships that were formerly taken for granted.

1.4.1.5 Changes in philosophy of life.

The process of searching for meaning in the traumatic event might lead to individuals engaging more with fundamental existential questions. Tedeschi and Calhoun (1995) suggest that, as a result, trauma survivors might gain a better understanding of spiritual matters and experience a strengthening of spiritual or religious faith.

1.4.2 The Process of PTG

PTG is set in motion by the same sets of events that produce psychological distress and potentially cause psychological difficulties (Calhoun & Tedeschi, 1998). Figure 1 (taken from Tedeschi & Calhoun, 2004) illustrates how the process of PTG occurs. The model of PTG is based on the assumption that all individuals develop and hold a set of beliefs about themselves, about others and about the world. These beliefs guide their actions, help them to understand their experiences and to

make sense of what happens in the world. As stated earlier, according to Janoff-Bulman (1992) traumatic events represent significant challenges to individuals' ways of understanding the world and their place in it: things are no longer comprehensible, meaningful or manageable. In line with Janoff-Bulman's theory, the model of PTG (Tedeschi & Calhoun, 2004) proposes that growth is triggered by a traumatic experience (a *seismic event*, Figure 1) that challenges and contradicts the person's fundamental assumptions about the world and self. However, PTG does not occur as a direct result of trauma. Tedeschi and Calhoun (2004) highlight that it is the trauma's impact on the individual's assumptive world that leads to the development of PTG. The authors use a metaphor of an earthquake to describe this process:

> Cognitive processing and restructuring may be comparable to the physical rebuilding that occurs after an earthquake. The physical structures can be redesigned to be more resistant to shocks in the future, as the community learns from the earthquake what has withstood the shaking and what has not (p. 5).

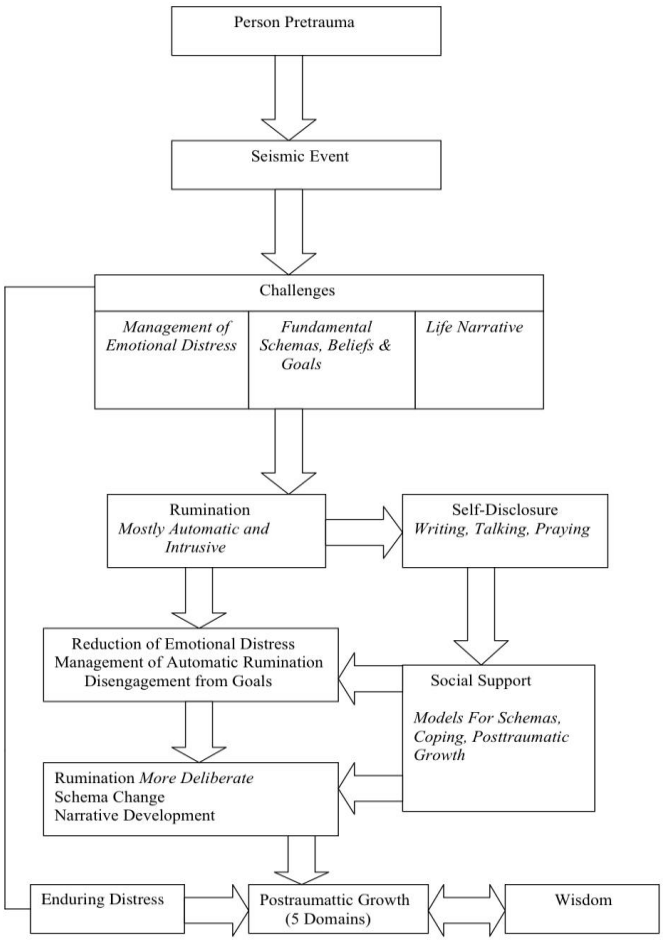


Figure 1. The model of posttraumatic growth. From "Posttraumatic growth: conceptual foundations and empirical evidence", by R. Tedeschi and L. Calhoun, 2004, *Psychological Inquiry, 15,* p 7.

As shown in Figure 1, according to the PTG model, the acute emotional distress sets in motion a process of *automatic and intrusive rumination*. This initial intrusive rumination stimulates attempts to cope with the traumatic experience. The model of PTG hypothesises that the way a person reacts to trauma and manages the distress is, to some degree, determined by their personality and coping styles (*person pretrauma*, Figure 1).

In the process of coping with trauma individuals might engage in *self-disclosure* (Figure 1) about their emotions and about their perspectives on the trauma. This can take a form of *talking* about the traumatic experience with others, *writing* about the trauma or addressing the trauma in *prayers*. Self-disclosure is assumed to play a key role in the development of PTG because it stimulates the cognitive processing of the traumatic experience which is essential for the rebuilding of the shattered assumptions. The PTG model proposes that other people's reactions to self-disclosure also play a part, as negative responses may inhibit cognitive processing of the experience. Additionally, depending on the person's social environment, self-disclosure may result in *social support* (Figure 1) and recognition of positive relationships.

Later on in the process of coping with trauma, after the first coping success (e.g. reduction of emotional distress, disengagement from unreachable goals) individuals engage in more *deliberate rumination* (Figure 1). This cognitive activity involves reflection and making meaning of the event and may also lead to cognitive restructuring of one's assumptions about the self, the world and others. If this restructuring involves an element of positive change in the assumptions, it constitutes what Tedeschi and Calhoun describe as PTG. Finally, the model proposes that PTG is fuelled by the *enduring distress* (Figure 1), which has been operationalized as the presence of PTSD symptoms (e.g. Tang, 2007).

1.4.3 Review of Research Literature on Predictors of PTG

Research suggests that PTG occurs in a wide range of people facing a variety of traumatic experiences. Among others, events that have been shown to act as triggers of PTG involve earthquakes (Tang, 2007), car accidents (Zoellner, 2008),

sexual assaults (Frazier, Conlon, & Glaser, 2001), bereavement (Ho, Wing Chu, & Yiu, 2008), breast cancer (Bellizzi & Blank, 2006), bone marrow transplantation (Widows Jacobsen, Booth-Jones, & Fields, 2005), HIV infection (Milam, 2004), being a Prisoner of War (Erbes et al., 2005) and terrorist attacks (Butler et al., 2005).

Tedeschi and Calhoun (2004) propose that the emergence of PTG is influenced by a range of variables including ongoing presence of trauma-related distress (PTSD symptoms), belief systems, coping styles, personality factors, rumination, self-disclosure and social support. A search using a key word *posttraumatic growth* was performed in February 2010 using PsychINFO and Medline (Ovid and Pubmed) databases to identify studies that explored factors that play a part in the development of PTG and potential predictors of PTG. In addition, reference lists from retrieved articles were inspected to generate a list of all possible published studies. An additional search was performed on the journal which came up most frequently in the search (*Traumatology*). Author searches were also performed on researchers who have developed the concept of PTG, that is R. Tedeschi and L. Calhoun.

The search excluded articles which:

1. were not published in peer review journals (such as dissertations);
2. did not provide empirical evidence (that is theoretical and literature reviews);
3. did not use a standardised measure to assess PTG, that is Posttraumatic Growth Inventory (Tedeschi, & Calhoun, 1996a);
4. did not investigate factors specified by the PTG model (Tedeschi & Calhoun, 2004); and
5. focused on changes in posttraumatic growth in the process of therapy.

The search identified 24 studies that met the criteria. Table 1 presents the methodological characteristics and main findings of the studies included in this review.

Table 1.

Studies Exploring Variables Related to PTG

Reference	Participants	Examined Variable	Design	Results
Bayer et al. (2007)	Israeli students (*N*=151)	Belief systems Personality	Cross-sectional	Positive basic assumptions and low ambiguity tolerance positively associated with PTG
Bellizzi & Blank (2006)	Breast cancer survivors (*N* =224)	Personality Coping Perception of trauma	Cross-sectional	Optimism not associated with PTG Adaptive coping positively associated with PTG Perception of trauma positively associated with PTG
Butler et al. (2005)	Internet convenience sample (*N* =1505)	PTSD symptoms Coping Belief systems	Cross-sectional	Curvilinear relationship between PTG and PTSD (intermediate level of PTSD symptoms associated with highest PTG) More denial and less behavioural disengagement positively associated with PTG Positive worldviews positively associated with PTG
Calhoun et al. (2000)	University students who experienced trauma (*N* =54)	Rumination	Cross-sectional	Rumination (including intrusive and deliberate) soon after the event positively associated with PTG
Cann, et al. (2010)	University students who experienced trauma (*N* =400)	Rumination PTSD symptoms	Cross-sectional	Rumination (both intrusive and deliberate) soon after the event positively associated with PTG PTSD symptoms not associated with PTG
Carboon et al. (2005)	Adults undergoing cancer treatment (*N* =62)	Belief systems Cognitive avoidance	Longitudinal (2-wave with 5 months in between)	Assumptions of justice and luck positively associated with PTG Cognitive avoidance positively associated with PTG
Cordova et al. (2007)	Breast cancer survivors (*N* =65)	Perception of trauma PTSD symptoms	Cross-sectional	Perception of cancer as trauma positively associated with PTG PTSD symptoms not associated with PTG

Cordova et al. (2001)	Breast cancer survivors (*N* =70) and control (*N* =70)	Perception of trauma Self-disclosure Social support PTSD symptoms	Comparison between two groups	Perception of cancer as trauma positively associated with PTG Talking about cancer positively associated with PTG Neither social support, nor PTSD symptoms associated with PTG
Erbes et al. (2005)	American former prisoners of war (*N* =95)	Personality Social support PTSD symptoms	Longitudinal (3-wave with 10 years in between)	Positive Affectivity, Constraint, Social Support and PTSD symptoms positively associated with PTG
Ho et al. (2008)	Bereaved students (*N* =105)	Personality	Cross-sectional	Tendency to explain positive events as internal, stable and global positively associated with PTG. Explanatory style for negative events not associated with PTG
Kleim & Ehlers (2009)	Assault survivors Study 1 (*N* =180) Study 2 (*N* =70)	PTSD symptoms Ruminative thinking style	Cross-sectional	Curvilinear relationship between PTG and PTSD (low or high PTG associated with fewer symptoms of PTSD; intermediate PTG associated with more symptoms of PTSD) Ruminative thinking style positively associated with PTG
Lurie-Beck et al. (2008)	Holocaust Survivors (*N* =23)	PTSD symptoms	Cross-sectional	PTSD symptoms positively associated with PTG
Maguen et al. (2006)	Gulf War I veterans (*N* =83)	Social support Perception of trauma	Cross-sectional	Both social support and perception of combat experience as trauma positively associated with PTG
Milam (2004)	Patients with HIV/AIDS (*N* =434)	Personality	Longitudinal (2-wave with 18 months in between)	Optimism positively associated with PTG
Norlander et al. (2005)	Swedish factory employees (*N* =46) and policeman (*N* =44)	Personality	Cross-sectional	High affective personality type positively associated with PTG
Sheikh (2004)	Patients with heart disease (*N* =110)	Personality Coping Social Support	Cross-sectional	Extroversion and problem focused coping positively associated with PTG Satisfaction with social support not associated with PTG

Solomon & Dekel (2007)	Israeli former prisoners of war (*N* =103)	PTSD symptoms Coping	Longitudinal (2-wave with 12 years in between)	Curvilinear relationship between PTG and PTSD (intermediate level of PTSD symptoms associated with highest PTG) Detachment as a coping strategy positively associated with PTG
Taku et al. (2008a)	Bereaved Japanese students (*N* =71)	Rumination PTSD symptoms	Cross-sectional	Intrusive rumination soon after the event weakly positively associated with PTG. Recent deliberate rumination positively associated with PTG PTSD symptoms positively associated with PTG
Taku et al. (2008b)	Japanese (*N* =431) and American students (*N* =224)	Rumination	Cross-sectional	Intrusive rumination soon after the event positively associated with PTG Recent deliberate rumination positively associated with PTG
Taku et al. (2009)	Japanese students (*N* = 395)	Self-disclosure PTSD symptoms	Cross-sectional	Self-disclosure positively associated with PTG PTSD symptoms not associated with PTG
Tang (2007)	Asian Tsunami earthquake survivors (*N* =138)	PTSD symptoms Social Support Coping	Cross-sectional	PTSD symptoms positively associated with PTG Family emotional support and adaptive coping positively associated with PTG
Widows et al. (2005)	Cancer patients undergoing bone marrow transplantation (*N* =72)	Coping PTSD symptoms	Longitudinal (2-wave with 2 years in between)	Positive reinterpretation, problem solving and seeking alternative rewards positively associated with PTG PTSD symptoms not associated with PTG
Wild & Paivio (2003)	University students (*N* =193)	Coping Trauma-related distress	Cross-sectional	Active coping and trauma-related distress positively associated with PTG
Zoellner (2008)	Motor vehicle accidents survivors (*N* =102)	Personality PTSD symptoms	Cross-sectional	Neither optimism or openness to experience associated with PTG PTSD symptoms positively associated with PTG

1.4.3.1 Relationship between PTSD and PTG.

This review identified strong evidence that individuals who perceive their experience as traumatic (based on the DSM-IV definition) report significantly more PTG than those who feel they had not experienced trauma (Cordova, Giese-Davis,

Golant, Kronenwetter, & Spiegel, 2007; Maguen, Vogt, King, King, & Litz, 2006). Evidence supporting the relationship between the perception of the stressful event as traumatic and PTG confirms the hypothesis that initial trauma-related distress triggers the development of growth, as conceptualised in the PTG model.

A number of studies have investigated the relationship between PTSD and PTG. Out of 13 studies that examined the relationship between PTSD symptoms and PTG, five reported that there is no relationship between the two variables and eight found that some kind of relationship exists. The evidence so far is inconclusive. Some researchers suggest that there is a positive linear relationship between the severity of trauma-related distress and PTG (e.g., Tang, 2007), while others are of the opinion that this relationship is curvilinear (Butler et al., 2005; Solomon & Dekel, 2007; Kleim & Ehlers, 2009). The studies carried out by both Butler et al. (2005) and Solomon and Dekel (2007) indicated that intermediate levels of distress have the strongest relationship with PTG. This suggests that while little distress may lead to minimal PTG, high PTSD levels may in fact result in poor adaptation and, again, minimal PTG. Solomon and Dekel (2007) conclude that those with moderate PTSD symptoms are most likely to experience high levels of PTG. However, Kleim and Ehlers (2009) showed evidence for a different type of a curvilinear relationship between PTG and PTSD. In their two studies survivors with low or high PTG reported fewer symptoms of PTSD than those with intermediate PTG levels.

Based on the research to date, it appears that while in some people PTSD symptoms are associated with PTG following trauma, in others this association is not present. It is of particular interest that some studies have shown a positive relationship between the PTSD symptoms and PTG, while others suggest that a

curvilinear relationship exists between the two.

It is still unclear what factors mediate the relationship between PTG and PTSD and more research in this area is needed. One important finding is that PTG and PTSD can coexist. Many researchers have now concluded that PTG and PTSD are distinct constructs, representing separate continuous dimensions (Zoellner & Maercker, 2006).

1.4.3.2 Belief systems.

Three studies examined the relationship between people's belief systems and PTG. Two papers (Bayer, Lev-Wiesel, & Armir, 2007; Butler et al., 2005) reported that positive assumptions about the world and self predict PTG. Additionally, Carboon et al. (2005) found that in people with a diagnosis of cancer assumptions of justice and luck predicted growth. However, in all three studies the assumptions were measured after the occurrence of trauma and, as such, the results did not indicate if negative events had altered people's basic beliefs. For that reason the three studies do not add to the evidence base of the PTG model.

1.4.3.3 Coping style.

Six of the reviewed studies evaluated the impact of coping style on PTG. Two studies used a brief version of COPE Inventory (Carver, 1997). Bellizi and Blank (2006), who evaluated coping strategies among women with breast cancer, found that active coping predicted the development of PTG. Butler et al. (2005), who investigated coping in an American convenience sample after the terrorist attacks of September 11, reported that more denial and less behavioural disengagement were related to PTG. The results of those two studies are difficult to compare, as the participants in the first one were personally affected by cancer,

while the authors of the second on-line study did not report if the participants were directly affected by the attacks.

Sheikh (2004) who used the Ways of Coping Questionnaire (Folkman & Lazarus, 1985) reported that PTG was correlated with both problem-focused and emotion-focused coping. Tang (2007) found that adaptive coping (problem-solving and reappraisal) was related to PTG, but as the study did not use a standardised measure of coping, the results are not trustworthy. Wild and Paivio (2003) concluded that among the student population PTG was positively associated with active coping (measured by COPE Inventory; Carver, Scheier, & Wintraub, 1989). Widows et al. (2005), who used the Coping Responses Inventory (Moos, 1993), found that PTG was related to problem-solving, positive reappraisal and avoidant coping style. Finally, Solomon and Dekel (2007), who studied PTG in former Prisoners of War, found that detachment was the coping style most associated with PTG, but again, the authors did not use a validated measure of coping.

Coping factors that have been identified by the review as related to PTG include active coping, emotion-focused coping, problem-solving, positive reappraisal and avoidant coping style. As the PTG model does not specify the coping mechanisms that support the development of growth, it is difficult to assess this aspect of the theory proposed by Tedeschi and Calhoun, although it is evident that strategies people use to deal with trauma constitute an important element of PTG.

1.4.3.4 Personality factors.

Eight of the studies included in this review assessed the relationship between personality characteristics and PTG. Two studies (Bellizzi & Blank, 2006; Zoellner,

Rabe, Karl, & Maercker, 2008) found that optimism is not associated with growth, while one detected the presence of such an association (Milam, 2004). Interestingly, for the participants in studies which did not detect a relationship between optimism and PTG, the trauma was an event of the past, while for those who participated in the study that confirmed such relationship, the trauma was an ongoing experience (participants were diagnosed with HIV/AIDS). This difference in the sample characteristics could explain the conflicting conclusions.

Ho et al. (2008), who explored the relationship between explanatory style and PTG after bereavement, reported that the tendency to explain positive events as internal, stable and global predicts PTG. Their analysis, however, did not identify a relationship between the explanatory style and negative events. This study's validity was limited by the fact that the sample included participants with very different post-bereavement periods, ranging from seven months to four years.

Bayer et al. (2007) investigated the relationship between PTG and low ambiguity tolerance (a personality variable that does not allow one to simultaneously hold two contradictory ideas). The results of their study revealed that people who have low ambiguity tolerance tend to report more PTG in order to reduce the dissonance between their positive basic assumptions about the world and the occurrence of the traumatic event that disconfirms these assumptions. It should be noted that the sample for this study was composed of Israeli students and, as Israelis have been exposed to prolonged trauma on a national basis, the correlations found in this study might not generalize to other populations.

One study (Zoellner et al., 2008) found that openness to experience does not predict PTG and the review did not identify a study that would confirm such a

relationship. Erbes et al. (2005) found that both positive affectivity (that is a tendency to frequently feel happy) and constrain (that is a tendency to endorse social norms) were associated with PTG. Norlander, Von Schedvin, and Archer (2005) reported that individuals who are highly affective (both positively and negatively) are more likely to experience growth following trauma. Finally, only one paper (Sheikh, 2004) gave evidence that extroversion is associated with PTG.

It appears that certain kinds of personality characteristics, such as positive affectivity, a tendency to endorse social norms and extroversion, appear to make PTG more likely. The relationship between optimism and growth is unclear, however, evidence suggests that this relationship is mediated by the type of trauma the individual is exposed to. There is no evidence that openness to experience predicts PTG, while low ambiguity tolerance is related to growth.

1.4.3.5 Rumination.

Rumination is a form of cognitive processing which according to Tedeschi and Calhoun (2004) leads to PTG. These authors propose that in order to understand the processes of PTG it is important to distinguish two major types of rumination that might occur in the aftermath of trauma: intrusive and deliberate. Cann et al. (2009) defined intrusive rumination as unwanted invasions of one's cognitive world ("having thoughts about experience without trying to think about it") and deliberate rumination as voluntary and intentional attempts to understand the traumatic event and its consequences ("deliberately and intentionally spending time thinking about the experience").

Data from the reviewed studies provided some support for the relationship between rumination and PTG, as hypothesised by the PTG model. Three published

studies investigated the impact of rumination on PTG. The first study, conducted by Calhoun, Cann, Tedeschi, and McMillan (2000) reported that rumination, including intrusive and deliberate, is positively associated with PTG. More recently, Taku, Cann, Tedeschi, and Calhoun (2008a) examined associations between intrusive and deliberate types of rumination and PTG. Their findings revealed that both types of rumination were associated with growth, although the relationship with deliberate rumination was stronger. They concluded that the more the individual engages in deliberate rumination, making sense of the event and recognizing positive aspects of the experience, the more likely it is that PTG will be experienced. The authors suggest that intrusive rumination following a traumatic event could be regarded as an indication that the event had a significant impact on the individual, which may lead to further cognitive activity and PTG. At the same time, they also reported that intrusive rumination soon after the event was positively associated with subsequent distress.

Their second study (Taku, Cann, Tedeschi, & Calhoun, 2008b) showed a weak non-significant relationship between intrusive rumination and PTG as well as a positive relationship between deliberate rumination and PTG. All three studies cited above, investigated the impact of rumination using a measure developed by Calhoun et al. (2000). The scale did not clearly assess the intrusive and deliberate dimensions of rumination (A. Cann, personal communication, 5 February 2009) and included deliberate rumination items that were not neutral in tone, i.e. they suggested negative or positive implications of different thoughts. This measure was recently revised and, as a result, the Event Related Rumination Inventory (ERRI; Cann, et al., 2010) was developed (which will be applied in the present study). The

ERRI was used in a study recently submitted for publication by Cann and his colleagues (2010). The findings demonstrated a positive association between both intrusive and deliberate rumination and PTG. In agreement with the previous studies, the association with the deliberate rumination was stronger.

It should be noted that with the exception of the first study (Calhoun, et al., 2000), the remaining three were carried out on university students who reported having experienced various types of trauma, including bereavement and medical conditions. Of the four studies, only two assessed the level of distress and PTSD symptoms, with only one reporting the degree of PTSD symptoms in the sample, which, on average, did not meet the PTSD threshold level. This may suggest that the participants were relatively highly functioning. It is unknown if the severity of posttraumatic symptoms influenced the relationship between the rumination and PTG.

Kleim and Ehlers (2009*)* provided evidence that a ruminative thinking style, that is the frequency with which individuals think about their symptoms when sad or depressed (Nolen-Hoeksema, 1991), is positively correlated with PTG. On the other hand, Carboon et al. (2005) presented reliable evidence that cognitive avoidance, which could be viewed as a cognitive strategy opposite to deliberate rumination, is positively related to growth after trauma.

1.4.3.6 Self-disclosure.

Self-disclosure is assumed to play a key role in PTG (Tedeschi & Calhoun, 2004). A recent study by Taku, Tedeschi, Cann, and Calhoun (2009) explored the differences in PTG levels between people who have disclosed their traumatic experience and those who chose not to share their experience with others. The

participants' desire to disclose their experience and other people's reactions to the disclosure were also assessed. The participants were asked three questions 1) "Did you want to talk about what actually happened to you?", 2)"Did you actually talk about it?", and 3) "Please describe how the person with whom you talked about the event that you identified as the most traumatic or stressful event in your life reacted when you disclosed it." The results showed that those who engaged in self-disclosure showed higher levels of PTG. The study also provided evidence that the participants who perceived others' reactions to disclosure as positive reported higher PTG than those who perceived such reactions as negative. The effect of the combination of the actual self-disclosure and the desire to disclose was also examined. An interaction indicated that engaging in the non-preferred behaviour (e.g. self-disclosing despite a lack of desire to disclose) produced higher avoidance symptoms, suggesting that the inconsistency in desire to disclose and actual self-disclosure may have negative consequences.

Another of the reviewed studies explored the impact of talking about the traumatic experience with others on PTG (Cordova, Cunningham, Carlson, & Andrykowski 2001). In this study the self-disclosure was measured by only one item ("How much have you talked about your breast cancer with others before today?") rated on a 7-point Likert scale. The score on this item was significantly correlated with the PTG score.

1.4.3.7 Social support.

The review showed that there is some evidence that PTG is related to social support. Three studies (Maguen et al., 2006; Erbes et al., 2005; Tang, 2007) provided data confirming that social support predicts growth. Only one study

(Cordova et al., 2001) concluded that PTG and social support are not associated. Another study (Sheikh, 2004) that investigated the impact of satisfaction with social support on PTG reported that the satisfaction and PTG are not related. The authors have not indicated what level of social support the participants had access to, therefore it is difficult to relate their findings to the results acquired by other studies in this area.

In line with the prediction made by the PTG model, it appears that social support plays an important role in the development of PTG following trauma. Yet, the evidence suggests that while social support is related to growth, the level of satisfaction with the support is not.

1.4.3.8 Summary of the review.

Despite some methodological flaws in the evaluated studies, the review has identified good evidence that PTG is associated with social support and perceiving the source of stress as traumatic. Findings from the review offered mixed support for the role of coping mechanisms and personality factors in the development of PTG. The nature of the relationship between PTSD symptoms and PTG also remains unclear. It is worth noting that while the PTG model proposes that growth is aided by self-disclosure, the current review detected minimal research exploring such an association. Only two studies addressed this aspect of the PTG model and both used a single item to assess actual self-disclosure. The evidence for the role of intrusive and deliberate rumination in PTG is also very limited and thus, the impact of these two different types of rumination on PTG is still unclear. Further exploration of the cognitive activities that occur in the aftermath of trauma is essential in order to understand processes that may lead to PTG.

The review of the empirical findings indicates that the phenomenon of PTG is complex. The model developed by Tedeschi and Calhoun has acquired some empirical evidence. The concept of PTG, however, is still not completely understood and requires more attention in order to be described in a theoretically satisfying manner. Research to date suggests that PTG is predicted and mediated by a range of variables. The role of those factors, especially posttraumatic symptoms, self-disclosure and rumination needs to be more clearly established.

Therefore, one of this study's aims is to investigate the role of posttraumatic symptoms, self-disclosure and rumination in the development of PTG. The concept of PTSD has already been discussed. The other two potential predictors of PTG, that is self-disclosure and rumination, will now be presented in more detail.

1.5 Self-Disclosure and its Role in PTG

As stated above, PTG is influenced by self-disclosure. Self-disclosure is the revelation of adverse life events and is assumed to have a positive therapeutic effect on recovery (Pennebaker & Seagal, 1999). In line with this, the disclosure of stressful life events through repeated expressive writing has been found to reduce psychological symptoms in healthy individuals (Esterling, L'abate, Murray, & Pennebaker, 1999). Ersland, Weisaeth, and Sund (1989) found that 85% of people exposed to a major negative life event report the need to share their experiences with others. Purves and Ervin (2004) suggest that self-disclosure helps people create a more coherent narrative of events. A negative relationship between the complexity of rape victims' narratives and the severity of PTSD symptoms was found in a study by Amir, Stafford, Freshman, and Foa (1998), indicating that self-disclosure may reduce posttraumatic symptomatology and facilitate recovery from trauma. Self-

disclosure has been conceptualised as having two aspects: *urge to talk* and *reluctance to talk*. Müller, Moergeli, and Maercker (2008) defined the urge to talk as "the person's need to disclose the traumatic experiences" and the reluctance to talk as "the person's resistance to tell others about the trauma". Their study showed a lack of correlation between the urge to talk and the reluctance to talk, which suggests that these two aspects are separate and independent of each other. Muller et al. (2008) concluded that unprocessed traumatic experiences act as constant threats to the person's inner world and need to be actively dealt with, either by focusing on them or by trying to avoid them. It has been found that the two aspects of self-disclosure impact on posttraumatic reactions. For example, Müller et al. (2008) demonstrated that urge to talk and reluctance to talk better predicted PTSD symptoms than dysfunctional posttraumatic cognitions.

As stated above, the PTG model (Tedeschi & Calhoun, 2004) suggests that self-disclosure plays an important role in the development of PTG. Data from the studies reviewed above (Cordova, et al., 2001;Taku, et al., 2009) provided preliminary evidence in support of the relationship between sharing the experience with others and PTG. Additionally, the results of one of those two studies (Taku, et al., 2009) indicated that others' reactions to disclosure may play a key role in the development of PTG. According to Tedeschi and Calhoun (2004) self-disclosure may lead to the reconstructing of one's assumptive world after it has been disrupted by a traumatic experience. Sharing the experience with others may help build narratives about the event and offer new perspectives that can be integrated into the person's basic schemas. Additionally, a need to talk about traumatic experience may help the individual to recognize the value of existing interpersonal relationships,

possibly establish new relationships, as well as facilitate social support. A review of literature in this area of PTG showed a gap in research investigating the predicted relationship between self-disclosure and PTG, with an exception of two studies in which a single item measuring self-disclosure was included. Further research is required in order to establish the role of self-disclosure in the development of PTG.

1.6 Rumination and its Role in PTG

As stated above, rumination is thought to play an instrumental role in PTG. Rumination is traditionally defined as a repetitive and recurrent, self-focused way of thinking about past negative experiences (Nolen-Hoeksema, 1991). Negative, self-punitive rumination has a detrimental effect on general psychological functioning (Nolen-Hoeksema, McBride, & Larson, 1997) and is associated with depression and PTSD (Ehring, Frank, & Ehlers, 2008). However, Martin and Tesser (1996) suggested that rumination includes several varieties of recurrent thinking such as making sense, problem-solving, reminiscence and anticipation. Congruent with this, Cann and his colleagues (2009) have argued that although the word rumination has acquired a negative connotation in recent years (e.g. Nolen-Hoeksema et al., 1997), the word rumination simply means repetitive thought, "chewing the cud." Michael, Halligan, Clark, and Ehlers (2007) found that although the presence of rumination is associated with the severity of PTSD, the occurrence of rumination is not necessarily a sign of psychopathology, as participants without PTSD also described ruminating on the negative events they had experienced.

As stated earlier, according to Tedeschi and Calhoun (2004) rumination precipitated by a traumatic experience includes two different types of cognitive activity: intrusive and deliberate rumination. Moreover, the authors proposed that

such cognitive activity may be predictive of PTG. The theoretical model of PTG suggests that intrusive rumination stimulates the attempts to cope with trauma, which may lead to the development of PTG. It also implies that the more an individual deliberately ruminates about what happened, actively thinking about the experiences and attempting to make sense of them, the more likely it is that PTG will occur (Tedeschi & Calhoun, 1995).

Data from the studies reviewed above provided some support for the hypothesised relationship between rumination and PTG (Calhoun et al., 2000; Taku, et al, 2008a; Taku, et al, 2008b; Cann et al., 2010). To some extent, the suggestion that rumination is associated with growth is unexpected given the body of evidence demonstrating a relation between certain types of rumination and depression (Watkins, 2001). The PTG model proposes that some degree of cognitive processing is necessary for the rebuilding of shattered assumptions. Simultaneously, studies have revealed that denial and cognitive avoidance are also associated with growth. The evidence in the area of cognitive processing is inconclusive, suggesting that there may be two different processes leading to PTG. Zoellner and Maercker (2006), who considered this dichotomy, proposed that PTG has two sides: a functional and constructive one (characterised by reappraisal and positive adaptation) and an illusory one (characterised by cognitive avoidance and detachment).

The PTG model suggests that intrusive and deliberate rumination play different roles in the process of PTG. Based on the empirical evidence, it can be concluded that the role of rumination in the development of PTG is not yet well defined and requires more attention. The impact of both intrusive and deliberate rumination needs to be studied further to gain a better understanding of the cognitive

processes that may lead to PTG.

1.7 Psychosis

1.7.1 Definition of Psychosis

According to Bentall (2003) the term *psychosis* refers to a range of psychiatric disorders in which the individual, to some extent, is out of touch with reality and experiences symptoms such as delusions (bizarre or irrational beliefs) and hallucinations (sensory perception in the absence of external stimuli). These symptoms may be very distressing to the individual and are likely to result in withdrawal from social interactions and impairment in the individual's daily functioning. Psychosis also affects the person's social network, family and friends. A high proportion of NHS resources are spent on providing care for people with psychosis (National Institute for Health and Clinical Excellence, NICE, 2010). A recent study (Mangalore & Knapp, 2007) estimated that £2 billion is spent every year on the treatment and care for people diagnosed with schizophrenia in England.

The DSM-IV (APA, 1994) lists nine psychotic disorders: schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, brief psychotic disorder, shared psychotic disorder, psychotic disorder due to general medical condition, substance-induced psychotic disorder and psychotic disorder not otherwise specified. It is estimated that one in every 250 people in UK is experiencing psychosis at any point in time (Office of National Statistics, 2000).

The most common cause of psychosis is schizophrenia (McGorry & Jackson, 2009). A diagnosis of schizophrenia requires that the clinical presentation meets the following criteria: 1) at least one first rank symptom (hallucinations, delusions) occurring for a one month period; 2) a number of less clear-cut symptoms such as

grossly disorganised speech and behaviour and negative symptoms and 3) a marked decline in social and occupational functioning with a minimum duration of six months (DSM-IV, APA, 1994) or 1 month (ICD-10, WHO, 2007). A diagnosis of schizophrenia cannot be made if substantial affective symptomatology is present during the active phase (although schizoaffective disorder may be diagnosed) or if the symptoms are a direct result of substance abuse, medical conditions or pervasive developmental disorder. As a consequence of the complexity of the clinical picture, a reliable diagnosis of schizophrenia has been difficult (Birchwood & Jackson, 2001).

A systematic review on prevalence and incidence of schizophrenia (McGrath et al., 2008) found that, on average, 15 per 100,000 people are diagnosed with schizophrenia each year. Approximately 1 person in 100 is likely to receive a diagnosis of schizophrenia in their lifetime (British Psychological Society, 2000). The incidence of schizophrenia is higher in people with immigrant status and in urban populations (McGrath, Saha, Chant, & Welham, 2008).

1.7.2 Early Psychosis

Psychotic illness usually begins during early adulthood. Most men experience the onset of psychosis before the age of 25, while women tend to develop the problems approximately five years later (British Psychological Society, 2000). First Episode Psychosis (FEP) refers to the first time an individual experiences psychotic symptoms or a psychotic episode. A psychotic episode is defined as a period of time when a person is experiencing a psychotic state of mind (Rethink, 2009).

The Early Intervention (EI) services use a multi-disciplinary approach to

provide intensive care and support to people with FEP during the critical period of their illness. The idea of EI is based on the observation that identifying and treating someone in the early stages of psychosis can significantly improve the longer-term outcomes and may prevent the problems associated with chronic psychotic illness (NICE, 2010).

1.7.3 Cognitive Model of Psychosis

The cognitive model of psychosis (Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001) advocates that it is not the psychotic symptoms as such, but rather people's interpretations of these symptoms that produce negative emotions and maladaptive behavioural responses. How the individual makes sense of his or her experiences plays a crucial part in the development and maintenance of psychosis. Appraisals about the self, the world and others are key elements of all cognitive theories. Fowler et al. (2006) compared positive and negative evaluations of self and others in people with psychosis and in a healthy student population. Although the findings indicated that people with psychosis report very extreme negative evaluations of self and others, the study also demonstrated that levels of positive evaluations of self and others in people with psychosis are very similar to such levels found in the healthy student sample.

1.7.4 Psychosis as Trauma

Morrison, Frame, and Larkin (2003) note that a high proportion of people with psychosis have been exposed to traumatic events prior to developing a psychotic illness. Current research (Muesser, Lu, Rosenberg, & Wolfe, 2010) indicates that psychosis itself can be a traumatic experience. Although professionals have been aware of the psychological trauma of psychosis, interest in this area has

been neglected until recently (Harrison & Fowler, 2004).

Shaner and Eth (1989) observed that experiencing psychotic symptoms shatters the individual's beliefs of themselves, the world and others and should be viewed as traumatic. Shaner and Eth (1989) suggested that the fact that psychotic experiences may have been created by a person's own mind, and not by an external traumatic event, did not make the experience any less traumatic. In 1994 the DSM criteria for PTSD (APA, 1994) were changed to reflect that it is the person's subjective (and not objective) experience of threat of death or serious physical injury that determines if the event should be classified as traumatic. Jackson and Birchwood (2006) note that one problem with the current DSM (APA, 1994) criteria for trauma is that the emphasis is placed on the threat to the person's physical and not psychological integrity. As a result, the experience of people who are faced with a threat to their psychological wellbeing does not meet the criteria of trauma. For that reason the authors conclude that the current DSM-IV criteria might not recognise some of the aspects of the experience of psychosis as traumatic. However, a study by Muesser et al. (2010) showed that 39% of people who have experienced psychotic symptoms met the full diagnostic criteria for PTSD, including the current DSM-IV criteria for trauma. This finding suggests that even when a strict definition of trauma is applied, the experience of psychosis may constitute a psychological trauma.

1.7.5 Negative Outcomes of Psychosis: PTSD and Other Psychiatric Disorders

In recent years many authors have agreed that the experience of psychosis can be traumatic (e.g. Morrison et al., 2003; Muesser et al., 2010). Evidence suggests that PTSD symptoms are a common reaction to the experience of psychosis

(Morrison et al., 2003). The reported rates of people who develop PTSD following psychosis vary from 11% (Meyer, Taiminen, Vuori, Aijala, & Helenius, 1999) to 67% (Frame & Morrison, 2001). A study by McGorry et al. (1991), which assessed 29 patients with first episode psychosis during a recovery phase, found that 46% of people reported PTSD symptoms four months after the episode and 35% reported symptoms 11 months following the episode. A study carried out by Meyer et al. (1999) showed that among participants who fulfilled the criteria for PTSD following an acute psychotic episode, 69% attributed their distress to psychosis, 24% to hospitalisation and 7% to other sources.

Psychosis is often accompanied by other mental health problems. There is evidence that psychosis is linked to depression (Drayton, Birchwood, & Trower, 1998) and an increased risk of suicide (Bolton, Gooding, Kapur, Barrowclough, & Tarrier, 2007). Furthermore, research evidence suggests a high prevalence of co-morbid anxiety disorders (panic disorder, generalized anxiety disorder, social phobia) in people diagnosed with schizophrenia (Cossof & Hafner, 1998).

1.7.6 Positive Outcomes Following Psychosis

1.7.6.1 Recovery from Psychosis.

A policy document entitled *The Journey to Recovery* (Department of Health, 2001) outlines the government's vision for mental health care and states that services should be recovery-oriented and not solely focused on symptoms and illness. In line with the government's policy, NICE (2010) recommends that treatments and services for people in all stages of psychotic illness should emphasize recovery.

Several models have been presented that outline the process of recovery

from psychosis. While the traditional medical model assumes that recovery refers to a remission of symptoms (Whitwell, 1999), Pitt, Kilbride, Nothard, Welford, and Morrison (2007) note that whereas recovery from psychosis may involve a reduction in general psychological symptoms, it does not necessarily involve a reduction in psychotic symptoms. McGlashan, Docherty, and Siris (1976) argued that people recovering from psychosis use one of two recovery styles: *sealing-over* or *integration*. They explain that sealing-over is evident in people who prefer not to think about their psychotic experience during recovery. The integration style characterises people who are aware of the continuity of themselves before, during and after the psychotic episode. The integration of all the experiences during recovery leads to new representations of self and world.

Wilken (2007) who carried out a meta-analysis of studies on recovery from psychosis concluded that recovery is a multidimensional concept. Based on his analysis, he defined recovery as a personal, developmental and self-empowering process. The author proposed that there are four factors that play a significant role in the process of recovery. In order to initiate this process *motivational factors* (1) are essential, such as generating hope and belief that recovery is possible. A number of *competences* (2) are necessary to advance in personal recovery. These include: managing the illness and its consequences and developing psychological competence to put life and identity into a new perspective. The recovery process involves certain turning points when the person actually makes a change in the direction of *social and community participation* (3). The last cluster of factors represents *resources from the environment* (4), which include: material resources, social support and professional services.

According to Wilken (2007) the course of the recovery process can be divided into three phases: *stabilisation, reorientation* and *reintegration*. The stabilisation phase is preceded by a phase of loss of control and disintegration in which the person's life falls apart. As the recovery progresses, the person's condition stabilises and the real consequences of the illness become apparent and the reorientation phase begins. The important part of this stage is the person's struggle to find some meaning in their life. As the process progresses, a sense of calm and control are slowly regained. Finally, in the third reintegration phase, the person's self-esteem grows and their coping skills are reinforced.

The present study is based on a definition of recovery developed by Pitt et al. (2007), who carried out a service-user led study that examined the subjective descriptions of recovery in people with experience of psychosis. Pitt et al. (2007) defined recovery as a complex, dynamic non-linear process which involves turning points and milestones, but does not have a definite end. Their findings suggest that recovery is a unique experience for every individual and therefore its exact meaning is different for different people. However, the study also found that recovery entails three main themes: 1) rebuilding life (this includes developing social relationships and networks); 2) rebuilding self and 3) hope for a better future (Pitt et al, 2007). The findings were also used to develop the *Process of Recovery Questionnaire* (QPR, Neil et al., 2007), which is one of the measures included in this current study.

These notions of recovery are in line with the earlier definition by Anthony (1993) who described recovery as a deeply personal, unique process of changing one's goals and roles, and the development of new meaning and purpose in one's life. Similarly, Kelly and Gamble (2005), and Wilken (2007) suggest that recovery

involves an experience of personal growth, the development of new meaning and purpose, and redefining one's identity. Such features of recovery reflect some of the previously outlined aspects of PTG. It appears that there is some degree of overlap between the concept of recovery and the concept of PTG. However, one key difference is that PTG requires personal development beyond the previous levels of functioning, whereas recovery does not necessary involve such a significant change. Additionally, while the theoretical model and empirical evidence indicate that PTG is facilitated by trauma and that, in some people, PTG and posttraumatic symptomatology may co-exist, recovery does not derive from trauma and is not sustained by ongoing distress. The relationship between PTG and recovery following psychosis is not entirely clear and has not yet been evaluated. Therefore, research in this area is needed.

1.7.6.2 PTG following Psychosis.

Qualitative data from two in-depth interviews carried out by Dunkley, Bates, Foulds, and Fitzgerald (2007) indicated that recovery from psychosis could not only be conceptualized within a trauma framework, but also includes elements of PTG. The participants in this study identified their experiences as traumatic and acknowledged elements of PTG, such as increased appreciation of life, improved relationships, perception of personal strength and identifying new possibilities in life. A literature review carried out by the author has not identified any other studies exploring PTG following the trauma of psychosis.

However, some authors suggest that while an experience of psychosis can be very traumatic, it might lead to positive psychological consequences:

The onset of psychosis, for some, can be a devastating and harrowing event

> in the life of a young person and their family. For others it may emerge as a more positive experience, an opportunity to 'take stock', learn lessons and rebuild (Jackson & Birchwood, 2006, p. 127).

1.7.7 Self-Disclosure in Psychosis

Jackson and Birchwood (2006) suggested that writing about a psychotic episode may be an efficient way of helping people to emotionally process their experience. Bernard, Jackson, and Jones (2006) presented preliminary evidence that providing individuals recovering from a psychotic episode with an opportunity to write about the traumatic aspects of their illness may reduce the detrimental impact of the experience. The results of their study indicated that self-disclosure is related to a decrease in posttraumatic symptoms and may lead to a reduction in the avoidance of the stimuli associated with the trauma of psychosis. In view of the fact that avoidance tends to be related to negative psychological outcomes (Drayton et al., 1998), Bernard et al. (2006) suggest that confronting the disturbing experiences through written disclosure may aid the process of recovery from psychosis.

NICE (2010) recommends that people recovering from a psychotic episode should be given an opportunity to describe their experience in detail, in this way aiding their understanding of their experience. Additionally, a survey conducted by Mind (Baker & Strong, 2001) suggested that talking to family and friends about mental health problems is a helpful strategy in the process of recovery.

1.7.8 Rumination in Psychosis

The author's search for studies on the role of rumination in psychosis found only a single study that addressed this subject area. Halari et al. (2009) examined associations between rumination and symptoms in a group of 37 stable medicated

patients with schizophrenia. The findings demonstrated that negative symptoms, especially emotional withdrawal and stereotyped thinking, but not depressive symptomatology, were associated with rumination. The outcome of the literature search highlights a significant gap in the current research on the role of rumination in psychosis.

1.7.9 Treatment of Traumatic Psychosis

NICE (2010) recommends that all people with schizophrenia should be offered cognitive behavioural therapy (CBT) and access to family interventions. There is significant evidence for the effectiveness of CBT in reducing the severity of positive and negative symptoms of psychotic illness (Pilling et al., 2002). Similarly, CBT is an established treatment for PTSD (Ehlers & Clark, 2000). Several authors (e.g. Larkin & Morrison, 2006; Jackson & Birchwood, 2006) pointed out that despite the evidence demonstrating high rates of PTSD among individuals with psychosis, there is a lack of research focused on developing effective treatments for trauma in psychosis. Moreover, Read and Ross (2007) noted that mental health professionals tend to avoid asking clients about experience and symptoms of trauma and, as a result, PTSD is often not recognised in individuals with psychosis. For that reason, a very limited number of clients who have experienced psychosis are offered treatments addressing the posttraumatic symptoms.

The cognitive approach to the treatment of psychosis seeks to reduce the distress in individuals through the development of a collaborative, individualised case conceptualisation. The aim of CBT for trauma-related psychosis is to help people make links between the traumatic events, distressing psychotic experiences, thoughts and feelings. Smith et al. (2006) demonstrated that CBT may be

successfully adapted to assist individuals who are experiencing psychosis which involves an element of trauma. Jackson et al. (2004, as cited in Jackson & Birchwood, 2006) proposed that emotional problems following first episode psychosis occur as a consequence of appraisals individuals make about themselves, their psychosis and the world (loss, humiliation, entrapment, the self as vulnerable, the world as unsafe). By challenging people's appraisals of their psychotic episode, the authors suggest, the negative psychological consequences of the traumatic experience may be reduced. Congruent with this, a randomised control trial demonstrated that a recovery intervention (Jackson et al., 2004), based on a formulation driven approach to cognitive therapy, was successful in reducing PTSD symptoms.

Callcott and Turkington (2006) suggested that therapy for traumatic psychosis should be formulation-based and include aspects of established CBT treatments for PTSD, anxiety disorders and psychosis, such as thought challenging and behavioural experiments. They suggest caution, however, when using exposure techniques, in light of the potential risk of re-traumatising already vulnerable adults. Callcott and Turkington (2006) also propose that in the course of therapy life events that were previously seen as stressful can be given new meaning and potency. This approach could potentially not only reduce the posttraumatic symptoms but also enable individuals to develop some aspects of PTG.

1.8 Conclusion and Rationale for Current Study

PTG is an important area of research in view of the fact that focusing exclusively on the negative outcomes of trauma can lead to a biased understanding of posttraumatic reactions. Research to date provides evidence that for many people

psychosis is a traumatic experience which frequently results in significant emotional distress. Even though the relationship between psychosis and PTG has not been investigated in a systematic way, there are indications that people who have experienced a psychotic episode may recognize some positive psychological changes that are consistent with the notion of growth. It also appears that the concepts of PTG and recovery are very closely related. One vital difference between the two concepts, however, is that growth requires personal development beyond the previous levels of functioning, while recovery does not necessary involve this. The second difference is that PTG is brought on by the person's struggle with trauma and may be experienced simultaneously with the PTSD symptoms, whereas recovery does not necessary originate from trauma. It seems that trauma, recovery and growth are all useful concepts in understanding the experience of psychosis and, as such, the relationships between these concepts are worth investigating.

There are only three studies published that examined the role of rumination in the development of PTG and one explicitly investigating the impact of self-disclosure on growth. The studies that assessed the relationship between PTSD symptoms and PTG have not yet provided a clear conclusion. As such, it seems worthwhile to explore the potential role of posttraumatic symptoms, self-disclosure and rumination in the development of PTG, in this way adding to the theoretical base of the PTG model.

The recovery theory indicates that engagement with other people is crucial and there is evidence for the therapeutic effects of disclosing one's traumatic experiences. Therefore, it would be important to examine if self-disclosure is associated with recovery from psychosis. Rumination is a complex form of

cognitive activity that may lead to both positive outcomes such as PTG, and negative outcomes such as PTSD and depression. The process of how this happens is not yet clearly understood. Moreover, while PTSD following psychosis has been well documented, the empirical evidence regarding the impact of rumination on recovery from psychosis is very limited. As such, it would be of interest to investigate the relationship between rumination, both deliberate and intrusive, and recovery. Therefore, one of the aims of this study is to investigate the role of posttraumatic symptoms, self-disclosure and rumination in recovery and PTG in people who have experienced a psychotic episode.

Additionally, this study could offer significant clinical implications. Acknowledging potential PTG may encourage clients and clinicians to consider other aspects of psychosis, rather then focusing only on negative consequences and on symptoms reduction. Recognizing the positive outcomes could provide a sense of hope and help identify clients' strengths and validate their capacity for resilience, in that way promoting recovery. Such an approach to working with people recovering from psychosis would be in line with the current NICE guidelines (2010).

1.9 Aims of the Investigation

The study aims to, foremost, investigate whether levels of posttraumatic symptoms, self-disclosure and rumination following a psychotic episode predict PTG, as hypothesised by Tedeschi and Calhoun's model (2004). Figure 2 presents the aspects of the PTG model which will be examined in the study.

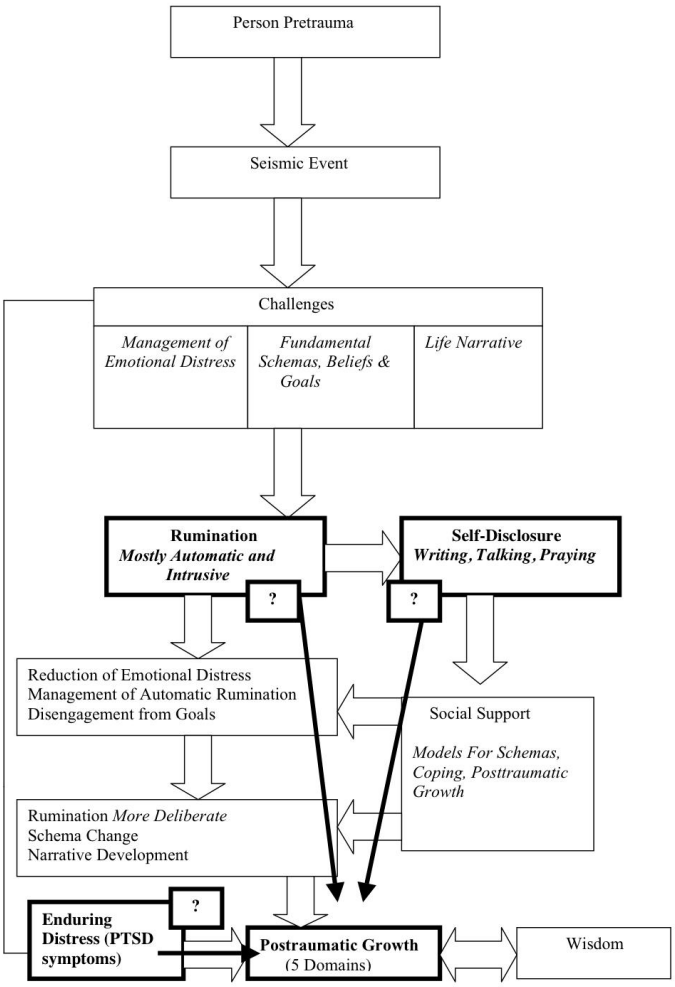


Figure 2. The aspects of the PTG model that will be examined in the present study. Adapted from "Posttraumatic growth: conceptual foundations and empirical evidence", by R. Tedeschi and L. Calhoun, 2004, Psychological Inquiry, 15, p. 7.

Second, the study aims to investigate the role of posttraumatic symptoms, self-disclosure and rumination in recovery from psychosis. Finally, the study will explore the relationship between PTG and recovery following a psychotic episode.

1.10 Research Questions

Hypotheses were generated for those research questions where there was either empirical evidence or theoretical models that helped predict the relationship between the studied variables. Some of the questions (6, 8, 9) are more exploratory and, as there are no explicit theoretical models or research evidence that would guide hypotheses, hypotheses were not generated.

1.10.1 Primary Research Questions (Related to PTG)

1. What is the relationship between posttraumatic symptoms and PTG?

Based on the PTG model (Tedeschi & Calhoun, 2004), it was hypothesised that level of posttraumatic symptoms would be positively correlated with PTG (Hypothesis 1).

2. What is the relationship between attitudes to self-disclosure and PTG?

Based on the PTG model (Tedeschi & Calhoun, 2004), it was hypothesised that urge to talk would be positively correlated with PTG (Hypothesis 2a) and that reluctance to talk would be negatively correlated with PTG (Hypothesis 2b).

3. What is the relationship between actual self-disclosure and PTG?

Based on the PTG model (Tedeschi & Calhoun, 2004), it was hypothesised that actual self-disclosure (including talking to others, others' positive reactions to the disclosure, writing about the experience, addressing the experience in prayers) would be positively correlated with PTG (Hypothesis 3).

4. What is the relationship between rumination and PTG?

Based on the PTG model (Tedeschi & Calhoun, 2004), it was hypothesised that degree of intrusive rumination (Hypothesis 4a) and deliberate rumination (Hypothesis 4b) would be positively correlated with PTG.

1.10.2 Secondary Research Questions (Related to Recovery)

5. What is the relationship between posttraumatic symptoms and recovery?

Based on the recovery literature (Pitt et al., 2007), it was hypothesised that level of posttraumatic symptoms would be negatively correlated with recovery (Hypothesis 5).

6. What is the relationship between attitudes to self-disclosure and recovery?

6a. What is the relationship between urge to talk and recovery?

6b. What is the relationship between reluctance to talk and recovery?

7. What is the relationship between actual self-disclosure and recovery?

Based on evidence from previous research (Bernard, et al., 2006), it was hypothesised that actual self-disclosure (including talking to others, others' positive reactions to the disclosure, writing about the experience, addressing the experience in prayers) would be positively correlated with recovery (Hypothesis 7).

8. What is the relationship between rumination and recovery?

8a. What is the relationship between intrusive rumination and recovery?

8b. What is the relationship between deliberate rumination and recovery?

9. What is the relationship between PTG and recovery?

2. Methodology

2.1 Design

This exploratory study used a cross-sectional correlational design to investigate the relationships between posttraumatic symptoms, self-disclosure and rumination in PTG and recovery in early psychosis. Participants in this study were all clients of the Early Intervention (EI) in Psychosis services in East Anglia and completed self-report questionnaires at one point in time. This type of retrospective design replicates the design routinely used in PTG (e.g., Taku, et al., 2008a; Zoellner, et al., 2008) and trauma (e.g., Ehring, Ehlers, & Glucksman, 2006) literature. It is acknowledged that a retrospective cross-sectional design does not allow for establishing the causal nature of relationships between the studied variables (Barker, Pistrang, & Elliot, 2002). However, given the lack of research on PTG in psychosis, this explorative cross-sectional study provides an initial investigation into this subject area, in advance of studies based on more complicated and costly designs.

2.2 Participants

2.2.1 Recruitment

The study used a convenience sampling approach to recruit the participants. Potential participants were identified by members of staff working in six EI teams across East Anglia (CAMEO North and CAMEO South in Cambridgeshire, EI Service in Suffolk, EI Service in Bedfordshire and Luton, EI Team in King's Lynn and EI Team in Great Yarmouth). These services accept referrals for young people from the age of 14 to the age of 35, who experience their first episode of psychosis. The service users are normally discharged or referred to other services after they

have been with the EI team for a period of three years.

Team managers and clinical psychologists in five Early Intervention teams were initially approached to introduce the proposed study, to obtain feedback on the planned procedure and measures, and to discuss the teams' possible involvement in the study. One of the five initially selected teams chose not to take part in the study due to a significant amount of research already being undertaken by the team. Following the initial discussions with the team managers and clinical psychologists in the remaining four teams (CAMEO North, CAMEO South, EI Service in Suffolk and EI Team in King's Lynn), meetings with all staff members were organized to explain the purpose of the research and the practical aspects of the team's possible involvement in the study. At the end of those meetings the researcher asked the team members if they were willing to be involved in the study and distribute the research packs among potential participants. All four teams agreed to this. Subsequently, two additional EI teams (EI Service in Bedfordshire and Luton and EI Team in Great Yarmouth) were approached, in order to increase the chances of recruiting the desired number of participants. These two teams also agreed to implement the study.

Further presentations about the study's topic and methodology were given to the teams to increase the awareness of the research and raise interest in the study. Concise information about the study was distributed among all staff members to ensure that those who were not present at the meetings were familiar with the research. Throughout the recruitment period the researcher remained in contact with the team members to ensure that they had all necessary information about the study.

2.2.2 Inclusion and Exclusion Criteria

Potential participants were the clients of EI services who at the time of

recruitment for this study were 16 years old and over and who had experienced at least one psychotic episode in the last 3 years. Clients who were in an acute stage of psychotic illness (this was based on the staff's assessment of the client's mental state) or being hospitalised were excluded. Additionally, those who were illiterate or did not have working knowledge of English were not invited to participate in the study. The decision regarding the client's suitability to be included in the study was taken by the staff in the EI teams.

2.2.3 Sample Size Calculation

The sample size required in order to maximise the chance of detecting an effect was calculated using the G*Power programme (Faul, Erdfelder, Lang, & Buchner, 2007). For the correlational analysis, assuming a medium effect size (r = 0.3), a one-tailed significance level of 0.05 and a power of 0.8, the suggested sample size was 64. In a study by Dudley, Siitarinen, James, and Dodgson (2009) which used similar inclusion and exclusion criteria, the researchers successfully recruited 23 out of 163 clients who were under the care of an EI service (14% response rate). Having made an assumption that the response rate in the current study would be similar to this, it was necessary to consider approximately 460 potential participants. For this reason, as many as six EI teams, in Cambridgeshire, Norfolk, Suffolk and Bedfordshire, were involved in the recruitment of participants for the study. At the time of recruitment the total number of clients across the six teams was 775.

2.2.4 Response Rate

During the seven month data collection period, a total of 475 research packs were distributed among the participating teams, proportionate to the number of clients each team was working with. Of this number approximately 115 were given

out to the clients and then 34 were returned to the researcher. The resulting response rate across all study sites was 29.57 %. Staff members reported that the main reason only 115 out of 775 clients receiving support from the involved EI teams were given a research pack was due to the fact that many clients were already involved in research at the time of recruitment for this study. Additionally, some clients were not well enough to complete the measures and some were not interested in taking part in research.

2.3 Ethical Considerations

The methods used in the study were not thought to pose significant risks to either the participants or to the researcher, were non-invasive and did not involve deception of any kind.

2.3.1 Approval of the Study

Ethical approval for the research study was gained from the Cambridgeshire 4 Research Ethics Committee (Appendix 1). Permission to conduct research was granted by the Cambridge and Peterborough Mental Health Foundation Trust (Appendix 2), the Suffolk Mental Health Partnership NHS Trust (Appendix 3), the East Norfolk and Waveney Research Governance Committee (Appendices 4 and 5) and Bedfordshire and Luton Mental Health and Social Care Partnership NHS Trust (Appendix 6). A report of the study's results will be sent to the Research Ethics Committee and to the Trusts where the research was conducted.

2.3.2 Informed Consent

Potential participants received a combined Invitation to the Study and Participant Information Sheet (Appendix 7) from their care coordinator or another team member who was working with them at the time of recruitment for this study.

This two page document described the details of the study. It included contact details of the Chief Investigator and stated that participants could discuss their questions about the study either with their care coordinator or with the Chief Investigator. Those who did not wish to take part in the investigation were reassured that their decision would not affect the standard of care they received. The study did not use consent forms. Potential participants were clearly informed that if they returned a completed Questionnaire Booklet (Appendix 8), this meant that they had consented to participation in the study.

2.3.3 Confidentiality and Data Protection

The collected data was anonymous and treated as confidential. The researcher did not have access to any personal information about the participants. All paper copies of the Questionnaire Booklets were kept in a locked drawer and the electronic data was secured with a password. Following the data collection and data analysis, all the Questionnaire Booklets have been stored in a locked archive at the University of East Anglia, where they will remain for the next 5 years, in line with the current university policy.

2.3.4 Management of Distress

The researcher was aware that responding to questions about psychotic experiences could potentially be upsetting for participants. For that reason the Invitation to the Study and Participant Information Sheet included information about possible disadvantages and risks of taking part. The participants were advised to contact their care coordinator if completing the Questionnaire Booklet caused them distress or raised issues they wanted to discuss further. The participants were also provided with contact details for 24-hour emergency services in their area.

2.3.5 Communicating Study Results

A summary report of the study's results was sent to the EI services that participated in the research. The researcher did not have information about who had participated in the study and for that reason it was not be possible to send the report to the individual participants. However, individual participants will be able to access this document via their care coordinators. The research results may be published in a peer review journal.

2.4 Measures

The self-report measures presented below were combined into a Questionnaire Booklet (Appendix 8). All the measures have been formatted in a uniform manner to ensure that the Questionnaire Booklet was easy to complete and the burden on the participant reduced as much as possible. For some measures (*The Impact of Events Scale - Revised, Event Related Rumination Inventory - Short Form, Disclosure of Trauma Questionnaire and Posttraumatic Growth Inventory*) the original instructions were adapted to ensure that the participants described their views and reactions in relation to their most recent psychotic episode and not in relation to other significant life events.

2.4.1 Personal Details Form

In the first part of the Questionnaire Booklet (Appendix 8, section *Personal Details*) the participants were asked to state their age and gender. Secondly, they were asked to specify how long they had been with the EI service and how much time had passed since their most recent psychotic episode. Finally, the participants were asked to indicate what form of support they were receiving from the EI service at the time of recruitment for this study or in the past. The following options were

provided: 1) meeting care-coordinator, 2) meeting STR (Support Time Recovery) worker, 3) medical reviews, 4) group programme, 5) psychology, 6) family therapy, and 7) my carer/carers receive support.

2.4.2 The Impact of Events Scale - Revised (IES-R, Weiss & Marmar, 1997)

The IES-R (Appendix 8, Task 1*)* is a 22-item self-report measure designed to assess current subjective distress and posttraumatic symptoms following any specific life event. The specific life event in this study was specified as the most recent psychotic episode. The IES-R has three subscales that parallel the DSM-IV criteria for PTSD: intrusion (7 items), avoidance (8 items) and hyperarousal (7 items). Respondents are asked to rate each item on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*extremely*) according to the past seven days. Creamer, Bell, and Failla (2003) reported that IES-R showed high internal consistency for the whole scale (Cronbach's alpha = 0.96), as well as for the three subscales (intrusion = 0.94, avoidance = 0.87 and hyperarousal = 0.91). The same authors investigated the concurrent validity of the IES-R by comparing the IES-R to the PTSD Check List (PCL) designed by Weather, Litz, Herman, Huska, and Keane (1993). The analyses showed that IES-R full score was highly correlated with the total score on the PCL ($r = 0.84$, $p < 0.001$). The IES-R has been widely used in studies exploring PTSD symptoms following psychosis (e.g. Bernard et al., 2006).

2.4.3 Event Related Rumination Inventory - Short Form (ERRI-SF; Cann et al., 2009)

This measure (Appendix 8, Task 2) is a brief version of the Event Related Rumination Inventory (ERRI; Cann et al., 2009). It was chosen in order to maintain consistency with previous research in the area of PTG. It is made up of 10 items

assessing two types of rumination, intrusive (5 questions) and deliberate (5 questions), precipitated by a significant event. The items are rated by respondents on a 4-point Likert scale, ranging from 0 (*not at all*) to 3 (*often*). In this study the word 'crisis' in the instruction was changed to 'your most recent psychotic episode'. Very good internal reliability (intrusive = 0.94; deliberate = 0.88) for both subscales of the ERRI-SF has been reported (Cann et al., 2010). The full ERRI (Cann et al., 2009) consists of 20 items, 10 measuring intrusive rumination and 10 measuring deliberate rumination. Similarly, the authors reported high internal reliability for the full scale (intrusive subscale = 0.91; deliberate subscale = 0.81).

Both versions of the ERRI are based on the original 14-item measure of rumination which was developed for a study of religious beliefs, cognitive processing and growth (Calhoun et al., 2000). Internal consistency of the original scale (Calhoun et al., 2000) ranged from 0.81 to 0.88. The original scale was recently revised for two reasons: 1) it did not clearly assess the intrusive and deliberate dimensions of rumination, and 2) the deliberate rumination items were not neutral in tone in that they suggested negative or positive implications of different thoughts (A. Cann, personal communication, 5 February 2009). As a result of this revision the ERRI (Cann et al., 2009) was developed. In order to create the ERRI-SF the authors selected the five items with the highest factor loadings from each subscale of the ERRI.

2.4.4 Disclosure of Trauma Questionnaire (DTQ, Mueller, Beauducel, Raschka, & Maercker, 2000)

The DTQ (Appendix 8, Task 3) is a 34-item self-report questionnaire measuring aspects of an individual's intention to disclose traumatic events and

perceived emotional consequences of self-disclosure. In this study, a 4-point Likert scale was used and the items were rated on a scale from 0 (*strongly disagree*) to 3 (*strongly agree*). The instructions for DTQ were changed from "In the following, please indicate to which degree you agree or disagree with each statement" to "Please indicate to which degree you agree or disagree with each statement *in relation to your most recent psychotic episode*".

The DTQ consists of three subscales: 1) urge to talk (11 items), 2) reluctance to talk (13 items), and 3) emotional reactions (10 items). Subscale 1 measures the person's need to disclose the traumatic experiences, while subscale 2 assesses the person's resistance to tell others about the trauma. These two subscales are independent of each other. Only Subscales 1 and 2 were employed in the study. Subscale 3 (emotional reactions) measures the person's affective states during the disclosure of trauma. This subscale was not used as its content is not directly linked to the research questions and the two remaining subscales have good psychometric properties.

The authors (Mueller et al., 2000) reported that in the original German version of the scale all subscales correlated with the total score. The Cronbach's alpha was 0.88 for the urge to talk subscale and 0.82 for the reluctance to talk subscale. The reported test re-test reliability was 0.76 for the urge to talk subscale and 0.89 for the reluctance to talk subscale. The authors investigated the relationship between the scores on the DTQ and the scores on IES-R (Weiss & Marmar, 1997). The results showed significant positive correlations between the two scales: the more severe the individual's intrusions, avoidance and hyperarousal were, the higher their scores on all three subscales of the DTQ. The original German questionnaire

has been translated into English and Chinese. It has been validated in Chinese but not in English. Consistent with the German version, the Chinese translation of the scale had a Cronbach's alpha of 0.86 (Maercker, et al., 2009).

For the purpose of the current study some items included in this measure were reworded to ensure that the participants described their reactions in relation to their most recent psychotic episode and not in relation to other significant life events. For example, the original item number 1: "There are several people to whom I have told the whole story many times" was changed into "There are several people to whom I have told the whole story *of my psychotic episode* many times".

2.4.5 Actual Self-Disclosure Measure

The DTQ described above measures aspects of an individual's intention to disclose traumatic events however it does not explore the amount, depth and form of self-disclosure that people actually engage in. For that reason, and in absence of any suitable formal published measures of actual self-disclosure, a set of questions exploring actual self-disclosure was developed by the author (Appendix 8, Task 5). The participants were asked to indicate the amount of time they had spent talking about their psychotic episode with different people and the depth of the disclosures they made. They were also asked about other forms of self-disclosure that are outlined in Tedeschi and Calhoun's (2004) model of PTG. Specifically, this included asking about writing, praying and other people's reactions to the participant sharing their experiences with them. All items were rated on a scale from 0 (*not at all*) to 3 (*a lot).*

2.4.6 Posttraumatic Growth Inventory (PTGI, Tedeschi & Calhoun, 1996a)

The PTGI (Appendix 8, Task 6) is a 21-item scale that measures the degree

of the positive changes experienced in the aftermath of a traumatic event. The PTGI consists of five subscales: relating to others (seven items), new possibilities (five items), personal strength (four items), spiritual change (two items), and appreciation of life (three items). Each item is rated using a 6-point Likert scale. In this study the word "crisis" in the instruction was changed to "your most recent psychotic episode". Internal consistency of the total score and subscales of the PTGI has been reported as satisfactory (alpha coefficient for the total score = 0.90, relating to others = 0.85, new possibilities = 0.84, personal strength = 0.72, spiritual change = 0.85 and appreciation of life = 0.67 (Tedeschi & Calhoun, 1996a). Shakespeare-Finch and Enders (2008) showed that the validity of the PTGI is supported by a significant correlation ($r = 0.69$; $p < 0.05$) between self-reported positive change assessed by the PTGI and the positive change reported by significant others who have known the person before the trauma occurred.

2.4.7 Process of Recovery Questionnaire (QPR, Neil et al., 2007)

The QPR (Appendix 8, Task 7) is a 22-item measure developed in collaboration with service users and based on service users' accounts of recovery from psychosis (Pitt et al., 2007). It has two subscales: 1) intrapersonal tasks involved in recovery (17 items), and 2) interpersonal tasks that facilitate recovery (5 items). The items are scored on a 4-point Likert scale from 0 (*disagree strongly*) to 4 (*agree strongly*). The QPR has good internal consistency ($\alpha = 0.94$ for subscale 1 and $\alpha = 0.77$ for subscale 2) and test re-test reliability ($r = 0.87$ for subscale 1 and $r = 0.77$ for subscale 2). The validity of the QPR was assessed by comparing it to other established questionnaires which measure constructs shown to be associated with recovery. The analyses carried out by Neil et al. (2009) demonstrated

significant associations of the QPR with the General Health Questionnaire (Goldberg & Hillier, 1979), the Making Decisions and Empowerment Questionnaire (Rogers, Chamberlin, Ellison & Crean, 1997) and the Schizophrenia Quality of Life Scale (Wilkinson et al., 2000). These results indicate good construct validity of the QPR.

2.5 Procedure

Research packs, which included the Invitation to the Study and Participant Information Sheet, the Questionnaire Booklet and a stamped addressed envelope were given to the potential participants by care coordinators or other team members so no personal data about participants was obtained by the researcher. Participants were asked to read the Invitation to the Study and Participant Information Sheet and to complete the Questionnaire Booklet (Personal Details Form, Impact of Events Scale - Revised, Event Related Rumination Inventory - Short Form, selected subscales of the Disclosure of Trauma Questionnaire, Actual Self-Disclosure Measure, Posttraumatic Growth Inventory, and The Process of Recovery Questionnaire). Stamped addressed envelopes were provided for returning the anonymous Questionnaire Booklets to the researcher. Participants were clearly informed that if they returned the completed Questionnaire Booklet, this meant that they had consented to participation in the study.

2.6 Plan of Analysis

During the data entry stage it was realised that three incorrect items had been selected for the deliberate subscale of the ERRI-SF. For this reason, Hypothesis 4b and Research Question 8b could not be explored. Hypothesis 4a and Research Question 8a, which were related to the intrusive rumination, were included in the

analyses.

The data was analysed using the Statistical Package for Social Sciences (SPSS) for Apple Mac (version 17.0). The statistical methods chosen for the analyses were correlations. All the measured variables were represented as continuous interval ranges of scores. Firstly, the data was screened to assess if the scores on all the variables were normally distributed and thus met assumptions of the parametric analysis. Secondly, relationships between the variables were tested to assess if the variables were inter-correlated. To test Hypotheses 1 - 4, one-tailed correlation analyses between posttraumatic symptoms, attitudes to self-disclosure, actual self-disclosure, intrusive rumination, and PTG were conducted. Similarly, to test Hypotheses 5 and 7, one-tailed correlation analyses between posttraumatic symptoms, actual self-disclosure and recovery were conducted. To answer Research Questions 6a and 6b two-tailed correlation analyses were applied. These analyses tested the relationships between attitudes to self-disclosure (urge to talk and reluctance to talk) and recovery. To answer Research Question 8 two-tailed correlation analysis was applied. This analysis tested the relationship between intrusive rumination and recovery. Similarly, to answer Research Question 9 two-tailed correlation analysis was applied. This analysis examined the relationship between PTG and recovery.

3. Results

3.1 Overview

This chapter has six sections. Firstly, the descriptive data for the study's sample is presented. Secondly, an account of the data screening process is given. This is followed by descriptive analyses of the study's variables. The fourth section shows the results of the correlational analyses used to test the primary and secondary research hypotheses and questions. The fifth section presents the subsidiary analyses. The final section gives a summary of the results.

3.2 Descriptive Analysis of the Demographic Data and Participants' Characteristics

A total of 34 clients of the EI services participated in the study. Twenty-two of the participants were male, eleven were female and one participant did not report their gender. Participants' ages ranged from 17-37 years old (M = 25.67, SD = 6.04). All participants had experienced a psychotic episode in the last three years. The length of time that had passed since the participant's most recent psychotic episode (based on participants' reports) ranged from 1-36 months (M = 9.80, SD = 9.51). Similarly, the length of time the participant had received support from the EI service (based on participants' reports) ranged from 1-36 months (M = 16.66, SD = 10.43).

Table 2 shows the number and percentage of participants who reported receiving different forms of support from the EI services.

Table 2

Forms of Support from the EI Services Reported by the Participants

Type of Support	Meeting care-coordinator	Meeting STR* worker	Medical reviews	Group programme	Seeing psychologist	Family therapy	Carers receive support
Number	30	13	27	5	18	1	5
(%)	88.2	38.2	79.4	14.7	47.1	2.9	14.7

Note. * STR is an acronym for Support Time Recovery Worker

3.3 Data Screening Process

3.3.1 Examination of the Distribution of the Main Variables

The main variables were examined to determine whether they were normally distributed. For each variable the level of skewness and kurtosis were inspected to assess whether the distributions of scores on the measure differed significantly from a normal distribution. Histograms were also used to visually examine the distribution of data (Appendix 9). The significance of skewness and kurtosis was assessed by calculating *z*-scores. The following formulas were applied (Tabachnick & Fidell, 2007):

z (kurtosis) = K (kurtosis) / Sk (standard error of kurtosis)

z (skewness) = S (skewness) / Ss (standard error of skew)

Tabachnick and Fidell (2007) recommend that for studies with small samples .01 significance level should be used to evaluate the significance of skewness and kurtosis. *Z*-scores for skewness and kurtosis greater than 2.58 or lower than -2.58 were classed as significant at the .01 level.

The skewness and kurtosis for each variable are presented in Appendix 10. Total scores on all measures and the scores on the subscales which were used in the analyses showed normal distribution, except the QPR where the obtained *z*-score for skewness was -2.62. This suggested that the distribution of the QPR was slightly negatively skewed. Following Field's (2010) suggestions for dealing with extreme scores, the lowest score on the QPR (8) was changed to the next score + 1 (13). This manipulation improved the distribution of the QPR (new *z*-score = -2.32) but did not have any significant impact on the outcome of the subsequent correlational analyses involving the QPR. For that reason the decision was made to retain all the original scores on the QPR. Parametric data analysis was used for all the variables.

3.3.2 Identifying Outliers

Box plots were generated to check for outliers. No extreme outliers, that is cases with values above three interquartile ranges from the edge of the box, were identified.

3.3.3 Missing Data

Missing data was randomly distributed among the variables. Overall 1.10 % of data was missing. When calculating the scores missing data was replaced with the mean score for the particular item across the sample, which is one of the techniques proposed by Tabachnick and Fidell (2007). One participant did not complete the IES-R and one did not complete the intrusive rumination subscale of the ERRI-SF. These two participants were excluded from analyses which involved scores on the IES-R and the ERRI-SF, respectively.

3.4 Descriptive Analyses of the Study's Main Variables

This section presents descriptive data for each measure used in the main

analyses. The mean, standard deviation, minimum and maximum of scores on all variables are presented in Table 3. Cronbach's alpha (α) was calculated for each of the measures to assess internal consistency. A correlation matrix for the measures used in the study is presented in Appendix 11.

Table 3

Descriptive Statistics for the Study's Measures

Scale / Subscale	Mean	Standard Deviation	Minimum	Maximum
IES-R - total	28.39	19.49	0	68
IES-R - avoidance	10.28	6.91	0	24
IES-R - intrusions	10.11	8.17	0	28
IES-R - hyperarousal	7.99	6.90	0	21
DTQ – total (2 subscales)	29.49	8.10	13	44
DTQ – reluctance to talk	17.88	7.97	1	33
DTQ – urge to talk	11.61	6.31	1	27
Actual Self-Disclosure - total	17.18	6.59	4	37
Talking to others (8 items)	13.14	5.30	2	29
Others' reactions (1 item)	2.24	.88	0	4
Writing (1 item)	1.24	1.42	0	4
Praying (1 item)	.56	1.19	0	4
ERRI-SF - intrusive rumination	8.30	4.48	0	15
PTG - total	34.57	20.43	4	82
PTG - others	12.00	7.40	0	28
PTG - new possibilities	7.54	5.43	0	20
PTG - personal strength	7.26	5.07	0	16
PTG - spiritual change	1.94	2.55	0	8
PTG - appreciation of life	5.82	3.48	1	12
QPR - total	57.09	16.92	8	85
QPR - intrapersonal	44.14	14.25	4	67
QPR - interpersonal	12.94	3.50	4	20

3.4.1 Posttraumatic Symptoms: The Impact of Events Scale - Revised (IES-R)

The Cronbach's alpha value for the IES-R was 0.93 indicating good internal consistency. Table 3 presents the mean, standard deviation, minimum and maximum of scores on this scale and its three subscales. Normal distribution of scores on the IES-R suggests that participants exhibited varied levels of PTSD symptoms. Creamer et al. (2003) suggest that the cut off score of 33 provides maximum diagnostic accuracy for PTSD. In total 14 participants (41.18 %) scored above that cut off point and thereby met the screening criteria for PTSD.

3.4.2 Rumination: Intrusive Rumination Subscale of the Rumination Inventory - Short Form (ERRI-SF)

The analysis showed internal consistency of the intrusive rumination subscale to be good ($\alpha = 0.91$). Table 3 presents the mean, standard deviation, minimum and maximum of scores on intrusive rumination subscale of the ERRI-SF. Most participants (91.18%) reported some degree of intrusive rumination following their psychotic episode, as reflected by a mean item score of 1 or above on the intrusive rumination subscale. The distribution of the degree of intrusive rumination was normal, indicating that the participants experienced diverse levels of intrusive rumination in the weeks following their psychotic episode. The mean of the reported level of intrusive rumination was similar to the mean found in another study that used the same measure on a population of students who experienced trauma (Cann et al., 2010).

3.4.3 Attitudes Towards Disclosure: Urge to Talk and Reluctance to Talk Subscales of the Disclosure of Trauma Questionnaire (DTQ)

The analysis showed internal consistency of both subscales to be acceptable

(α for reluctance subscale = 0.84; α for urge subscale = 0.83). Table 3 presents the mean, standard deviation, minimum and maximum of scores on both subscales. The distribution of scores on both subscales was normal, suggesting that participants in this study reported a range of attitudes towards self-disclosure. A two-tailed Pearson's correlation analysis showed that there was a significant negative correlation between the two subscales, reluctance to talk and urge to talk, $r = -.38$, $p = .03$.

3.4.4 Actual Self-Disclosure: Actual Self-Disclosure Measure

The analysis showed internal consistency of the measure to be satisfactory ($\alpha = .76$). Table 3 presents the mean, standard deviation, minimum and maximum of scores on this scale and on the items measuring different aspects of actual self-disclosure. Some degree of actual self-disclosure, as reflected by a mean item score of 1 or above on the four questions assessing the amount of self-disclosure, was reported by 99.06 % participants; 52.94% revealed that they have written about their psychotic episode (score of 1or above on the item measuring writing) and 23.53 % that they have addressed their psychotic episode in prayers (score of 1 or above on the item measuring praying). Normal distribution of actual self-disclosure scores implies that participants in this study reported varied levels of actual self-disclosure.

In response to Task 5, in addition to the options already provided in the Questionnaire Booklet, participants specified that they shared their experience of the psychotic episode with: work colleagues ($n = 1$), psychologist ($n = 1$), other service users ($n = 1$), and strangers on internet chatting sites ($n = 1$).

3.4.5 PTG: Posttraumatic Growth Inventory (PTGI)

The analysis showed very good internal consistency of the scale ($\alpha = 0.94$).

Table 3 presents the mean, standard deviation, minimum and maximum of scores on this scale and its five subscales. Out of all the participants, 68.75% reported at least some degree of PTG following their psychotic episode, as reflected by a mean item score of 1 or above on the 6-point PTGI scale. The distribution of PTG was normal indicating that participants in this study reported a range of PTG levels. The mean scores on the PTGI and its subscales were similar to the scores reported in a study by Kleim and Ehlers (2009). These authors studied PTG among assault survivors in UK and reported mean score on the PTGI of 33.39 (*SD* = 26.67).

3.4.6 Recovery: Process of Recovery Questionnaire (QPR)

The analysis showed very good internal consistency of the scale ($\alpha = 0.95$). Table 3 presents the mean, standard deviation, minimum and maximum of scores on this scale and its two subscales. These results are similar to the results obtained by other researchers. For example, in the study by Neil et al. (2007) the reported mean score on the QPR was 59.74 (*M* for intrapersonal subscale = 45.74; *M* for interpersonal subscale = 14.00). The distribution of the scores on the QPR was slightly negatively skewed indicating that a significant proportion of participants reported relatively high levels of recovery.

3.5 Testing of the Hypothesis and Exploring of the Research Questions

Scatterplots were created and analysed to explore the relationships between the studied variables (Appendix 12). Following this, the correlations between the variables were examined by applying parametric data analysis. As explained earlier, Hypothesis 4b and Research Question 8b, which were related to deliberate rumination could not be tested and therefore are not included in the Results section.

3.5.1 Primary Research Questions

Table 4 presents correlation coefficients obtained in the analyses of the primary research questions.

Table 4

Correlation Coefficients for Primary Research Questions

Scale	PTG total	*p* - value
IES-R - total	- .18	n.s.
DTQ - reluctance	- .39	.01 (1-tailed)
DTQ - urge	.36	.02 (1-tailed)
Actual Self-Disclosure	.47	< .01 (1-tailed)
ERRI-SF - intrusive	- .42	n.s.

Note. n.s. designates a non-significant relationship

3.5.1.1 Question 1. Relationship between posttraumatic symptoms and PTG.

It was hypothesised that the level of posttraumatic symptoms would be positively correlated with PTG (Hypothesis 1). One-tailed Pearson's correlation was used to test the relationship between participants' scores on the IES-R and on the PTGI. Table 4 presents the correlation coefficient obtained in this analysis. There was no significant relationship between the variables and therefore Hypothesis 1 was not confirmed.

3.5.1.2 Question 2. Relationship between attitudes to self-disclosure and PTG.

It was hypothesised that the urge to talk would be positively correlated with

PTG (Hypothesis 2a) and that the reluctance to talk would be negatively correlated with PTG (Hypothesis 2b). One-tailed Pearson's correlations were used to test these relationships. Table 4 presents the correlation coefficients obtained in these analyses. The results showed a significant negative association between the reluctance to talk and PTG and a significant positive association the between urge to talk and PTG. Thus, Hypothesis 2a and Hypothesis 2b were confirmed.

3.5.1.3 Question 3. Relationship between actual self-disclosure and PTG.

It was hypothesised that actual self-disclosure would be positively correlated with PTG (Hypothesis 3). One-tailed Pearson's correlation was used to address this hypothesis. Table 4 presents the correlation coefficient obtained in this analysis. The results revealed a significant positive correlation between the scores on the Actual Self-Disclosure Measure and the scores on the PTGI. Thus, Hypothesis 3 was confirmed.

3.5.1.4 Question 4a. Relationship between intrusive rumination and PTG.

It was hypothesised that the degree of intrusive rumination would be positively correlated with PTG (Hypothesis 4a). One-tailed Pearson's correlation was used to test the relationship between participants' scores on the intrusive rumination subscale of the ERRI-SF and on the PTGI. Table 4 presents the correlation coefficient obtained in this analysis. No evidence for a positive correlation between intrusive rumination and PTG was found. Therefore Hypothesis 4 was not confirmed.

3.5.2 Secondary Research Questions

Table 5 presents correlation coefficients obtained in the analyses of the secondary research questions, that is the questions related to recovery. As stated

earlier, the distribution of the QPR was slightly negatively skewed (*z*-score = -2.62). Changing the value of the lowest score (from 8 to 13) sufficiently improved the distribution of the QPR (new *z*-score = -2.34) but did not have any significant impact on the outcome of the subsequent correlational analyses involving the QPR. For that reason the decision was made to retain all the original scores on the QPR. The correlation coefficients which were obtained after the manipulation of the data are presented in Appendix 13 (Table 6).

Table 5

Correlation Coefficients for Secondary Research Questions

Scale	QPR total	*p* - value
IES-R - total	- .59	< .01 (1-tailed)
DTQ - reluctance	- .31	.08 (2-tailed)
DTQ - urge	.31	.08 (2-tailed)
Actual Self-Disclosure	.43	.01 (1-tailed)
ERRI-SF - intrusive	- .50	< .01 (2-tailed)

3.5.2.1 Question 5. Relationship between posttraumatic symptoms and recovery.

It was hypothesised that the level of posttraumatic symptoms would be negatively correlated with recovery (Hypothesis 5). A one-tailed Pearson's correlation was used to examine the relationship between the scores on the IES-R and the scores on the QPR. Table 5 presents the correlation coefficient obtained in

this analysis. The results showed a significant negative association between the posttraumatic symptoms and recovery. Thus, Hypothesis 5 was confirmed.

3.5.2.2 Question 6. Relationship between attitudes to self-disclosure and recovery.

The study aimed to explore the relationship between the urge to talk and recovery (Question 6a) and between the reluctance to talk and recovery (Question 6b). Two two-tailed Pearson's correlation analyses were used to examine these research questions. Table 5 presents the correlation coefficients obtained in these analyses. The correlations between the attitudes to self-disclosure and recovery were non-significant. However, while not significant the negative association between the reluctance to talk and recovery and positive association between the urge to talk and recovery were approaching significance. This lack of significance may be either a true result or a result of the study being underpowered. Thus, the study provided tentative support for the relationship between attitudes to self-disclosure and recovery.

3.5.2.3 Question 7. Relationship between actual self-disclosure and recovery.

It was hypothesised that actual self-disclosure would be positively correlated with recovery (Hypothesis 7). A one-tailed Pearson's correlation analysis was used to address this hypothesis. Table 5 presents the correlation coefficient obtained in this analysis. The results revealed a significant positive correlation between the scores on the Actual Self-Disclosure Measure and the scores on the QPR. Thus, Hypothesis 7 was confirmed.

3.5.2.4 Question 8a. Relationship between intrusive rumination and recovery.

The study examined the relationship between intrusive rumination and recovery (Question 8a). This question was answered using a two-tailed Pearson's correlation. Table 5 presents the correlation coefficient obtained in this analysis. The results revealed a significant negative relationship between intrusive rumination and recovery.

3.5.2.5 Question 9. Relationship between PTG and recovery.

Finally, the study aimed to explore the relationship between PTG and recovery (Question 9). This question was explored using a two-tailed Pearson's correlation to determine if there was an association between participants' scores on the PTGI and on the QPR. Results indicated that there was a strong positive correlation between the scores on the two measures, $r = 0.72$, $p < .01$. This suggests that there is a relationship between PTG and recovery.

3.6 Summary of the Results

It should be noted that the sample in this study was small which resulted in the study being underpowered. The findings associated with Hypothesis 1 and Research Questions 6a and 6b are therefore only tentative. However, there were several significant results within the analysis of the research hypothesis and research questions.

3.6.1 Results Related to PTG (Primary Research Questions)

Hypothesis 1 was not confirmed. There was no positive relationship between posttraumatic symptoms and PTG. Hypothesis 2a and 2b were confirmed. The results showed that attitudes towards disclosure are associated with PTG. As

predicted, the urge to talk was positively correlated with PTG, while the reluctance to talk was negatively correlated with PTG. Hypothesis 3 was also confirmed. It was established that the level of actual self-disclosure is positively correlated with PTG. Hypothesis 4a was not confirmed. The results did not suggest that the degree of intrusive rumination is positively correlated with PTG.

3.6.2 Results Related to Recovery (Secondary Research Questions)

Hypothesis 5 was confirmed. In line with the hypothesis, the results showed that the level of posttraumatic symptoms is negatively correlated with recovery. Due to the lack of power, while the study provided only tentative answers to the Research Questions 6a and 6b, there appeared to be some evidence of a negative association between the reluctance to talk and recovery and a positive association between the urge to talk and recovery. Hypothesis 7 was also confirmed. It was established that actual self-disclosure is positively correlated with recovery. In relation to Research Question 8a, the findings demonstrated a significant negative relationship between intrusive rumination and recovery. Finally, regarding Research Question 9, a positive association between PTG and recovery was found.

4. Discussion

4.1 Overview

The Discussion commences with a restatement of the study's aims and research questions. Second, the main findings, the results of the subsidiary analyses and the outcome of the descriptive analyses are summarised and presented in relation to current research and theories. Third, the study's methodological limitations and strengths are considered. This is followed by a discussion of theoretical and clinical implications of the study's findings. The Discussion concludes by proposing directions for future research and presenting final conclusions.

4.2 Summary of the Study's Aims and Research Questions / Hypotheses

The study set out, foremost, to test hypotheses related to the PTG model (Tedeschi & Calhoun, 2004) and how this model applies to people with FEP. The study investigated whether levels of posttraumatic symptoms, self-disclosure and rumination following a psychotic episode are associated with PTG, as predicted by Tedeschi and Calhoun's model. Secondly, the study set out to test hypotheses and answer research questions related to recovery following FEP. The study aimed to investigate the associations between posttraumatic symptoms, self-disclosure, rumination and recovery from psychosis. Finally, the study was designed to explore the relationship between PTG and recovery following a psychotic episode.

4.3 Summary of the Findings

Thirty-four individuals with FEP who were receiving support from six EI services in East Anglia participated in the study. The majority of the sample was male. All participants were aged 37 or under, lived in the community and had

experienced a psychotic episode within the last three years (however, they were no longer acutely psychotic). Although the sample size was small and the study was underpowered, there were several significant results, which will now be summarised and discussed.

4.3.1 Findings Related to PTG

4.3.1.1 Question 1. Relationship between posttraumatic symptoms and PTG.

No relationship between PTSD symptoms and PTG was found. For that reason this aspect of PTG model did not gain support. As the study did not have enough power, it is possible that such a relationship exists but was not detected. However, this finding may be comparable to that of previous studies that have reported similar results (e.g. Cordova et al., 2007) and the views of researchers who suggest that PTG and PTSD are two unrelated concepts and that the ongoing posttraumatic symptoms (enduring distress) are not a prerequisite for the presence of PTG (e.g. Zoellner & Maercker, 2006). It should be considered that the researchers who have argued that a positive linear relationship exists between PTG and PTSD (e.g. Taku et al, 2008a; Lurie-Beck, Liossis, & Gow, 2008) have tended to use samples with relatively low PTSD levels. It is possible that in such samples the relationship between PTSD and PTG is linear, while in samples with a greater range of PTSD levels, the relationship is of a different type. It should also be noted that several authors have proposed that the relationship between PTSD symptoms and PTG does exist but its nature is curvilinear (e.g. Butler et al., 2005; Kleim & Ehlers, 2009; Solomon & Dekel, 2007). Due to the limited sample size in this study, it was not possible to test the hypothesis of the curvilinear relationship between PTSD symptoms and PTG. Overall, the study found no evidence of a relationship between

PTSD and PTG. This may be in line with several previous studies suggesting that the relationship between the posttraumatic symptoms and PTG is complex and requires more attention. It is necessary to further develop the PTG model so that it more clearly explains the role of PTSD symptoms in PTG.

4.3.1.2 Question 2. Relationship between attitudes to self-disclosure and PTG.

It was established that attitudes towards disclosure were associated with PTG. As predicted, the urge to talk was positively correlated with PTG, while the reluctance to talk was negatively correlated with PTG. In light of the fact that attitudes to disclosure and actual self-disclosure are highly inter-correlated, these findings support the PTG model.

4.3.1.3 Question 3. Relationship between actual self-disclosure and PTG

The PTG model predicts that self-disclosure, which enables the cognitive processing of trauma, leads to PTG. Consistent with the predictions made by the model, the results showed that the level of actual self-disclosure is associated with PTG. This is vital, as only one earlier study has explicitly explored this relationship (Taku et al., 2009). Although the current study could not establish a causal relationship between self-disclosure and PTG, it gave evidence that these variables are related. This finding confirms the PTG model and the results of the earlier study (Taku, et al., 2009).

It is, however, possible that the causal nature of the relationship between self-disclosure and PTG is of the contrary type to what the PTG model predicts. A possibility that needs to be considered is that it is the level of PTG that leads to self-disclosure. One plausible interpretation of the results could therefore be that when

people experience PTG they feel more inclined to share their experience. Future research should address this hypothesis.

4.3.1.4 Question 4a. Relationship between intrusive rumination and PTG.

The PTG model predicts that intrusive rumination facilitates the development of PTG. In contrast to previous research (Calhoun et al., 2000; Taku, et al., 2008a), no evidence was found supporting a positive association between intrusive rumination and PTG.

The reasons why the current study did not find PTG to be associated with intrusive rumination could perhaps be explained by some factors specific to the FEP sample. It is possible that people who have recently been through a psychotic episode experience high levels of distress related to their symptoms and the impact of the illness on their lives. It should be noted that the majority of studies that demonstrated the relationship between intrusive rumination and PTG were carried out on student populations and it is very likely that in such populations the levels of distress are not as high as in people with FEP.

It is possible that while some degree of initial intrusive rumination helps stimulate the process leading to PTG, intrusive rumination accompanied by high levels of distress, (which very likely could have been the case for the participants in this study), may not facilitate growth. It is possible that the relationship between PTG and rumination is affected by some other factors that mediate this relationship, such as psychotic symptoms or depression. As none of the previous studies used a sample comparable to this study it is difficult to specify what kind of variables could have an influence on this relationship. Finally, it should also be noted that the intrusive rumination in this study was measured retrospectively, and the

participants' reports could have been influenced by a memory bias.

4.3.2 Results Related to Recovery

4.3.2.1 Question 5. Relationship between posttraumatic symptoms and recovery.

As expected, the results showed that the level of posttraumatic symptoms is negatively correlated with recovery. Although none of the recovery theories account for the role of PTSD symptoms in recovery, it has been suggested that recovery may involve reduction in general psychological symptoms and the distress (Pitt et al., 2007). The findings appear to confirm this suggestion.

4.3.2.2 Question 6. Relationship between attitudes to self-disclosure and recovery.

Although the results were not significant, the findings may suggest that attitudes towards disclosure are associated with recovery. The urge to talk appeared to be approaching a significant positive correlation with recovery, while the reluctance to talk appeared to be approaching a significant negative correlation with recovery. In light of the fact that the study was underpowered these findings provide only tentative support to the PTG model.

4.3.2.3 Question 7. Relationship between actual self-disclosure and recovery.

Consistent with previous findings (Esterling, et al., 1999), the results showed that actual self-disclosure is positively correlated with recovery. This indicates that actual self-disclosure may support the process of recovery and play a part in the process of rebuilding life following psychosis (Pitt et al., 2007).

4.3.2.4 Question 8a. Relationship between intrusive rumination and recovery.

The study provided evidence that intrusive rumination is negatively associated with recovery. This is in agreement with the previous study (Halari, et al., 2009) which reported that negative symptoms, especially emotional withdrawal and stereotyped thinking, were associated with rumination. Several other studies indicated that self-punitive rumination is linked to PTSD symptoms and depression (Ehring et al., 2008). Researchers who studied intrusive rumination in relation to PTG (e.g. Taku et al., 2008a) have suggested that although intrusive thoughts about the event are linked to the development of PTG, they may also be associated with continued distress. The current study highlighted that intrusive rumination and recovery are negatively related.

4.3.2.5 Question 9. Relationship between PTG and recovery.

The findings demonstrated a positive association between PTG and recovery. The nature of the relationships between both intrusive rumination and self-disclosure, and recovery was very similar to the relationships between those two variables and PTG. While the concepts of PTG and recovery seem to be closely related, the role of PTSD symptoms in PTG appears to be different to the role of PTSD symptoms in recovery. That is, whereas the relationship between PTSD symptoms and recovery was significantly negative, there appeared to be only a week negative relationship between PTSD symptoms and PTG. The study confirmed that while PTG and PTSD may co-exist, recovery and posttraumatic distress are negatively related with each other. Because of the small sample it was not possible to carry out factor analysis on all items of the PTGI and the QPR to assess if the two

measures consist of some shared dimensions. Future studies should carry out such analysis.

4.3.4 Participants' Scores on Main Measures

The results indicated that 41 % of the participants met screening criteria for PTSD. This finding concurs with the results of previous research that reported high levels of PTSD symptoms in people who have experienced psychosis (Frame & Morrison, 2001; McGorry et al., 1991; Meyer, et al., 1999; Muesser, et al., 2010).

Nearly all participants reported having experienced intrusive rumination following their psychotic episode and stated that they shared details of their psychotic episode with other people. The distribution of the degree of intrusive rumination as well as actual self-disclosure was normal, indicating the participants reported a range of experiences in these two areas. It is worth noting that the participants were asked to report the rumination they experienced in the weeks immediately after their psychotic episode. The results could be different if the measure addressed the rumination participants engaged in more recently.

Nearly 69% percent of the participants reported some degree of PTG following their psychotic episode. This confirmed the views of Dunkley et al. (2007) who proposed, based on findings from their qualitative study, that PTG may be experienced by people with FEP. Generally, the mean score on the PTGI was quite low compared to the average scores suggested in the PTGI manual (Tedeschi & Calhoun, 1996b). However, scores similar to the one obtained in this study were reported in other studies carried out in the UK (e.g. Kleim & Ehlers, 2009). The majority of research on PTG has been carried out in the USA and it is possible that American participants tend to report higher levels of positive change following

trauma than British participants. It has been suggested that Americans are generally more optimistic than the British and tend to emphasize their achievements (Social Issues Research Centre, 2009). Additionally, it has been noted in previous research that men generally report lower levels of PTG than women (Carboon et al., 2005). This might explain the relatively low levels of PTG among the mostly male participants in this study. Unfortunately the sample is this study was not large enough to allow the exploration of possible differences between male and female participants.

The difference between psychosis and other types of traumas could also account for the relatively low scores on the PTGI. Psychosis often does not have a definite end and for many people psychosis is not a single episode but rather an ongoing experience. In contrast to this, some other traumas, such as assaults or accidents, are events of the past. The fact that psychosis might be ongoing and distressing could make it difficult for people to identify positive aspects of the experience and thus impede the possible development of PTG. Evidence does show, however, that people experiencing other types of "ongoing" traumas, such as patients diagnosed with cancer or HIV, report high levels of PTG (e.g. Milam, 2004). This suggests that the experience of PTG should not be affected by whether trauma is an event from the past or an ongoing experience. It would be worth exploring the differences between FEP clients who have experienced multiple episodes of psychosis and those who have only experienced a single episode. The current study did not provide sufficient data to carry out this type of analysis.

As for the degree of recovery, the reported levels were very similar to the results obtained by other researchers who studied recovery following psychosis

using the same measure (e.g. Neil et al., 2007). The distribution of the scores on the QPR was slightly negatively skewed indicating that a significant proportion of participants reported relatively high levels of recovery.

Before discussing the potential clinical and theoretical implications of these findings, the methodological limitations of the study must be considered. This section discuses issues related to the design, sampling, measures and analyses.

4.4 Methodological Limitations and Strengths

4.4.1 Design

The study was exploratory in nature and used a cross-sectional quantitative design. Participants, all clients of the EI services in East Anglia, completed self-report questionnaires combined into the Questionnaire Booklet at one point in time. The major strength of the design used in the study was the recruitment of a clinical population, as much of the previous research in this area has been carried out on the general population. PTG following the trauma of psychosis has not been studied previously in a systematic way and thus the design allowed for the investigation of the possible psychological consequences of psychosis from a novel perspective. Additionally, given the limited research evidence regarding the role of self-disclosure and intrusive rumination in the development of PTG, this exploratory study provided preliminary investigation into these key aspects of the PTG model. The use of a cross-sectional design meant that data was collected at only one point in time and, consequently, the problems of attrition, often affecting the longitudinal studies, were avoided.

Despite its strengths, there are some important limitations of the chosen design. The main limitation of a correlational design is that it does not allow the

investigation of the causal nature of the relationships between the studied variables (Barker, et al., 2002). For example, it is possible that self-disclosure leads to PTG but it is also possible that it is the PTG that leads to self-disclosure. This issue is a significant limitation shared by the majority of research in the area of PTG (e.g., Taku, et al., 2008; Zoellner, et al., 2008) and trauma (e.g., Ehring et al., 2006).

Secondly, the cross-sectional design did not allow for the observation of changes over time, as data was collected at a single point in time. This is especially relevant as there may be important changes over time in the variables affecting PTG that were not observed in the study. If there were no time constraints on the study, a prospective design could have been implemented. Such design would enable a greater understanding of the interactions between the variables that play role in PTG and recovery. A longitudinal perspective could also facilitate a better understanding of the causal relationships between the studied variables. The majority of research in the area of PTG has employed cross-sectional designs, and there are no known studies that have investigated the role of self-disclosure and rumination from a longitudinal perspective. This indicates a significant gap in the current research which should be addressed in future studies.

The study employed a retrospective design, where the measures were taken within three years after the psychotic episode had occurred. One of the measures (ERRI-SF) required that participants recalled the intrusive rumination they had experienced in the weeks immediately after their psychotic episode. This is a common approach in PTG and trauma research (e.g. Taku et al., 2008a). Retrospective reports of past events and experiences may, however, present biased results as they are subject to distortion and selective recall. It was hoped that

through the recruitment of participants who experienced trauma no more than three years previously, the influence of possible memory biases would be reduced.

Reliance on self-report is another limitation of the employed design. It has been established (Logan, Claar, & Scharff, 2008) that factors such as social desirability can influence results and that self-reports are susceptible to over-endorsement of positive items. Nevertheless, the use of self-report measures meant that it was possible to distribute the questionnaires among a larger group of potential participants. Additionally, as the design did not require that the researcher meet with the participants, the anonymity of those taking part in the study was protected and potential pressure on the participant to complete the Questionnaire Booklet was reduced.

In terms of data collection, participants completed the questionnaires in their own time and in a place which was convenient for them. It has to be acknowledged that the participants' answers could have been influenced by the context in which they completed the measures. For example, if a participant chose to complete the Questionnaire Booklet in the presence of their care-coordinator, he or she could have felt obliged to give certain answers. However, to minimise such source of bias, the researcher addressed this issue during meetings with the staff. It was emphasised that clients should preferably complete the Questionnaire Booklet in private. However, a staff member was allowed to be present if requested by the client, though it was stressed that this situation was not ideal and it was vital that staff members not suggest answers.

The quantitative design allowed for the collection of data from 34 participants and meant that the measures were easy to administer. If more time were

available, a qualitative or a mixed-method design could have been used which would provide richer and more in-depth data.

As discussed, there were a number of weaknesses in the chosen cross-sectional, quantitative design. This said, the explorative nature of the study guided the rational choice of such design.

4.4.2 Sample

The strengths of the sampling used in the present study included the recruitment of a clinical sample, that is individuals who had experienced their first episode of psychosis within the last 3 years. The inclusion criteria were broad, which should have allowed for the recruitment of a heterogeneous sample.

The main weakness of the sampling was the small number of participants. The time constrains in this study, combined with recruitment difficulties, resulted in a low sample size. Another weakness of the sampling was the relatively low response rate (29%). This problem has also affected previous studies with people experiencing FEP that used similar methods (Dudley, et al., 2009). It was expected that the recruitment may be challenging and for that reason six EI teams were involved in the study. Staff within EI services suggested that one reason why few clients were recruited was that there were already several research projects being undertaken across many services, which made it difficult for the staff members to approach potential participants and thus impaired the recruitment. One service did not agree to the study on the basis that they were already involved in a significant amount of research projects.

Consequently, all results need to be interpreted with caution. A larger sample size would have increased the power of the study and allowed a more in-depth

exploration of relationships between the studied variables. However, despite the study being underpowered, there were several significant associations found which indicates that these associations are robust.

As for the recruitment procedure, those who agreed to participate in the study might differ, for example in terms of their mental state or demographics, from those who did not choose to participate. Self-selection bias might have led to an over-representation of participants who had strong views about recovery and were especially interested in this area, were particularly motivated to take part in research or had a very positive relationship with the service. It is therefore possible that the recruited sample is not representative of all individuals with first episode psychosis. However, the normal distributions of the majority of the scales indicated that participants who have been recruited varied in terms of their experiences and attitudes. Unfortunately, for practical reasons, a random selection of participants for this study was not possible. Again, this means that the results must be interpreted cautiously as the characteristics of the clients who did not participate are not known. Additionally, the exclusion criteria made it difficult to generalise the results of the study to population of people who do not understand English or have significant cognitive impairments.

Only limited demographic data was collected. No information, for example, was gathered regarding the ethnicity and socio-economic status of the participants. The decision was made not to include such questions in order to keep the Questionnaire Booklet as short as possible and, in that way, reduce the burden on the participants. Consequently it is not possible to know to what extent the participants were representative of the population of people with FEP in East

Anglia. In order to better assess the representativeness of the sample, it would have been ideal to ask the individuals about their ethnicity, education level and employment status.

Finally, it is also worth noting that the majority of participants were male. Many of the previous studies with clients with FEP reported mainly male samples (e.g. Bernard et al., 2006). This is owing to the fact that incidence of FEP is two to three times higher in males than in females (Iacono & Beiser, 1992), which results in men more often accessing early intervention services. As discussed previously, it has been observed in earlier research that men generally report lower levels of PTG than women (Carboon et al., 2005). It is unclear if the results would have been different if there were more female participants recruited.

4.4.3 Measures

Two of the measures used in this study, the IES-R and the PTGI, are widely used within research and in clinical settings. Some other measures, such as the QPR, the DTQ and the ERRI-SF are relatively new but have been previously employed in several studies. Regarding the psychometric properties of the measures used, with the exception of the Actual Self-disclosure Measure, all have been shown to be valid and reliable. However, apart from the IES-R and the QPR, the measures have not so far been applied with the early psychosis sample and for that reason their validity in relation to this sample has not been assessed. Although the analyses indicated good internal consistency of all the measures used in the study and normal distribution of the scores on nearly all the measures, the lack of psychometric properties specific to the population with FEP is a significant methodological weakness of the current study. Informal reports from the care-coordinators confirmed that the measures were

relatively easy to complete. A very small proportion of data was missing (1.10 %), which suggests that the measures were relevant to the participants and did not include questions which were particularly difficult to answer.

The study did not control for possible confounding variables, such as psychotic symptoms, depression, stigma, or access to social support. It could have been relevant to include measures assessing such factors. Additionally, a recovery style measure could have provided information regarding the role of the individual's recovery style in the development of PTG. It would also have been good to ask the participants how stressful and traumatic the psychotic episode actually was for them.

As mentioned earlier three incorrect items were selected for the deliberate rumination subscale of the ERRI-SF and, as such the study could not examine the role of deliberate rumination in PTG. This generated an additional methodological limitation of the study.

4.4.4 Analyses

The small sample size restricted the application of more complex types of analyses that could have been employed in the study. If the sample was greater, multiple regressions could have been used to explore the relative importance of the different aspects of PTSD symptoms, self-disclosure and rumination in the development of PTG. A larger sample would also allow for the exploration of possible moderator and mediator variables, as well as potential pathways that lead to PTG as indicated in the PTG model. Additionally, differences between participants who received varying forms of support from the EI services as well as differences between males and females could be explored.

Considering the small sample size, a weakness of the analyses was that

multiple independent significance tests were performed to test the hypotheses. This way of analysing the data might have increased the probability of making a Type I error, that is rejecting the null hypothesis inappropriately (Field, 2009).

The study's main strengths and weaknesses were discussed. Overall, considering the above limitations, the results of this study need to be interpreted with some caution.

4.5 Theoretical Implications of Research Findings

The main research findings are now discussed in relation to the PTG model. The results of the study provided partial support for the predictions of the PTG model. Figure 3 presents the aspects of the PTG model which were examined in the study.

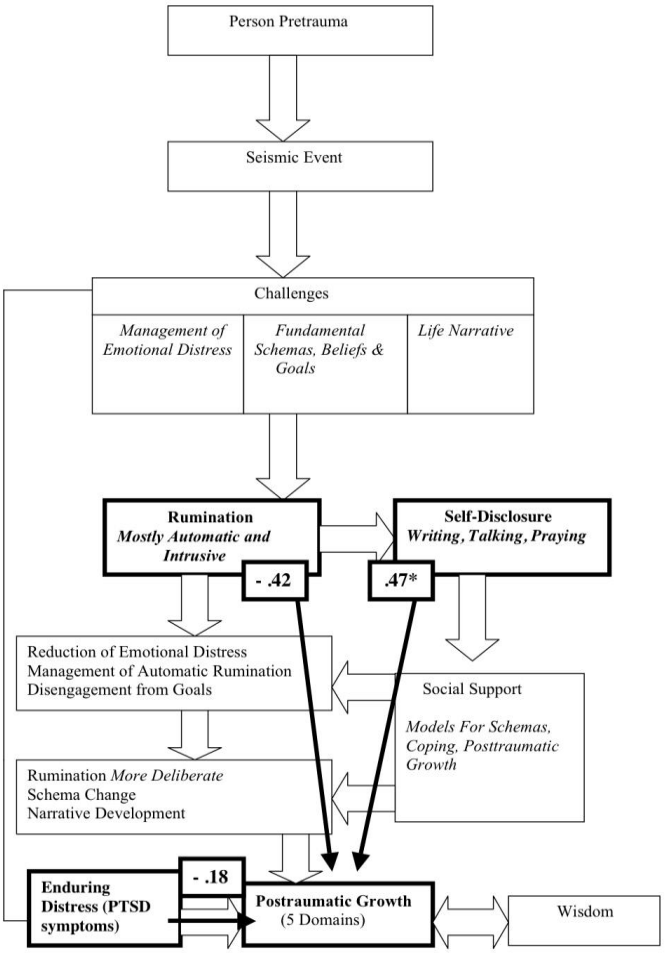


Figure 3. The aspects of the PTG model that were examined in the present study. Adapted from "Posttraumatic growth: conceptual foundations and empirical evidence", by R. Tedeschi and L. Calhoun, 2004, *Psychological Inquiry, 15*, p. 7.

*Note. *indicates that the correlation was significant (p < 0.01)*

4.5.1 The role of PTSD Symptoms in PTG

There was no support for a significant positive relationship between PTG and PTSD. This may be suggestive of ongoing posttraumatic symptoms (enduring distress) not being a prerequisite for the presence of PTG. For that reason this aspect of the PTG model did not gain support. This is not entirely unexpected, as other

studies (e.g. Widows et al., 2005) have raised similar questions regarding the role of PTSD symptoms in PTG. It is possible that some degree of initial distress facilitates the process of PTG and stimulates attempts to cope and reflect on the experience. However, a high degree of distress might impede PTG, especially if it is accompanied by ongoing psychotic symptoms. As noted earlier, several authors have proposed that the relationship between PTSD symptoms and PTG may be curvilinear and may change over time (e.g. Butler et al., 2005). Studies using larger samples and based on prospective longitudinal models could clarify if this is, in fact, the case.

4.5.2 The Role of Self-Disclosure in PTG

The study extended the evidence for the role of self-disclosure in the development of PTG. Although the study could not confirm a causal relationship between self-disclosure and PTG, it provided evidence that these variables are related and thus offered support to this aspect of the PTG model. As suggested by Tedeschi and Calhoun (2004) self-disclosure may lead to a cognitive reconstructing of one's assumptions about self, the world and others, after they had been disrupted by a traumatic experience. Sharing the experience with others may help build narratives about the event and offer new perspectives that can be integrated into a schema change. Additionally, a need to talk about the traumatic experience may help the individual to recognize the value of existing interpersonal relationships, possibly establish new relationships, as well as facilitate social support.

4.5.3 The Role of Intrusive Rumination in PTG

According to Tedeschi and Calhoun (2004) the intrusive rumination individuals experience in the aftermath of trauma may facilitate the process leading

to the development of PTG. In contrast to the predictions made by the PTG model and the limited findings from previous research, no evidence was found supporting the positive association between intrusive rumination soon after the event and PTG. Several authors suggested that rumination following a stressful event is likely to be associated with continued distress (Elwood, Hahn, Olatunji, & Williams, 2009; Taku, et al., 2008). It is possible that in the early psychosis sample the relationship between PTG and rumination is affected by additional factors that mediate the relationship between these variables, such as high levels of distress, psychotic symptoms or depression.

The findings suggest that intrusive rumination may not be sufficient for the development of PTG. Perhaps for PTG to occur, intrusive rumination, that may initially stimulate the attempts to cope with the trauma, must later be replaced with more deliberate thinking so that the process of rebuilding of the challenged assumptions can progress. If intrusive rumination continues and is not transformed into other forms of thinking focused on making meaning of the experience, this could impede the development of PTG. Deliberate rumination, aimed at understanding and problem-solving could play a part in the process of PTG. Unfortunately, this study could not examine the role of deliberate rumination.

4.5.4 Conclusion About the Process of PTG

The PTG model (Tedeschi & Calhoun, 2004) proposes that growth is triggered by an event that produces psychological distress. This distress tends to provoke cognitive activity, which initially takes a form of intrusive rumination. According to the PTG model the role of rumination is to stimulate the individual's attempts to cope with the traumatic experience. However, in contrast to the PTG

theory and previous research, the current study did not provide evidence that intrusive rumination is related to PTG.

Researchers have suggested that the way a person responds to trauma could be affected by the individual's coping style and personality traits. Moreover, Tedeschi and Calhoun (1998) noted that for PTG to occur, an individual must experience some degree of initial success in managing their difficulties and recognise that he or she had been able to use their strengths to manage the distress. Deliberate rumination that individuals might engage in at this stage may help restore or revise the assumptive world challenged by trauma. Unfortunately the present study could not examine if deliberate rumination is likely to be related to PTG.

The PTG model indicates that self-disclosure plays an important role in the development of PTG in that it helps people reflect on their coping and find positive meaning in their traumatic experience. The present study confirmed that self-disclosure is in fact associated with PTG and could be a vital element of the process that leads to PTG.

As for the role of enduring distress, the study's findings did not provide evidence that ongoing PTSD symptoms are a prerequisite for the presence of PTG. The role of psychotic symptoms in the role of PTG remains unknown, as the present study did not address this issue. More in-depth research is needed exploring possible pathways to PTG among people who experienced different types of trauma.

4.6 Clinical Implications of Research Findings

The clinical implications of the findings are now discussed. The study showed that people with FEP may recognize positive changes following a psychotic episode and experience PTG, despite the possible distress caused by the trauma and

illness. Clinicians working with people who have had a psychotic episode should be aware of the potential for some positive change in their clients following psychosis. It is important not to overlook the fact that PTG and posttraumatic symptoms may co-exist. Focusing merely on PTSD may lead to a sole emphasis of negative consequences of the trauma of psychosis. It has been suggested (Fowler et al., 2006) that although individuals with psychosis tend to hold very negative beliefs about self and others, they also report positive appraisals. Equal consideration to positive and negative appraisals of self, the world and others should be given in clinical practice. An emphasis on negative beliefs could result in a failure to recognize possible positive elements in individual's cognitive schemas.

Whenever appropriate, mental health professionals need to support their clients in recognising potential positive changes and use these as foundations for their therapeutic work (Morland, Butler, & Leskin, 2008). Recognition of some aspects of PTG can provide hope that it is possible to find benefits in a difficult experience, which may be helpful in the process of overcoming the trauma. One way services could support people with FEP could be by helping them to find meaning in their experience. Mental health professionals should encourage people to use their strengths to manage difficulties and then help them recognise the skills they have used to cope. This may facilitate positive changes in self-perception and provide clients with a sense of personal strength, which is a key element of PTG.

Morland et al. (2008) noted, however, that some individuals might be unable or unprepared psychologically to identify benefits and PTG as they tend to predominantly focus on emotional distress and are unable to gain a long-term perspective. They suggest that for such individuals, treatment should primarily be

focused on reducing emotional distress through active coping and identifying and challenging distorted thought patterns.

According to Calhoun and Tedeschi (1998) clinicians can facilitate PTG by listening carefully to the individuals' descriptions of traumatic events and accounts of how they showed strength in coping with the trauma. According to these authors the therapist can encourage PTG by the creation of the narrative and the making of meaning by 1) supporting and encouraging positive changes that are described by the patient, 2) simultaneously acknowledging the patient's struggle and distress as well as positive changes or benefits experienced as a result of this struggle, and 3) avoiding statements such as " look at the bright side" or "let's focus on the positives" because such statements might encourage denial and cognitive avoidance.

Joseph (2005) suggested that the key elements to support PTG are empathy, positive regard and working at the client's pace. These suggestions are not however specific to any particular therapy model and constitute a vital element of most therapeutic approaches. It seems that some focus on PTG could be incorporated into the already existing treatment models for people with psychosis and PTSD. The possibility of PTG does seem to fit with the CBT model (Garety, et al., 2001) and with the notions of narrative therapy for psychosis (Rhodes & Jakes, 2009). CBT focuses on restructuring people's beliefs and aspects of PTG could be considered as part of the CBT treatment. Brewin and Holmes (2003) emphasise that it is possible to assist the person in the development of PTG through positive reframing of the individual's beliefs about trauma and its consequences. Similarly, Callcott and Turkington (2006) proposed that in the course of therapy life events that were previously seen as stressful may be given new meaning and potency, which may

play a part in the development of PTG. It is possible that the differences in PTG scores may not be a function of the event but rather the person's appraisal of the event.

The findings indicated that there is a relationship between self-disclosure, PTG and recovery. This suggests that providing FEP clients with opportunity to disclose aspects of their experience may aid the process of overcoming the trauma. Self-disclosure could help people identify new perspectives on their experience and recognise the value of relationships with others. In line with this, the NICE guidelines (NICE, 2010) recommend that people should be given an opportunity to describe their experience in detail. Services should enable the clients to disclose and process the traumatic aspects of psychosis and clinicians should encourage clients to share their experiences. Morland et al. (2008) note that support groups could provide a useful environment for this. The study also demonstrated that others' positive reactions to self-disclosure play an important role in recovery and PTG following psychosis. Therefore, there is a need to educate society more about psychosis in order to prevent stigma and negative reactions.

The findings indicated that intrusive rumination in the weeks following the traumatic experience is negatively related to recovery. Strategies focused on decreasing the intrusive rumination could reduce the individuals' distress, and support the process of recovery and, possibly, the development of growth. Further clinical implication of the research findings is the role of PTSD symptoms in recovery and PTG. Although the relationship between PTG and PTSD symptoms was not evident, the study demonstrated a negative relationship between PTSD and recovery. As people with FEP report high levels of PTSD, they need to be offered

access to psychological treatments that address the trauma and its consequences. Furthermore, the interventions for PTSD should take into account the potential for PTG.

4.7 Future Research

The research findings have highlighted several important areas that should be addressed in future research. The study showed that PTG is present among people with FEP but the process that leads to the development of PTG requires more attention.

The relationship between the posttraumatic symptoms and PTG is complex and needs to be studied in more detail. It might be necessary to develop the PTG model further so that it better explains the role of PTSD symptoms in the development of growth. Due to the limited sample size, it was not possible to test the hypothesis of the curvilinear relationship between PTSD symptoms and PTG in this study. Future research should undertake such an analysis.

The results suggest that people who engage in self-disclosure experience higher levels of PTG. Unfortunately, the study could not establish a causal relationship between self-disclosure and PTG. Therefore it would be worthwhile to further examine the role of self-disclosure in the development of PTG. This could be achieved by quasi-experimental designs and independent-samples *t*-tests. The present study used single items to assess writing, praying and others' reactions to the disclosure and did not have enough power to explore the relative importance of these different aspects of disclosure in the development of PTG and recovery. Therefore, the role of writing, praying, and others' reactions needs to be explored in more detail in future studies. Researchers should also develop a standardised

measure to assess actual self-disclosure. Additionally, factors that mediate and moderate the links between self-disclosure and PTG require attention.

Future research should focus on identifying additional variables that may contribute to PTG. Qualitative approaches should also be considered, as these can provide a richer understanding of the experience of PTG among people experiencing early psychosis. Possible moderators and mediators, such as stigma, access to support or trauma history, might impact on pathways to PTG in people with FEP and thus comprehensive theoretical models are needed that could account for such variables. It seems plausible that psychotic symptoms interact with the process of PTG and, as such, it would be worth investigating if PTG is affected by the presence of the symptoms of psychosis. Future research should also consider a longitudinal design and follow changes in variables that may play part in the development of PTG, as the process of PTG over time requires attention.

It is essential to repeat the study with a larger sample. First of all, this would give more confidence in the tentative findings provided by this study. Secondly, research involving a larger sample could develop theoretical models by applying pathway analysis and multivariate statistics to better understand the relationships between different variables contributing to PTG. Although methods such as multiple regression could help establish the relative importance of variables that had been described as predictors of PTG, such alternative data analysis would not enable causal interpretations. A larger sample would allow for an exploration of the differences between males and females, as there are some indications in the literature that such differences might be present. Additionally, factor analysis for all items on the PTGI and the QPR could be carried out in subsequent studies in order

to further assess the overlap between the two concepts.

4.8 Conclusions

The study aimed to, first, investigate whether levels of posttraumatic symptoms, self-disclosure and rumination following a psychotic episode are associated with PTG, as hypothesised by Tedeschi and Calhoun's model. Second, the study sought to investigate whether posttraumatic symptoms, self-disclosure and rumination are associated with recovery from psychosis. Finally, the study explored the relationship between PTG and recovery following a psychotic episode.

Although based on a small sample and a cross-sectional design, the study provided preliminary evidence concerning the role of self-disclosure, intrusive rumination and posttraumatic symptoms in the development of PTG and recovery following psychosis. Moreover, it highlighted that people with FEP report experiencing PTG. Consistent with the predictions made by the PTG model, the results showed that the level of actual self-disclosure is associated with PTG. In contrast to the PTG theory and previous research, there was also no evidence supporting the positive association between intrusive rumination and PTG. There was no significant relationship between PTSD symptoms and PTG and thus the study did not provide evidence that ongoing posttraumatic symptoms are a prerequisite for the development of PTG. For that reason this aspect of PTG model did not gain support.

As expected, the results showed that the level of posttraumatic symptoms is negatively associated with recovery. Consistent with previous research, the results demonstrated that actual self-disclosure is positively correlated with recovery. The study also provided evidence that intrusive rumination is negatively associated with

recovery, which is in line with the notion that recovery is associated with reduction in general negative psychological symptoms (Pitt et al, 2007).

While there were some methodological limitations, the study's results suggest that clinicians need to be aware of the possibility that the clients might be able to recognize some positive aspects of their overall distressing experience. Providing people with FEP with opportunities to share their traumatic experience with others, to recognise their personal strengths, and to reflect on the impact of the experience on their relationships may facilitate PTG and the process of recovery.

The study provided preliminary evidence regarding several key aspects of the PTG model and demonstrated that PTG in the context of psychosis is worth investigating. Future studies should be carried out with larger samples and explore the process of PTG over time. Further research is needed to develop comprehensive theoretical models that would account for variables which might impact on pathways to PTG in people with FEP and in other populations who experienced trauma.

References

American Psychiatric Association (APA, 1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington DC: Author

Amir, N., Stafford, J., Freshman, M., & Foa, E. (1998). Relationship between trauma narratives and trauma pathology. *Journal of Traumatic Stress, 11*, 385-392.

Anthony, W.A. (1993). Recovery from mental illness: The guiding vision of the mental health service system in the 1990's. *Psychosocial Rehabilitation Journal, 16,* 11-23.

Back, S. (2010). Toward an improved model of treating co-occurring PTSD and substance use disorders. *American Journal of Psychiatry, 167*, 11-13.

Baker, S., & Strong, S. (2001). *Roads to Recovery: How people with mental health problems recover and find ways of coping.* Mind. Retrieved 1 February 2009, from http://www.mind.org.uk/campaigns_and_issues/report_and_resources

Barker, Ch., Pistrang, N., & Elliot, R. (2002). *Research Methods in Clinical Psychology. An Introduction for Students and Practitioners*. (2nd ed.). John Wiley & Sons, Ltd.

Bayer, S., Lev-Wiesel, R., & Armir, M. (2007). The relationship between basic assumptions, posttraumatic growth and ambiguity tolerance in an Israeli sample of young adults: a mediation-moderation model. *Traumatology, 13*, 4-15. *Behavaviour Research and Therapy, 38*, 319-45.

Bellizzi, K., & Blank, T. (2006). Predicting posttraumatic growth in breast cancer survivors. *Health Psychology, 25*, 47-56.

Bentall, R. P. (2003) *Madness Explained: Psychosis and Human Nature.* London: Penguin Books Ltd.

Bernard, M., Jackson, C., & Jones, C. (2006). Written emotional disclosure following first-episode psychosis: Effects on symptoms of post-traumatic stress disorder. *British Journal of Clinical Psychology, 45*, 403-415.

Birchwood, M., & Jackson, C. (2001). *Schizophrenia.* Psychology Press Ltd.

Bolton, C., Gooding, P.A., Kapur, N., Barrowclough, C., & Tarrier, N. (2007). Developing psychological perspectives of suicidal behaviour and risk in people with a diagnosis of schizophrenia: we know they kill themselves but do we understand why? *Clinical Psychology Review, 27*, 511-36.

Brady, K.T., Killeen, T.K., Brewerton, T., & Lucerini, S. (2000). Comorbidity of psychiatric disorders and posttraumatic stress disorder. *Journal of Clinical Psychiatry, 61*, 22-32.

Breslau, N., Davis, G.C., Andreski, P., & Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry, 48*, 216-222.

Brewin, C.R. (2003). *Posttraumatic Stress Disorder. Malady or Myth.* Yale University Press.

Brewin, C.R., Dalgleish, T., & Joseph, S. (1996). A dual-representation theory of Post-Traumatic Stress Disorder. *Psychological Review, 106*, 670-686.

Brewin, C.R., & Holmes, E.A. (2003). Psychological theories of posttraumatic stress disorder. *Clinical Psychology Review, 23*, 339–376.

British Psychological Society. (2000). Recent Advances in Understanding Mental Illness and Psychotic Experiences. A report by the British Psychological

Society's Division of Clinical Psychology. Retrieved 1 May 2010, from http://www.bps.org.uk/document-download-area

Butler, L., Blasey, Ch., Garlan, R., McCaslin, S., Azarow, J., Chen, X., … Spiegel, D. (2005). Posttraumatic growth following the terrorists attacks of September 11, 2001: cognitive, coping and trauma symptom predictors in an internet convenience sample. *Traumatology, 11*, 247-267.

Callcott, P., & Turkington, D. (2006). CBT for traumatic psychosis. In W. Larkin & A.P. Morrison (Eds.), *Trauma and Psychosis. New Directions for Theory and Therapy* (pp. 222-238). London: Routlege.

Calhoun, L., Cann, A., Tedeschi, R., & McMillan, J. (2000). A correlational test of the relationship between posttraumatic growth, religion and cognitive processing. *Journal of Traumatic Stress, 13*, 521-527.

Calhoun, L, & Tedeschi, R. (1989). Positive aspects of critical life problems: Recollections of grief. *Omega: Journal of Death and Dying, 20*, 265-272.

Calhoun, L, & Tedeschi, R. (1998). Beyond recovery from trauma: implications for clinical practice and research. *Journal of Social Issues, 54*, 357-371

Cann, A.,Calhoun, L., Tedeschi, R., Triplett, K., Vishnevsky, T., & Lindstrom, C. (2009). *Event Related Rumination Inventory-Short Form*. Unpublished manuscript. Department of Psychology, University of North Carolina, Charlotte, USA.

Cann, A.,Calhoun, L., Tedeschi, R., Triplett, K., Vishnevsky, T., & Lindstrom, C. (2010). *Assessing Posttraumatic Cognitive Activity: The Event Related Rumination Inventory.* Manuscript submitted for publication.

Carboon, I., Anderson, V., Pollard, A., Szer, J., & Seymour, J. (2005). Posttraumatic

growth following a caner diagnosis: do world assumptions contribute? *Traumatology, 11,* 269-283.

Carver, C.S. (1997). You want to measure coping but your protocol's too long: consider the Brief COPE. *International Journal of Behavioural Medicine, 4*, 92-100.

Carver, C.S., Scheier, M.F., & Wintraub, J.K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology, 56,* 267-283.

Collins, R., Taylor, S., & Skokan, L. (1990). A better world or a shattered vision: Changes in life perspectives following victimization. *Social Cognition, 8,* 263-285.

Cordova, M., Cunningham, L., Carlson, C., & Andrykowski, M. (2001). Posttraumatic growth following breast cancer: a controlled comparison study. *Health Psychology 20*, 176-85.

Cordova, M., Giese-Davis, J., Golant, M., Kronenwetter, V., & Spiegel, D. (2007). Breast cancer as trauma: posttraumatic stress and posttraumatic growth. *Journal of Clinical Psychology in Medical Settings, 14,* 308-319.

Cossof, J., & Hafner, R. (1998). The prevalence of comorbid anxiety in schizophrenia, schizoaffective disorder and bipolar disorder. *Australian and New Zealand Journal of Psychiatry*, 32, 67-72.

Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the Impact of Events Scale-Revised. *Behaviour Research and Therapy, 41*, 1489-1496.

Department of Health (2001). *The Journey to Recovery - The Government's Vision for Mental Healthcare*. Retrieved 1 February 2009, from

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4002700

Drayton, M., Birchwood, M., & Trower, P. (1998). Early attachment experience and recovery from psychosis. *British Journal of Clinical Psychology, 37*, 269-84.

Dudley, R., Siitarinen, J., James, I., & Dodgson, G. (2009). What do people with psychosis think caused their psychosis? A Q methodology study. *Behavioural and Cognitive Psychotherapy, 37*, 11-24.

Dunkley, J. E., Bates, G. W., Foulds, M., & Fitzgerald, P.B. (2007). Understanding adaptation to first-episode psychosis: the relevance of trauma and posttraumatic growth. *The Australasian Journal of Disaster and Trauma Studies.* Retrieved 1 February 2009, from http://www.massey.ac.nz/~trauma/issues/2007-1/dunkley.htm

Ehlers, A., & Clark, D.M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38,* 319-345.

Ehring, T., Ehlersa, A., & Glucksman, E. (2006). Contribution of cognitive factors to the prediction of post-traumatic stress disorder, phobia and depression after motor vehicle accidents. *Behaviour Research and Therapy, 44*, 1699–1716.

Ehring, T., Frank, S., & Ehlers, A. (2008). The role of rumination and reduced concreteness in the maintenance of PTSD and depression following trauma. *Cognitive Therapy and Research, 32*, 488-506.

Elwood, L.S., Hahn, K.S., Olatunji, B.O. & Williams, N. (2009). Cognitive vulnerabilities to the development of PTSD: A review of four vulnerabilities and the proposal of an integrative vulnerability model. *Clinical Psychology*

Review, 29, 87-100.

Erbes, Ch., Eberly, R., Dikel, T., Johnsen, E., Harris, I., & Engdahl, B. (2005). Posttraumatic Growth among American former prisoners of war. *Traumatology, 11,* 285-295.

Ersland, S., Weisæth, L., & Sund, A. (1989). The stress upon rescuers involved in an oil rig disaster. *Acta Psychiatrica Scandinavica, 80,* 38-49.

Esterling, B.A., L'Abate, L. Murray, E.J., & Pennebaker, J.W. (1999). Empirical foundations for writing in prevention and psycho-therapy: Mental and physical health outcomes. *Clinical Psychology Review, 19,* 79-96.

Field, A. (2009). *Discovering statistics using SPSS*. (3rd ed.). Sage Publications Ltd.

Faul, F., Erdfelder, E., Lang, A.G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175-191.

Foa, E., & Rauch, S. (2006). Emotional processing Theory (EPT) and Exposure Therapy for PTSD. *Journal of Contemporary Psychotherapy, 36,* 61-65.

Folkman, S., & Lazarus, R.S. (1985). If it changes if must be a process: Study of emotion and coping during three stages of college examination. *Journal of Personality and Social Psychology,* 48, 150-170.

Fowler, D., Freeman, D., Smith, B., Kuipers, E., Bebbington, P., Bashforth, H.,… Garety P. (2006). The Brief Core Schema Scales (BCSS): psychometric properties and associations with paranoia and grandiosity in non-clinical and psychosis samples. *Psychological Medicine, 36,* 749-59.

Frame, L., & Morrison, A.P. (2001). Causes of posttraumatic stress disorder in psychotic patients. *Archives of General Psychiatry, 58,* 305-306.

Frazier P., Conlon, A., & Glaser, T. (2001). Positive and negative life changes following sexual assault. *Journal of Consulting and Clinical Psychology*, 69, 1048-55.

Garety, P.A., Kuipers, E.K., Fowler, D., Freeman, D., & Bebbingtton, P.E. (2001). A cognitive model of the positive symptoms of psychosis. *Psychological Medicine, 31,* 189-195.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine, 9*, 139-145.

Halari, R., Premkumar, P., Farquharson, L., Fannon, D., Kuipers, E. &, Kumari, V. (2009). Rumination and negative symptoms in schizophrenia. *Journal of Nervous and Mental Disease, 197,* 703-6. Abstract retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19752652

Harrison, C.L., & Fowler, D. (2004). Negative symptoms, trauma and autobiographical memory: An investigation into individuals recovering from psychosis. *The Journal of Nervous and Mental Disease, 192*, 745-753.

Ho, S., Wing Chu, K., & Yiu, J. (2008). The relationship between explanatory style and posttraumatic growth after bereavement in a non-clinical sample. *Death Studies, 32,* 461-478.

Iacono, W.G., & Beiser, M. (1992). Are males more likely than females to develop schizophrenia? *Journal of Psychiatry, 149,* 1070-1074.

Jackson, C., & Birchwood, M. (2006). Trauma and first episode psychosis. In W. Larkin & A.P. Morrison (Eds.), *Trauma and Psychosis. New Directions for Theory and Therapy* (pp. 127-147). London: Routlege.

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of*

trauma. New York: Free Press.

Joseph, S., & Linley, P. A. (2005). Positive psychological approaches to therapy. *Counselling and Psychotherapy Research, 5,* 5-10.

Kelly, M., & Gamble, C. (2005). Exploring the concept of recovery in schizophrenia. *Journal of Psychiatric and Mental Health Nursing, 12*, 245-251.

Kleim, B., & Ehlers, A. (2009). Evidence for a curvilinear relationship between posttraumatic growth and posttrauma psychopathology. *Journal of Traumatic Stress, 22,* 1, 45-52.

Larkin, W., & Morrison, A.P. (2006). Relationship between trauma and psychosis: from theory to therapy. In W. Larkin & A.P. Morrison (Eds.), *Trauma and Psychosis. New Directions for Theory and Therapy* (pp. 259-282). London: Routlege.

Linley, P, & Joseph, S. (2004). Positive change following trauma and adversity: A review. *Journal of Traumatic Stress, 17*, 11-21.

Logan, D.E., Claar, R.L., & Scharff, L. (2008). Social desirability response bias and self-report of psychological distress in pediatric chronic pain patients. *Pain, 136*, 366-72.

Lurie-Beck, J., Liossis, P., Gow, K. (2008). Relationships between psychopathological and demographic variables and posttraumatic growth among holocaust survivors. *Traumatology, 14*, 28-39.

Maercker, A., Mohiyeddini, C., Muller, M., Xie, W., Yang, Z., Wang, J., & Muller, J. (2009). Traditional versus modern values, self-perceived interpersonal factors, and posttraumatic stress in Chinese and German crime victims.

Psychology and Psychotherapy: Theory Research and Practice, 82, 219-32.

Maguen, S., Vogt, D., King, L., King, D., & Litz, B. (2006) Posttraumatic growth among Gulf War I veterans: the predictive role of deployment-related experiences and background characteristics. *Journal of Loss and Trauma, 11*, 373-388.

Mangalore, R. & Knapp, M. (2007) Cost of schizophrenia in England. *The Journal of Mental Health Policy and Economics, 10,* 23–41.

Martin, L.L., & Tesser, A. (1996). Clarifying our thoughts. In R.S. Wyer (Ed.), *Ruminative thought: Advances in Social Cognition*. (Vol. 9, pp. 189-209). Mahwah, NJ: Lawrence Erlbaum.

McGlashan, T.H., Docherty, J.P., Siris, S. (1976). Integrative and sealing-over recoveries from schizophrenia: Distinguishing case studies. *Psychiatry, 39,* 325-338.

McGorry, P.D., Chanan, A., McCarthy, E., Van Riel, R., McKenzie, D., & Singh, B.S. (1991). Posttraumatic stress disorder following recent onset psychosis. *The Journal of Nervous and Mental Disease, 179,* 253-258.

McGorry, P.D., & Jackson, J. (2009). *The recognition and management of early psychosis: a preventive approach.* Cambridge University Press.

McGrath, J., Saha, S., Chant, D., & Welham, J. (2008). Schizophrenia: a concise overview of incidence, prevalence and mortality. *Epidemiologic Review, 30*, 67-76.

Meyer, H., Taiminen, T., Vuori, T., Aijala, A., & Helenius, H. (1999). Posttraumatic stress disorder symptoms related to psychosis and acute involuntary hospitalisation in schizophrenic and delusional patients. *The Journal of*

Nervous and Mental Disease, 187, 343-352.

Michael, T., Halligan, S. L., Clark, D.M., & Ehlers, A. (2007). Rumination in posttraumatic stress disorder. *Depression and Anxiety, 24*, 307-317.

Milam, J. (2004). Posttraumatic growth among HIV/AIDS patients. *Journal of Applied Social Psychology, 34,* 2353-2376.

Morison, A.P., Frame, L., & Larkin, W. (2003). Relationship between trauma and psychosis: A review and integration. *British Journal of Clinical Psychology, 42*, 331-353.

Morland, L., Butler, L., & Leskin, G. (2008). Resilience and Thriving in a Time of Terrorism. In S. Joseph & P. Linley (Eds.), *Trauma, Recovery, and Growth*. (pp. 39-62). Hoboken, NJ: John Wiley & Sons.

Moos, R. H. (1993). *Coping Responses Inventory-Adult Form: Professional manual.* Odessa, FL: Psychological Assessment Resources.

Mueser, K.T., Lu, W., Rosenberg, S.D., & Wolfe. R. (2010). The trauma of psychosis: posttraumatic stress disorder and recent onset psychosis. *Schizophrenia Research, 116*, 217-27.

Müller, J., Beauducel, A., Raschka, J., & Maercker, A. (2000). Kommunikationsverhalten nach politischer Haft in der DDR. Entwicklung eines Fragebogens zum Offenlegen der Traumaerfahrungen. *Zeitschrift für Politische Psychologie, 8*, 413-427.

Müller, J., Moergeli, H., & Maercker, A. (2008). Disclosure and social acknowledgement as predictors of recovery from posttraumatic stress: a longitudinal study in crime victims. *Canadian Journal of Psychiatry*, *53*, 160-168.

National Institute for Health and Clinical Excellence. (NICE, 2010). *National Clinical Practice Guideline Number 82. Schizophrenia: core interventions in the treatment and management of schizophrenia in primary and secondary care (updated edition)*. Retrieved 1 May 2010, from http://www.guidance.nice.org.uk/CG82

Neil, S., Pitt, L., Kilbride, M., Morrison, A., Nothard, S., Welford, M., & Sellwood, W. (In collaboration with The Bolton Salford and Trafford Service User Steering Committee). (2007). *The Process of Recovery Questionnaire (the QPR): Guidelines for Clinicians, Researchers and Service Users for the uses, administration and scoring of the QPR.* Unpublished manual.

Neil, S., Kilbride, M., Pitt, L., Nothard., S., Welford, M., Sellwood, W., Morrison, A.P. (2009). The questionnaire about the process of recovery (QPR): A measurement tool developed in collaboration with service users. *Psychosis, 1,* 145-155.

Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology, 100,* 569-582.

Nolen-Hoeksema, S., McBride, A., & Larson, J. (1997). Rumination and psychological distress among bereaved partners. *Journal of Personality and Social Psychology, 72,* 855-62.

Norlander, T., Von Schedvin, H., & Archer, T. (2005). Thriving as a function of affective personality: relation to personality factors, coping strategies and stress. *Anxiety, Stress and Coping, 18,* 105-116.

Norris, F.H. (1992). Epidemiology of trauma. Frequency and impact of different

potentially traumatic events on different demograpic groups. *Journal of Consulting and Clinical Psychology, 60*, 409-118.

Office for National Statistics (ONS, 2000). *Psychiatric morbidity among adults living in private households*. Retrieved 1 February 2009, from http://www.statistics.gov.uk/statbase/Product.asp?vlnk=8258&More=N

Owens, J.P., Steger, M.F., Whitesell, A.A., & Herrera, C.J. (2009). Posttraumatic stress disorder, guilt, depression, and meaning in life among military veterans. *Journal of Traumatic Stress, 22*, 654-657.

Park, C.L., Cohen, L., & Murch, R. (1996). Assessment and prediction of stress-related growth. *Journal of Personality, 64*, 71-105.

Pennebaker, J.W., & Seagal, J. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology, 55*, 1243-1254.

Pilling, S., Bebbington, P., Kuipers, E., Garety, P., Geddes, J., Orbach, G., & Morgan, C. (2002). Psychological treatments in schizophrenia: I. Meta-analysis of family intervention and cognitive behaviour therapy. *Psychological Medicine, 32*, 763-782.

Pitt, L., Kilbride, M., Nothard, S., Welford, M., & Morisson, A.P. (2007). Researching recovery from psychosis: a user-led project. *Psychiatric Bulletin, 31,* 55-60.

Purves, D., & Erwin, P. (2004). Post-traumatic stress and self-disclosure. *The Journal of Psychology,138*, 23-34.

Rethink. (2000). *What is psychosis?* Retrieved 1 May 2010, from http://www.rethink.org/about_mental_illness/early_intervention/understanding_psychosis

Read, J., & Ross, C.A. (2007). Psychological trauma and psychosis: Another reason why people diagnosed schizophrenic must be offered psychological therapies. *Journal of the American Academy of Psychoanalysis, 31*, 247-268.

Rhodes, J., & Jakes, S. (2009*) Narrative CBT for Psychosis.* London: Routlege.

Robins, R., Fraley, R., & Krueger, R. (2007). *Handbook of Research Methods in Personality Psychology.* New York: The Guilford Press.

Rogers, E.S., Chamberlin, J., Ellison, M., & Crean, T. (1997). A consumer-constructed scale to measure empowerment. *Psychiatric Services, 48*, 1042-1047.

Shakespeare-Finch, J.E., & Enders, T. (2008) Corroborating evidence of posttraumatic growth. *Journal of Traumatic Stress, 21,* 421-424.

Shaner, A., & Eth, S. (1989). Can schizophrenia cause posttraumatic stress disorder? *American Journal of Psychotherapy, 43,* 588-597.

Sheikh, A.I. (2004). Posttraumatic growth in the context of heart disease. *Journal of Clinical Psychology in Medical Settings, 11*, 265-273.

Smith, M.E., & Kelly, L.M. (2001). The journey of recovery after a rape experience. *Issues in Mental Health Nursing, 22,* 337 – 352.

Smith, B., Steel, C., Rollinson, R., Freeeman, D., Hardy, A., Kuipers, E.,… Fowler, D. (2006). The importance of traumatic events in formulation and intervention in cognitive behavioural therapy for psychosis. In W. Larkin & A.P. Morrison (Eds.), *Trauma and Psychosis. New Directions for Theory and Therapy* (239-248). London: Routlege.

Social Issues Research Centre. (2009). Optimism. A report from the Social Issues Research Centre. Retrieved 15 May 2010, from http:// www.sirc.org/publik/

Solomon, Z., & Dekel, R. (2007). PTSD and posttraumatic growth among Israeli ex-POWs. *Journal of Traumatic Stress, 20,* 303-312.

Spitzer, C., Barnow, S., Völzke, H., John, U., Freyberger, H., & Grabe, H.J. (2009). Trauma, posttraumatic stress disorder, and physical illness: findings from the general population. *Psychosomatic Medicine 71*, 1012-1017.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics*. Boston: Allyn and Bacon.

Taku, K., Cann, A., Tedeschi, R., & Calhoun, T. (2008a). Intrusive versus deliberate rumination in posttraumatic growth across US and Japanese samples. *Anxiety, Stress and Coping, 20,* 1-8.

Taku, K., Cann, A., Tedeschi, R., & Calhoun, T. (2008b). The role of rumination in the coexistence of distress and posttraumatic growth among bereaved Japanese university students. *Death Studies, 32,* 428-444.

Taku, K., Tedeschi, R., Cann, A., & Calhoun, T. (2009). The culture of disclosure: Effects of perceived reactions to disclosure on posttraumatic growth and distress in Japan. *Journal of Social and Clinical Psychology, 29*, 1226-1243.

Tang, C. (2007). Posttraumatic growth of Southeast Asian survivors with physical injuries: six months after the 2004 Southeast Asian earthquake - Tsunami. *The Australian Journal of Disaster and Trauma Studies*. Retrieved October 15, 2008 from http://www.massey.ac.nz/~trauma/issues/previous.shtml#2007-1

Tedeschi, R., & Calhoun, L. (1995). *Trauma and transformation: growing in the aftermath of suffering*. Thousand Oaks, CA: Sage Publications, Inc.

Tedeschi, R., & Calhoun, L. (1996a). The Posttraumatic Growth Inventory:

Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*, 455-471.

Tedeschi, R., & Calhoun, L. (1996b). *The Posttraumatic Growth Inventory*. Unpublished manual.

Tedeschi, R., & Calhoun, L. (2004). Posttraumatic growth: conceptual foundations and empirical evidence. *Psychological Inquiry, 15,* 1-18.

Updegraff, J. A., Taylor, S. E., Kemeny, M. E., & Wyatt, G. E. (2002). Positive and negative effects of HIV infection in women with low socioeconomic resources. *Personality and Social Psychology Bulletin*, 28, 382-394.

Watkins, E. (2001). Why do people ruminate in dysphoric moods? *Personality and Individual Differences Netherlands, 30,* 723-734.

Weathers, F.W., Litz, B.T., Herman, D.S., Huska, J.A., & Keane, T.M. (1993). *The PTSD checklist (PCL): reliability, validity, & diagnostic utility*. Paper presented at the Annual Meeting of the International Society for Traumatic Stress Studies, San Antonio.

Weiss, D. S., & Marmar, C. R. (1997). The Impact of Event Scale - Revised. In J. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399-411). New York: Guilford.

Whitwell, D. (1999). The myth of recovery from mental illness. *Psychiatric Bulletin 23*, 621-622.

Widows, M., Jacobsen, P., Booth-Jones, M., & Fields, K. (2005). Predictors of posttraumatic growth following bone marrow transplantation for cancer. *Health Psychology, 24*, 266-273.

Wild, N., & Paivio, S. (2003). Psychological adjustment, coping and emotional

regulation as predictors of posttraumatic growth. *Journal of Aggression, Maltreatment and Trauma, 8*, 97-121.

Wilken, J. P. (2007). Understanding Recovery from Psychosis: A Growing Body of Knowledge. *Tidsskrift for Norsk Psykologforening, 44*, 658-666.

Wilkinson, G., Hesdon, B., Wild, D., Cookson, R., Farina, C., Sharma, V., … Jenkinson, C. (2000). Self-report quality of life measure for people with schizophrenia: the SQLS. *British Journal of Psychiatry,177*, 42-46.

World Health Organization (WHO, 2007). *International statistical classification of diseases and related health problems. ICD-10 instruction manual. (2nd ed.)* Retrieved 25 January 2009, from http://www.who.int/classifications/icd/en/

Zoellner, T., & Maercker, A. (2006). Posttraumatic growth in clinical psychology: A critical review and introduction of a two component model. *Clinical Psychology Review, 26*, 626-653.

Zoellner, T., Rabe, S., Karl, A., & Maercker, A. (2008). Posttraumatic growth in accident survivors: openness and optimism as predictors of its constructive and illusory sides. *Journal of Clinical Psychology, 64*, 245-63.

List of Appendices

Appendix 1

Letter of Approval from the Cambridgeshire 4 Research Ethics Committee

NHS
National Research Ethics Service
Cambridgeshire 4 Research Ethics Committee

Victoria House
Capital Park
Fulbourn
Cambridge
CB21 5XB

Telephone: 01223 597685
Facsimile: 01223 597645

10 September 2009

Ms Magdalena Pietruch
Trainee Clinical Psychologist
Cambridge and Peterborough NHS Foundation Trust
Elizabeth House
Fulbourn Hospital
Cambridge
CB21 5EF

Dear Ms Pietruch

Study Title:	**The role of rumination and self-disclosure in recovery and posttraumatic growth in people who have experienced a psychotic episode.**
REC reference number:	**09/H0305/66**
Protocol number:	**2**

Thank you for your letter of 01 September 2009, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research

governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where the only involvement of the NHS organisation is as a Participant Identification Centre, management permission for research is not required but the R&D office should be notified of the study. Guidance should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Educational Supervisors CV	Laura Jobson	
Covering Letter	Magdalena Pietruch	22 June 2009
Investigator CV	Magdalena Pietruch	
REC application	23865/45950/1/4	22 June 2009
Questionnaire: booklet	1	26 June 2009
Compensation Arrangements	Sue Steel	23 June 2009
Peer Review	Laura Jobson	22 June 2009
Protocol	2	01 September 2009
Participant Information Sheet	2	01 September 2009
CV for Prof Shirley Reynolds		01 September 2009
Response to Request for Further Information	Magdelena Pietruch	01 September 2009

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of

changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

09/H0305/66	**Please quote this number on all correspondence**

Yours sincerely

pp. NStorey

Dr Leslie Gelling
Chair

Email: Nicky.Storey@eoe.nhs.uk

Enclosures: "After ethical review – guidance for researchers"

Copy to: Ms Sue Steel
Research, Enterprise & Engagement Office
The Registry
University of East Anglia
Norwich
NR4 7TJ

Appendix 2

Letter of Approval from the Cambridge and Peterborough Mental Health Foundation Trust

Cambridgeshire and Peterborough NHS
NHS Foundation Trust

Understanding mental health, understanding people

Please reply to:
Natercia Godinho
R&D Manager
R&D Office
Douglas House
18 Trumpington Rd
Cambridge CB2 8AH

Tel: 01223 746145
Fax: 01223 746162
E-Mail: natercia.godinho@cpft.nhs.uk
Website: www.cpft.nhs.uk

R&D ref:M00369
Ethics ref:09/H0305/66
Date: 01/10/2009

Ms Magdalena Pietruch
Trainee Clinical psychologist
Elizabeth House
Fulbourn Hospital
Cambridge CB21 5EF

Dear Ms Pietruch

Study title: The rol of rumination and self-disclosure in recovery and post-traumatic growth in people who have exprienced a psyhcotic episode

Thank you for applying for NHS permission to Conduct Research for the above named project. A site specific assessment has been conducted by the R&D based on the information provided on the site specific information and in accordance to the Research Governance Framework For Health and Social Care for research appraisal. The study therefore has been granted full approval on the basis described in the application form, protocol and supporting documentation.

Trust approval of the above research applies to the research sites listed on the application form. Any changes to the above research should be communicated to this Trust and to the relevant Ethics Committee, and protocols followed accordingly.

Sponsor:

End date of Sponsorship: 30/06/2010

Funder: University of East Anglia

Protocol: version 2, dated 01/09/2009

Ethics

In accordance with the Department of Health's Research Governance Framework for Health and Social Care, all research projects taking place within the Trust must receive a favourable opnion

from the ethics committee and approval from the Department of Research and Development (R&D) prior to commencement.

Honorary Research Contracts (HRC)

All researchers with no contractual relationship with any NHS body, who are to interact with NHS patients in a way that directly affects the quality of their care, should hold honorary NHS contracts (Access Letter or Research Passport). For more information on whether you or any of your research team will require an HRC please liaise with the R&D office. **It is your responsibility to inform us if any of your team does not hold NHS contracts.** Any additional researchers who join the study at a later stage must also hold a suitable contract.

Risk and Incident Reporting

Much effort goes into designing and planning high quality research, which reduces risk; however untoward incidents or unexpected events (i.e. not noted in the protocol) may occur in any research project. Where these events take place on trust premises, or involve trust service users, carers or staff, you must report the incident within 48 hours via the Trust incident reporting system on www.cpft.nhs.uk.

Research Governance, Confidentiality and Information Governance

Whilst conducting this study, you must fully comply with the Research Governance Framework. This can be accessed at http://www.dh.gov.uk website then use the DH search facility. All personnel working on this project are bound by a duty of confidentiality. All material accessed in the trust must be treated in accordance with the Data Protection Act (1998).

All parties involved in this research to familiarise themselves and comply with the Trust's policies and procedures available on the Trust website:
http://www.cpft.nhs.uk/Publications/DocumentsthatGuidePractice/DtGP/tabid/486/language/en-US/Default.aspx

Protocol / Substantial Amendments

You must ensure that the approved protocol is followed at all times. Should you need to amend the protocol, please follow the Research Ethics Committee procedures and inform all NHS organisations participating in your research.

Monitoring / Participant Recruitment Details

You will be required to produce a short electronic progress report annually and at completion. You can obtain these forms from the R&D office.

If your study has been adopted onto the Portfolio it is the responsibility of the Accrual Data Contact (ADC) to upload any and all accrual data (recruitment data) relating to this Trust to the NIHR and to liaise with the local Principal Investigator and the R&D Office on such accrual.

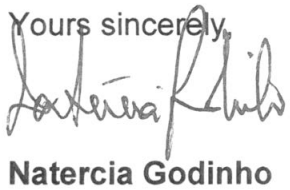
Final Reports

At the end of your research study, we will request a final summary report so that your findings are made available to local NHS staff. The details from this report may be published on the Trust intranet site to ensure findings are disseminated as widely as possible to stakeholders.

Failure to comply with any of the above may result in withdrawal of Trust approval.

On behalf of this Trust, may I wish you every success with your research.

Yours sincerely,



Natercia Godinho
R&D Manager

Appendix 3

Letter of Approval from the Suffolk Mental Health Partnership NHS Trust

Suffolk
County Council

Suffolk NHS
Mental Health Partnership NHS Trust

Research & Development Office

Post Bag Code C381
The Ipswich Hospital
Heath Road
Ipswich
Suffolk
IP4 5PD
Tel: 01473 704343
Email: research.office@ipswichhospital.nhs.uk

Ms Magdalena Pietruch
Trainee Clinical Psychologist
University of East Anglia/ CPFT
Elizabeth House
Fulbourne Hospital
Cambridge
CB21 5EF

Ref: 2009/072

Date: 08 October 2009

Dear Ms Pietruch

R&D Ref: 2009/072

UKCRN ID: N/A

Short Title: Posttraumatic Growth and Recovery in Psychosis. Version 1

Title of the research

The role of rumination and self-disclosure in recovery and posttraumatic growth in people who have experienced a psychotic episode.

The Chief Investigator is	Ms Magdalena Pietruch
Sponsor (s)	University of East Anglia
Funder (s)	Non-Commercial Externally Funded University

	Date	Ref/Signed by
The Project had ethical approval on	10 September 2009	Cambridgeshire 4 REC REC Ref: 09/H0305/66
The approved protocol version 2 dated 01 September 2009 received ethical approval	10 September 2009	Cambridgeshire 4 REC REC Ref: 09/H0305/66
The R&D application form	10/07/2009	Signed by the Principal Investigator: Ms Magdalena Pietruch

CF

I am please to inform you that the Trust has no objections to the following documentation which received REC approval on 10 September 2009 REC Reference 09/H0305/66.

Document	Version	Date
REC Application	23865/45950/1/4	22 June 2009
Questionnaire: booklet	1	26 June 2009
Compensation Arrangements	Sue Steel	23 June 2009
Protocol	2	01 September 2009
Participant Information Sheet	2	01 September 2009

This approval is conditional on the following:
a) You must ensure that you and your research team have read, understood and follow the **Research Management & Governance Manual - Standard Operating Procedures** (available on the Research & Development page on the Intranet or by request from the Research Office).
b) Please note that SOP004-007 apply to approved research.
c) The research is conducted in accordance with any project-specific agreement (attached to this letter if applicable). **If the agreement identifies the Trust as a responsible party then that responsibility is delegated to yourself.** You may wish to further delegate this to someone else but this must be recorded in your Site File in the 'Delegation Log'. In the event that you do not wish to accept responsibility then you must inform the Research Office as soon as possible. If the Trust cannot identify someone who is willing and able to accept a delegated responsibility then the Trust Approval will be suspended.
d) The appropriate headed paper must be used and it is the responsibility of the Principal Investigator to ensure that this is done.

If you and/or your research team have not had Good Clinical Practice (GCP) training, please contact the Research Office who are arranging in-house training with an external trainer for research active staff.

May I take this opportunity to wish you well with this piece of research.

Yours sincerely

Lisa Llewelyn

Lisa Llewelyn (Mrs)
Head of the Centre for Clinical Excellence
Suffolk Mental Health Partnership Trust

CC

By email

Team Manager

Ian Meek

Suffolk Early Intervention in Psychosis Service

CLRN Manager

Frances Farnworth, C361

Appendix 4

Letter of Approval from the East Norfolk and Waveney Research Governance Committee

(Kings Lynn)

East Norfolk and Waveney Research Governance Committee

Please reply to: Research Governance Committee Office
Research and Development Department
Level 3, East Block, Room 032
Norfolk & Norwich University Hospitals NHS Foundation Trust
Colney Lane
Norwich
NR4 7UY
Direct Dial: 01603 287408
Internal: 3408
Direct Fax: 01603 289800
e-mail: rdoffice@nnuh.nhs.uk
Website: www.norfolkhealthresearch.nhs.uk

Ms Magdalena Pietruch
Elizabeth House
Fubourn Hospital
Cambridge
CB21 5EF

02/11/2009

Dear Ms Pietruch

Re: 2009MH17 (159-09-09) The role of rumination and selfdisclosure in recovery and posttraumatic growth in people who have experienced a psychotic episode.

Following confirmation of a favourable Ethical opinion I am pleased to confirm that your project has been given full approval from the East Norfolk and Waveney Research Governance Committee and Research Management Team and you may start your research.

Please note that this approval applies to the following sites:

- **Early Intervention Service, Norfolk & Waveney Foundation Trust**

I have enclosed two copies of the Standard Terms and Conditions of Approval. Please sign and return one copy to the Research Governance Committee office. Failure to return the standard terms and conditions may affect the conditions of approval.

Please note, under the agreed standard terms and conditions of approval you must inform this Committee of any proposed changes to this study and to keep the Committee updated on progress.

If you have any queries regarding this or any other study please contact Julie Dawson, Research Governance Administrator, at the above address. Please note, your reference number is **2009MH17 (159-09-09)** and this should be quoted on all correspondence.

The Committee would like to take this opportunity to wish you every success with this project.

Yours sincerely

Dr Richard Reading
Chair
Consultant Paediatrician – NHS Norfolk

Encs – Standard terms and conditions
Guidance for screening of patient notes

Screening of Patient Notes for Research Purposes Guidance Notes for NNUH

Note – Work is ongoing nationally to address the issue of screening notes for research purposes – this guidance will be updated once this national guidance becomes available.

"...the only individuals who should have access to a patient's medical records are those who have a **legitimate relationship with the patient**. *A legitimate relationship...can only be achieved through being a member of the healthcare team providing healthcare to the patient. Any other access to patient-identifiable data – for research and other secondary healthcare purposes – must be with explicit patient consent or statutory support (i.e. section 60 of the Health and Social Care Act 2001)".*

Research in the NHS – HR Good Practice Resource Pack (October 2007)

Access to patient-identifiable information should be on a strict need-to-know basis:
Only those individuals who need access to patient-identifiable information should have access to it, and they should only have access to the information items that they need to see.

Caldicott Principles, laid down by the NHS Executive

The guidance provided for research is clear. **No-one outside of the primary healthcare team can have access to patient identifiable notes prior to consent of the patient** for any research project unless approved under Section 60 of the Health and Social Care Act 2001[1] (see below). Honorary research contracts do not provide a mechanism for access to confidential patient information without consent[2].

It is clear therefore that any screening of patient notes prior to consent must be done by the healthcare team. Due to workload issues however, it is often not practical for the primary healthcare team to do all the screening themselves; therefore we advise that although researchers *cannot access notes* prior to consent, researchers can assist with the following activities:

- Advise on search criteria for database searches
- Prepare information packs for sending to patients and mail shots.

These activities *must* be conducted on Trust premises.

The initial approach to patients must be via their primary healthcare team, all invitation letters must be sent from the Trust and on Trust headed paper. Postage costs should be covered by the research team.

Full details of patient screening activities must be given in the application for research governance and ethics approval. This will be considered by both committees prior to approval being given.

All researchers who will have access to confidential information (including names and addresses) for research purposes will need to be issued with an Honorary Contract or Letter of Access by the Trust. This will be arranged through the R&D office at NNUH.

Funding should also be provided to cover the workload involved in screening patients and access to Health Records. For NIHR portfolio studies this will be through NHS support funding, for non-portfolio

---

Carbon Copy: (PI) Dr Laura Jobson

[1] These provisions were re-enacted under Sections 251 and 252 of the National Health Service Act 2006. However, Section 60 continues to be used as common terminology.
[2] Honorary Research Contracts: principles and legal requirements – Research in the NHS – HR Good Practice Resource Pack (October 2007)

Carbon Copy: (PI) Dr Laura Jobson

studies the researcher should consider how this can be funded. Funding issues can be discussed with the R&D office.

Section 60 of the Health and Social Care Act 2001
Section 60 of the Health and Social Care Act 2001 provides a power to ensure that patient identifiable information needed to support essential NHS activity can be used to support medical purposes. These activities must be in the interest of patients or to the wider public and *only where consent is not a practicable alternative and where anonymised information will not suffice*. Those wishing to complete activities with Section 60 support must first apply to the Patient Information Advisory Group (PIAG) Secretariat with all the necessary information. The Advisory Group will then review the application and decide whether to provide support under Section 60.

Further Reading: ----------

Research in the NHS – HR Good Practice Resource Pack (Oct 07) – The Confidentiality Code of Conduct section provides further guidance on ensuring confidentiality (eg information transfer, safeguarding electronic information etc). http://www.nihr.ac.uk/systems_research_passports.aspx

Carbon Copy: (PI) Dr Laura Jobson

Appendix 5

Letter of Approval from the East Norfolk and Waveney Research Governance Committee

(Great Yarmouth)

East Norfolk and Waveney Research Governance Committee

Please reply to: Research Governance Committee Office
Research and Development Department
Level 3, East Block, Room 032
Norfolk & Norwich University Hospitals NHS Foundation Trust
Colney Lane
Norwich
NR4 7UY
Direct Dial: 01603 287806
Internal: 3806
Direct Fax: 01603 289800

e-mail: rdoffice@nnuh.nhs.uk
Website: www.norfolkhealthresearch.nhs.uk

Ms Magdalena Pietruch
Elizabeth House
Fubourn Hospital
Cambridge
CB21 5EF

13 April 2010

Dear Ms Pietruch

Re: 2009MH17 (159-09-09) The role of rumination and selfdisclosure in recovery and posttraumatic growth in people who have experienced a psychotic episode.

I am pleased to confirm that your project has been given full approval from the East Norfolk and Waveney Research Governance Committee and Research Management Team and you may start your research.

Please note that this approval applies to the following sites:

- Norfolk Early Intervention in Psychosis Service, Great Yarmouth Team

I have enclosed two copies of the Standard Terms and Conditions of Approval. Please sign and return one copy to the Research Governance Committee office. Failure to return the standard terms and conditions may affect the conditions of approval.

Please note, under the agreed standard terms and conditions of approval you must inform this Committee of any proposed changes to this study and to keep the Committee updated on progress.

If you have any queries regarding this or any other study please contact Claire Dawdry, Research Governance Administrator, at the above address. Please note, your reference number is **2009MH17 (159-09-09)** and this should be quoted on all correspondence.

The Committee would like to take this opportunity to wish you every success with this project.

Yours sincerely

Dr Richard Reading
Chair
Consultant Paediatrician – NHS Norfolk

Encs – Standard terms and conditions
Guidance for screening of patient notes

Appendix 6

Letter of Approval from the Bedfordshire and Luton Mental Health and Social Care Partnership NHS Trust

Bedfordshire and Luton NHS
Mental Health and Social Care Partnership NHS Trust

Research Governance Approvals Group
Bedfordshire and Luton Partnership Trust
Disability Resource Centre
Poynters House
Poynters Road
Dunstable, LU5 4TP

Ms Magdalena Pietruch

25th March 2010

Dear Ms Magdalena,

Re: *The role of rumination and self-disclosure in recovery and posttraumatic growth in people who have experienced a psychotic episode.*

Thank you for submitting your research proposal to the Research Governance Approvals Group. The group felt that this was an interesting and worthwhile subject, and I am pleased to confirm research governance approval for the above study.

If you make any changes to your proposal please inform the group of these. If they are substantial changes you will need to resubmit your full proposal for review.

In receiving this letter you are accepting that your study must be conducted in accordance with the research governance framework and in line with health and safety and data protection guidelines. If you are unsure about your obligations in relation to these three areas, please contact me immediately. Throughout the course of your research you will be sent monitoring forms and audits. It is important that you fill these in and return them. A failure to do so may result in your approval being withdrawn.

Additionally, brief details of your project (title, aim and project lead), may be posted on our internal website to give other staff a flavour of the research currently taking place in the organisation. Details of research funded by pharmaceutical companies will not be added but all others may be used, unless you notify me of your objection.

Please inform me of any amendments to the approved research proposal / protocol, participant information sheet or consent form and use the usual incident reporting channels to report any adverse events relating to your study.

At the end of your study, please forward a copy of the final report to me, together with presentations or publications relating to the project so that I can keep an accurate record of the outcomes of research in our area.

I look forward to hearing about the progress of your proposal,

Best wishes,

Nicole Stokoe
Research Assistant to
Prof G A Kupshik
Chair of Research Governance Approvals Group

Cc

Dr Laura Jobson, UEA

Appendix 7

Invitation to the Study and Participant Information Sheet

Chief Investigator: Magdalena Pietruch
Trainee Clinical Psychologist
School of Medicine, Health Policy and Practice
University of East Anglia, Norwich NR4 7TJ
email: m.pietruch@uea.ac.uk
phone: 01603 593545, **mobile:** 07815591830

University of East Anglia

Participant Information Sheet

We would like to invite you to take part in a research study. Before you decide, we would like to explain why the research is being carried out and what it will involve for you. Please read the following information carefully. Take time to decide whether or not you wish to take part.

1. What is the purpose of the study?

The aim of this study is to explore some of the reasons that influence people's recovery following a psychotic episode. We would like to find out if telling others about the experience or frequent thinking about the experience helps people recover. We are also interested in the positive changes people may experience after having been through a psychotic episode. The study is being carried out by a trainee clinical psychologist, Magdalena Pietruch, as part of a clinical psychology doctorate course at the University of East Anglia under the supervision of a clinical lecturer, Dr Laura Jobson and a clinical psychologist Professor Shirley Reynolds.

2. Why have I been invited?

You have been invited as you are currently being seen by a mental health service which supports people who have been through a psychotic episode. Your care-coordinator has identified you as somebody who is in a good position to share their experience and contribute to this study. We are hoping to include a total of 82 participants in the study across East Anglia.

3. Do I have to take part?

No. It is up to you to decide whether or not to take part. A decision not to take part will not affect the standard of care you receive.

4. What will happen if I take part?

If you agree to take part in the study you will need to complete the enclosed Questionnaire Booklet. This will take approximately 45 minutes. A stamped addressed envelope, in which you should return the Questionnaire Booklet, is also enclosed. If you decide to return the completed Questionnaire Booklet, this will mean that you have consented to participation in the study. Please return the booklet to us within two weeks.

5. Will my taking part in this study be anonymous and kept confidential?

Yes. All the collected data will be anonymous and treated as confidential. This means that we will not ask you to write your name or address on the Questionnaire Booklet. Your care-coordinator and other clinical staff will not see your completed Questionnaire Booklet. All paper copies of questionnaire booklets will be kept in a locked drawer and the information that we enter on the computer will be secured with a password. Once the study is completed, all the information will be stored in a locked drawer at the University of East Anglia for 15 years, in line with the current policy.

6. What will happen to the results of the research study?
The information collected will be written into final reports for examination purposes. The results may also be published in a relevant journal. You will not be identified in any of these reports. A summary report will be available to you and services involved in the research. You will be asked by your care coordinator if you wish to receive a copy.

7. What are the possible disadvantages or risks of taking part?
Because the Questionnaire Booklet includes questions about your current and past experiences, you may find some of them upsetting. At any point you may stop completing the Questionnaire Booklet and decide not to return it to the researchers. If completing the Questionnaire Booklet causes you distress, you should contact your care-coordinator. If you need support out of normal office hours, please ring the crisis help line on: 0800 028 3431.

8. What are the possible benefits of taking part?
Taking part in the study will not affect the treatment you receive. It is hoped that by having a better understanding of recovery from psychosis, the services can be improved in the future.

9. Complaints
If you have any further concerns about any aspect of the study you should contact Dr Laura Jobson, who is the Academic Supervisor representing the University of East Anglia. Her contact details are:

Dr Laura Jobson
University of East Anglia, School of Medicine, Health Policy and Practice
Elizabeth Fry Building, Norwich NR4 7TJ
Phone number: 01603 593545

If you remain unsatisfied and wish to complain formally you can do this by contacting Patient Advice and Liaison Service (PALS) Team on free phone: 0800 279 2535

10. Who is organising and funding the research?
This research is organised by Magdalena Pietruch (trainee clinical psychologist) and is funded by the University of East Anglia.

11. Has this study been approved?
This study has been reviewed by the Cambridgeshire 4 Research Ethics Committee and the Research and Development Department at the Norfolk and Waveney Mental Health NHS Foundation Trust. The study has received a favorable ethical opinion and approval.

12. Further information
If there is anything that is not clear, or if you would like more information, please speak to your care-coordinator or contact Magdalena Pietruch (see contact details above).

We wish to thank you for taking time to read this sheet.

Appendix 8

Questionnaire Booklet

Chief Investigator: Magdalena Pietruch
Trainee Clinical Psychologist
School of Medicine, Health Policy and Practice
University of East Anglia, Norwich NR4 7TJ
email: m.pietruch@uea.ac.uk
phone: 01603 593545, **mobile:** 07815591830

University of East Anglia

QUESTIONNAIRE BOOKLET

Thank you for considering to participate in this research. This is the Questionnaire Booklet. It contains questions that will explore your experiences and thoughts in relation to your most recent psychotic episode. Please read all the instructions carefully and make sure that you have answered all the questions.

If you have any questions whilst completing this Questionnaire Booklet, please contact your care coordinator or another staff member. You can also contact me using the contact details above.

Please complete this Questionnaire Booklet without giving your name and return it within two weeks using the stamped addressed envelope provided.

Many thanks for your participation in this study!

Magdalena Pietruch

Personal Details

To answer the questions below please write in the space provided or tick the boxes that apply to you.

1. How old are you? _____ years

2. What is your gender? ☐female ☐male

3. How long have you been with the service that supports you following your psychotic episode?

   Please give your answer in months: _____

4. How much time has passed since your most recent psychotic episode?

   Please give your answer in months: _____

5. What kind of support do you currently receive from the service? (tick all that apply)

   1 ☐ meeting care coordinator

   2 ☐ meeting STR worker

   3 ☐ medical reviews

   4 ☐ group programme

   5 ☐ psychology

   6 ☐ family therapy

   7 ☐ my carer/carers receive support

6. What kind of support did you receive from the service in the past? (if different from the current support)

   1 ☐ meeting care coordinator

   2 ☐ meeting STR worker

   3 ☐ medical reviews

   4 ☐ group programme

   5 ☐ psychology

   6 ☐ family therapy

   7 ☐ my carer/carers receive support

TASK 1: The following is a list of difficulties people sometimes experience after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you during the *past 7 days* with respect to **the most recent psychotic episode you had experienced**. How much were you distressed or bothered by these difficulties? Please respond to the following statements by putting a tick in the box which best describes your experience.

	Not at all	**A little bit**	**Moderately**	**Quite a bit**	**Extremely**
1. Any reminder brought back feelings about it.					
2. I had trouble staying asleep.					
3. Other things kept making me think about it.					
4. I felt irritable and angry.					
5. I avoided letting myself get upset when I thought about it or was reminded of it.					
6. I thought about it when I didn't mean to.					
7. I felt as if it hadn't happened or wasn't real.					
8. I stayed away from reminders about it.					
9. Pictures about it popped into my mind.					
10. I was jumpy and easily startled.					
11. I tried not to think about it.					
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.					
13. My feelings about it were kind of numb.					
14. I found myself acting or feeling like I was back at that time.					
15. I had trouble falling asleep.					
16. I had waves of strong feelings about it.					
17. I tried to remove it from my memory.					
18. I had trouble concentrating.					
19. Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.					
20. I had dreams about it.					
21. I felt watchful and on guard.					
22. I tried not to talk about it.					

TASK 2: After an experience like yours, people sometimes, but not always, find themselves having thoughts about their experience even though they don't try to think about it. Indicate for the following items how often, if at all, you had the experiences described *during the weeks immediately after* **your most recent psychotic episode**.

	Not at all	**Rarely**	**Sometimes**	**Often**
23. I thought about it when I did not mean to.				
24. Thoughts about it came to mind and I could not stop thinking about them.				
25. I could not keep images or thoughts about my experience from entering my mind.				
26. Thoughts, memories, or images of the experience came to mind even when I did not want them.				
27. I found myself automatically thinking about what had happened.				

TASK 3: After an experience like yours, people sometimes, but not always, deliberately and intentionally spend time thinking about their experience. Indicate for the following items how often, if at all, you deliberately spent time thinking about the issues indicated *during the weeks immediately after* **your most recent psychotic episode**.

	Not at all	**Rarely**	**Sometimes**	**Often**
28. I thought about whether I could find meaning from my experience.				
29. I thought about whether changes in my life have come from dealing with my experience.				
30. I could not keep images or thoughts about my experience from entering my mind.				
31. Thoughts, memories, or images of the experience came to mind even when I did not want them.				
32. I found myself automatically thinking about what had happened.				

TASK 4: Please indicate to which degree you agree or disagree with each statement in relation to **your most recent psychotic episode**.

	Strongly Disagree	**Somewhat Disagree**	**Somewhat Agree**	**Strongly Agree**
33. There are several people whom I have told the whole story of my psychotic episode many times.				
34. It is important for me to repeatedly talk about what happened and how it happened.				
35. The more often I talk about my psychotic episode, the clearer it becomes to me.				
36. When I talk about my experiences, I try to imagine everything as it was.				
37. I often describe feelings of fear, shock, humiliation, or of feeling paralyzed.				
38. I must get the experience clear in my mind.				
39. I haven't told anybody about my experience.				
40. I feel like I have to talk about my experience a lot.				
41. I only describe the things that happened with a few words.				
42. It wouldn't help me any further if I told people about this experience.				
43. I find it difficult to talk to people about my psychotic episode.				
44. I never find the right time to talk about the experiences that I had.				
45. The more I talk about the experience, the better I can express the feelings I had in that situation.				
46. I often leave out details in my descriptions of the psychotic episode.				
47. After I have described everything, I feel relieved.				
48. I find it more comfortable not to talk about this experience.				
49. I don't want to burden my partner, family, or friends by telling them about the psychotic episode.				
50. I find it easy to talk about my experiences.				
51. I feel compelled to talk about my experiences again and again.				
52. I like to talk about the experience as often as possible.				
53. My family/friends reprimand me for only ever talking about the psychotic episode.				
54. It's difficult for me to speak about the experience in detail.				
55. I often think about this experience, but don't talk about it very much.				
56. I haven't told anybody exactly what happened.				

TASK 5: Please answer the following questions.

• How much time have you spent talking about **your most recent psychotic episode** with…					
	Not at all	**A little**	**Moderate amount**	**Quite a bit**	**A lot**
57. … your family member/members?					
58. … your friend/friends?					
59. … your key worker/ other health professionals?					
60. … any other people ? (if yes, please specify who _____					

• How much detail about **your most recent psychotic episode** have you shared with….					
	No at all	**A little**	**Moderate amount**	**Quite a bit**	**A lot**
61. … your family member/members?					
62. … your friend/friends?					
63. … your key worker/ other health professionals?					
64. … any other people ? (if yes, please specify who _____					

	Not at all	**A little**	**Moderate amount**	**Quite a bit**	**A lot**
65. Have you ever written down your thoughts about your most recent psychotic episode?					
66. Have you ever addressed your most recent psychotic episode in your prayers?					

	Very negative	**Rather negative**	**Neither negative or positive**	**Rather positive**	**Very positive**
67. In general, what were people's reactions when you told them about your recent psychotic episode?					

TASK 6: For each of the statements below indicate the degree to which this change occurred in your life as a result of **your most recent psychotic episode**.

	Not at all	**A little bit**	**Moderately**	**Quite a bit**	**Extremely**
68. I changed my priorities about what is important in life.					
69. I have a greater appreciation for the value of my own life.					
70. I developed new interests.					
71. I have a greater feeling of self-reliance.					
72. I have a better understanding of spiritual matters.					
73. I more clearly see that I can count on people in times of trouble.					
74. I established a new path for my life.					
75. I have a greater sense of closeness with others.					
76. I am more willing to express my emotions.					
77. I know better that I can handle difficulties.					
78. I am able to do better things with my life.					
79. I am better able to accept the way things work out.					
80. I can better appreciate each day.					
81. New opportunities are available which wouldn't have been otherwise.					
82. I have more compassion for others.					
83. I put more effort into my relationships.					
84. I am more likely to try to change things which need changing.					
85. I have a stronger religious faith.					
86. I discovered that I'm stronger than I thought I was.					
87. I learned a great deal about how wonderful people are.					
88. I better accept needing others.					

TASK 7: Please take a moment to consider and sum up how things stand for you at the present time, in particular *over the last 7 days*, with regards to your mental health and recovery. Please respond to the following statements by putting a tick in the box which best describes your experience.

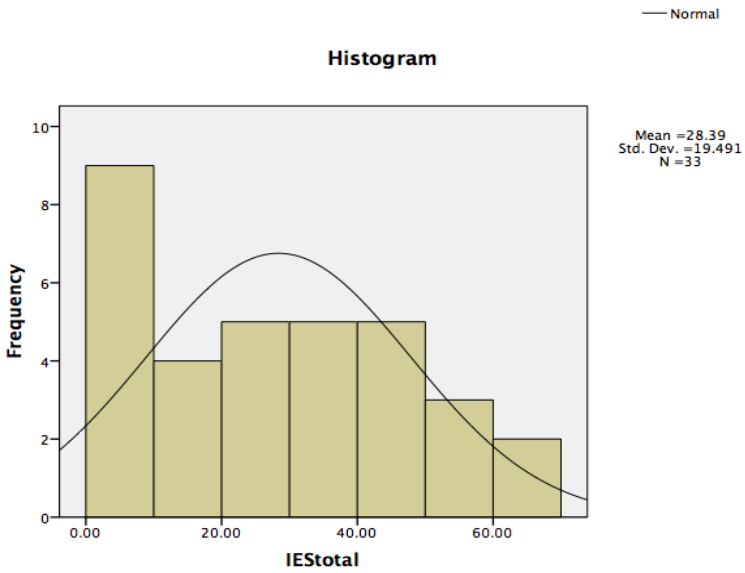
	Disagree strongly	**Disagree**	**Neither agree nor disagree**	**Agree**	**Agree Strongly**
89. I feel better about myself.					
90. I feel able to take chances in life					
91. I am able to develop positive relationships with other people					
92. I feel part of society rather than isolated					
93. I am able to assert myself					
94. I feel that my life has a purpose					
95. My experiences have changed me for the better					
96. I have been able to come to terms with things that have happened to me in the past and move on with my life					
97. I am basically strongly motivated to get better					
98. I can recognise the positive things I have done					
99. I am able to understand myself better					
100. I can take charge of my life					
101. I am able to access independent support					
102. I can weigh up the pros and cons of psychiatric treatment					
103. I feel my experiences have made me more sensitive towards others					
104. Meeting people who have had similar experiences makes me feel better					
105. My recovery has helped challenge other peoples views about getting better					
106. I am able to make sense of my distressing experiences					
107. I can actively engage with life					
108. I realise that the views of some mental health professionals is not the only way of looking at things					
109. I can take control of aspects of my life					
110. I can find the time to do the things I enjoy					

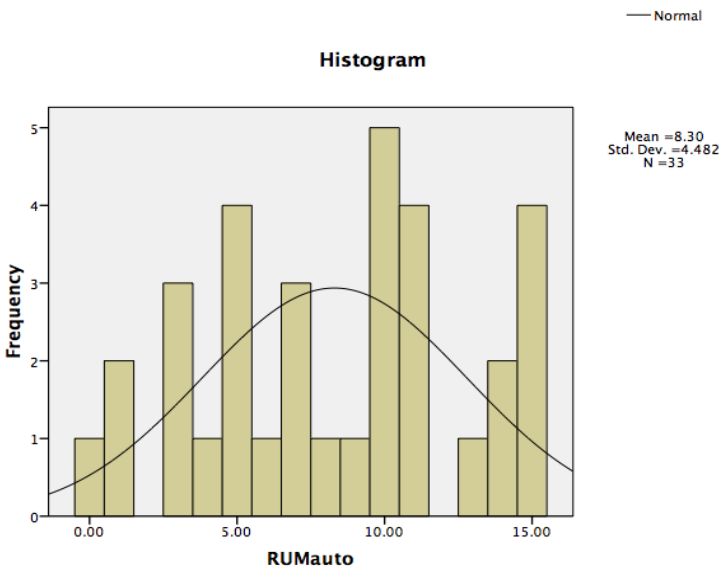
Please return the completed Questionnaire Booklet in the envelope provided.

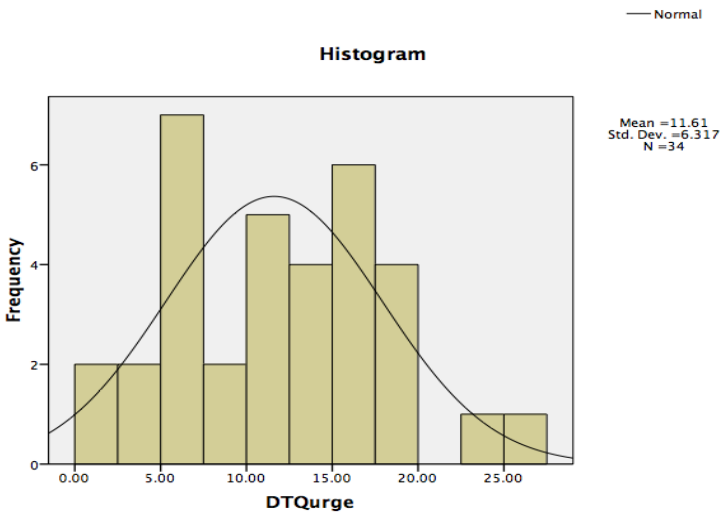
Thank you once again for your time, it is greatly appreciated!

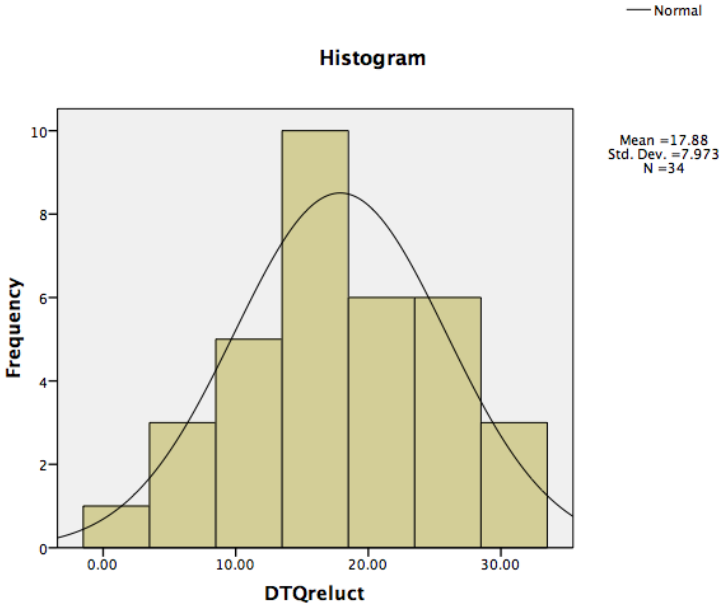
Appendix 9

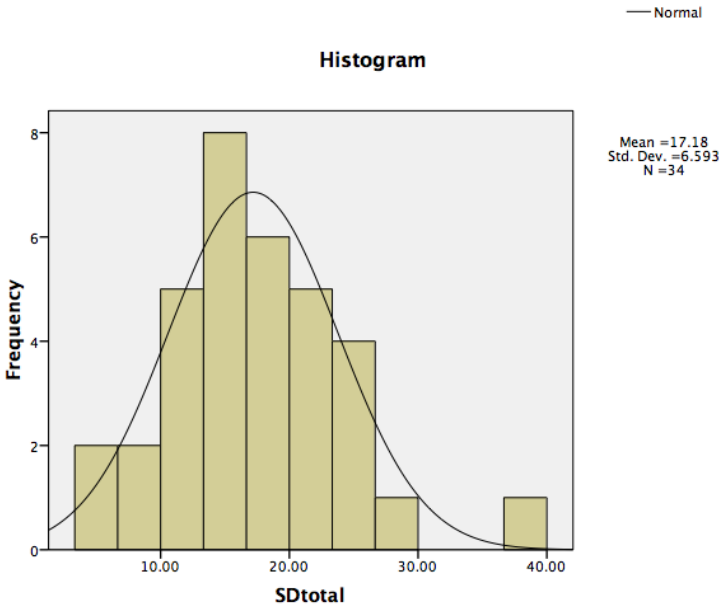
Histograms Showing the Distribution of the Data on the Main Variables

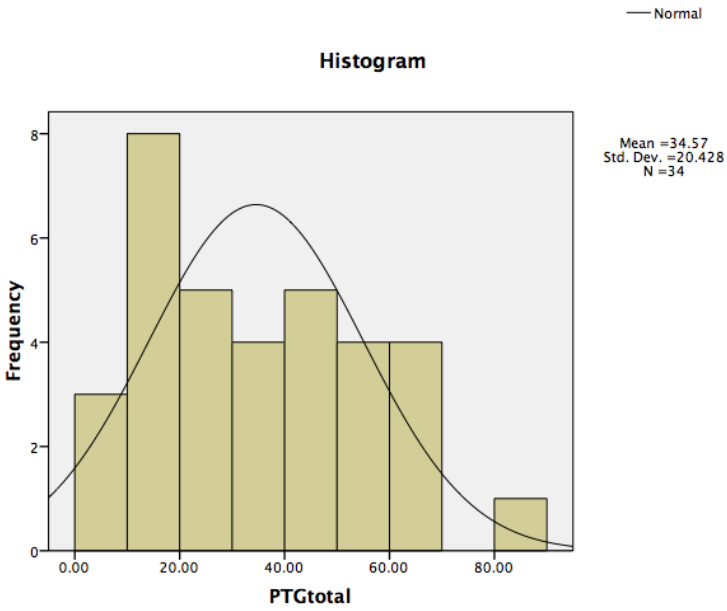


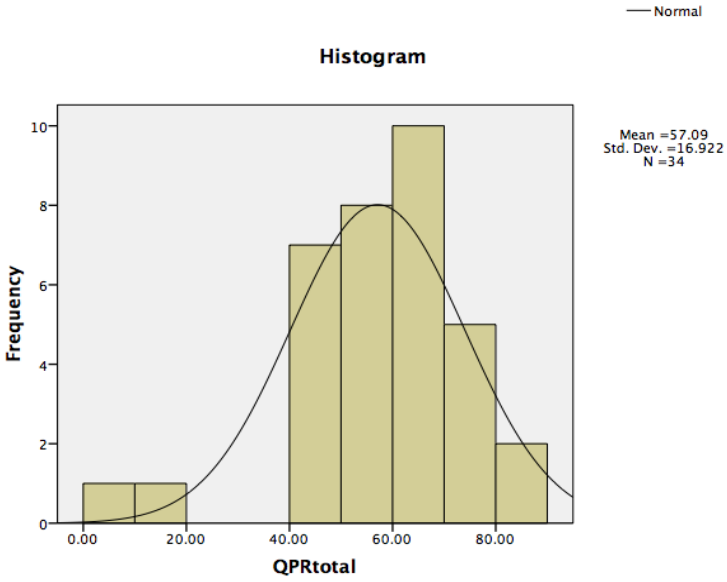



Normal
Histogram
Mean =11.61
Std. Dev. =6.317
N =34
Frequency
DTQurge


Normal
Histogram
Mean =17.88
Std. Dev. =7.973
N =34
Frequency
DTQreluct


Normal
Histogram
Mean =17.18
Std. Dev. =6.593
N =34
Frequency
SDtotal


Normal
Histogram
Mean =34.57
Std. Dev. =20.428
N =34
Frequency
PTGtotal
0.00
20.00
40.00
60.00
80.00
0
2
4
6
8


Normal
Histogram
Mean =57.09
Std. Dev. =16.922
N =34
Frequency
QPRtotal
0.00
20.00
40.00
60.00
80.00
0
2
4
6
8
10

Appendix 10

Z-scores for Skewness and Kurtosis for the Study's Measures

Variable	Mean	Standard Deviation	Skewness	Skewness z-score	Kurtosis	Kurtosis z-score
IES-R - total	28.39	19.49	.20	.49	-.97	-1.21
IES-R - avoidance	10.28	6.91	-.08	-.19	-1.16	-1.46
IES-R - intrusions	10.11	8.17	.63	.89	-.44	-.55
IES-R - hyperarousal	7.99	6.90	.77	1.89	-.61	-.77
DTQ - total	29.49	8.10	-.09	-.22	-.30	-.38
DTQ - reluctance	17.88	7.97	-.08	-.19	-.37	-.47
DTQ - urge	11.61	6.31	.27	.67	-.36	-.46
Actual Self-Disclosure - total	17.18	6.59	.57	1.42	1.48	1.88
Talking to others	13.14	5.30	.39	.96	1.92	2.44
Others' reactions	2.24	.88	.30	.74	.92	1.17
Writing	1.24	1.42	.71	1.77	-.91	-.15
Praying	.56	1.19	2.11	5.24	3.30	4.19
ERRI-SF - intrusive rumination	8.30	4.48	-.10	-.24	-1.00	-1.26
PTG – total	34.57	20.43	.41	1.01	-.77	-.97
PTG - others	12.00	7.40	.40	.98	-.60	-.76
PTG - new possibilities	7.54	5.43	.38	.93	-.55	-.70
PTG - personal strength	7.26	5.07	.24	.59	-1.40	-1.78
PTG - spiritual change	1.94	2.55	1.123	2.79	.20	.26
PTG - appreciation of life	5.82	3.48	.26	.64	-1.22	-1.55
QPR - total	57.09	16.92	-1.06	-2.62	1.96	2.15
QPR - intrapersonal	44.14	14.25	-1.04	-2.57	1.94	2.45
QPR - interpersonal	12.94	3.50	-.60	-1.48	.70	.88

Appendix 11

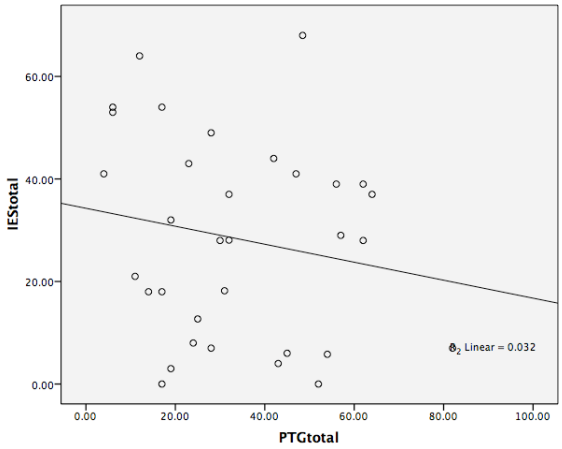
Correlation Matrix for the Study's Measures

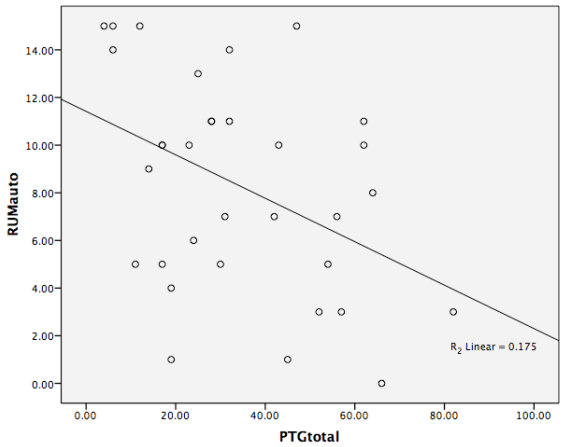
Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. IES-R - total																					
2. IES-R - avoidance	.81**																				
3. IES-R - intrusions	.92**	.62**																			
4. IES-R - hyperarousal	.90**	.54**	.86**																		
5. DTQ - reluctance	.42*	.52**	.30	.30																	
6. DTQ - urge	-.14	-.12	-.05	-.22	-.38*																
7. Actual Self-Disclosure - total	-.43*	-.34	-.37*	-.43*	-.43*	.49**															
8. Talking to others	-.47**	-.40*	-.41*	-.45**	-.54**	.43*	.95**														
9. Others' reactions	-.29	-.13	-.34	-.29	-.16	.19	.40*	.34*													
10. Writing	-.03	-.06	-.02	-.06	.01	.35*	.50**	.31	.31												
11. Praying	-.01	.07	.09	.02	.10	.16	.54**	.36*	.04	.27											
12. Rumination - intrusive	.62**	.31	.67**	.62**	.19	.14	-.41*	-.42*	-.53**	.08	-.12										
13. PTG - total	-.18	.02	-.24	-.24	-.39*	.36*	.47**	.44**	.53**	.04	.26	-.42*									
14. PTG – others	-.24	-.11	-.27	-.25	-.37*	.37*	.47**	.44**	.50**	.04	.23	-.33	.91**								
15. PTG – new possibilities	.02	.11	-.04	-.01	-.45**	.39*	.41*	.39*	.40*	.18	.13	-.28	.91**	.75**							
16. PTG - personal strength	-.19	.04	-.26	-.25	-.26	.15	.22	.18	.41*	-.01	.24	-.34	.85**	.66**	.76**						
17. PTG - spiritual change	-.23	-.05	-.23	-.33	-.25	.31	.65**	.59**	.57**	.03	.43*	-.51**	.56**	.49**	.39*	.25					
18. PTG - appreciation of life	-.13	.16	-.24	-.25	-.26	.24	.33	.34*	.41*	-.11	.11	-.46**	.88**	.72**	.77**	.71**	.53**				
19. QPR - total	-.59**	-.33	-.63**	-.59**	-.31	.31	.43*	.41*	.51**	.05	.15	-.50**	.72**	.74**	.55**	.64**	.38*	.58**			
20. QPR - intrapersonal	-.56**	-.29	-.60**	-.58**	-.34*	.30	.40*	.39*	.49**	.05	.11	-.52**	.74**	.73**	.58**	.67**	.35*	.62**	.99**		
21. QPR - interpersonal	-.56**	-.38*	-.60**	-.48**	-.11	.25	.42*	.39*	.49**	.03	.27	-.34	.47**	.61**	.26	.36*	.38*	.26	.81**	.71**	

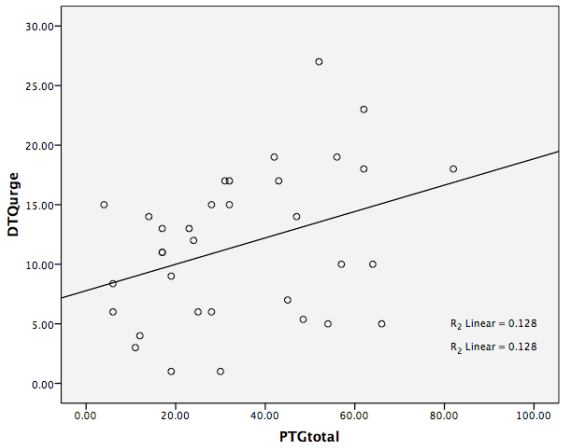
Note. *$p < .05$. **$p < .01$ (2-tailed). Correlation coefficients involving *praying* are based on analyses which were performed using Spearman's correlations. All other correlation coefficients are based on analyses performed using Pearson's correlations.

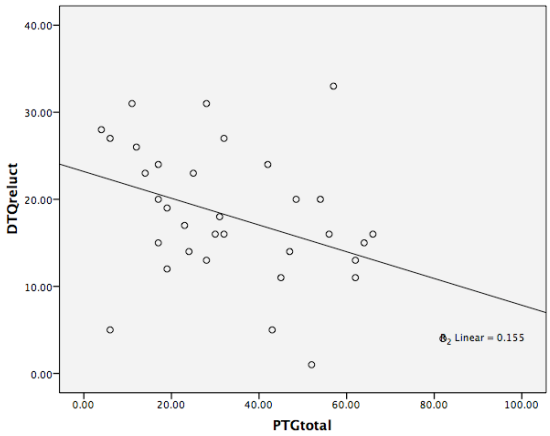
Appendix 12

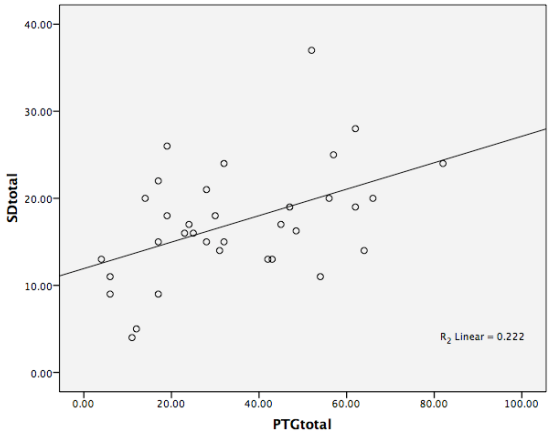
Scatterplots Showing Relationships Between the Studied Variables

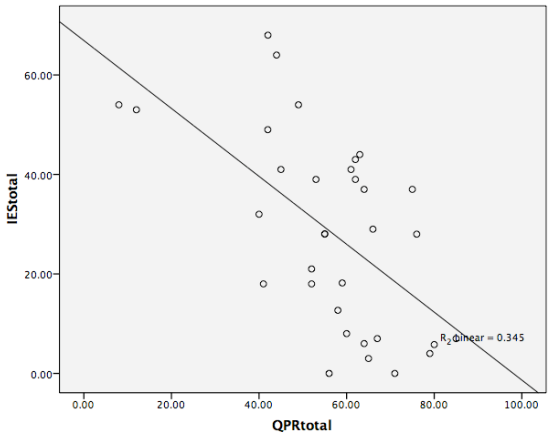


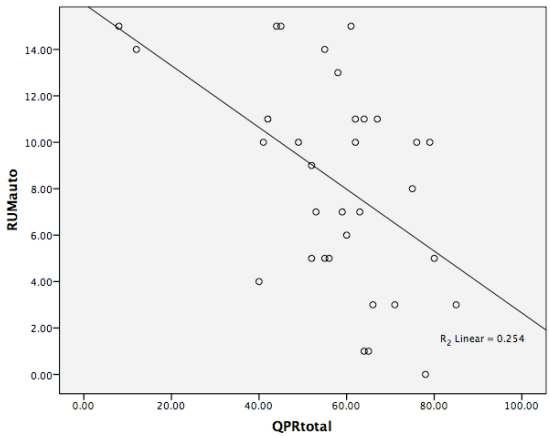


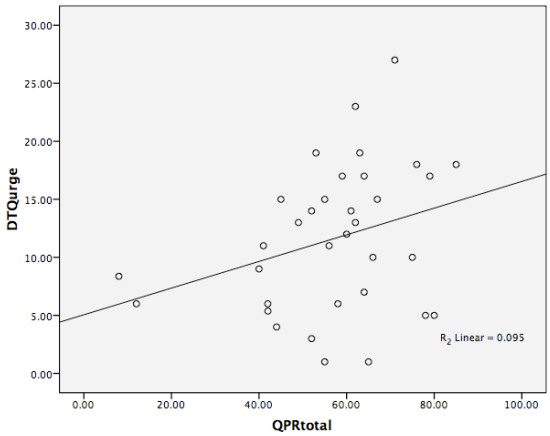


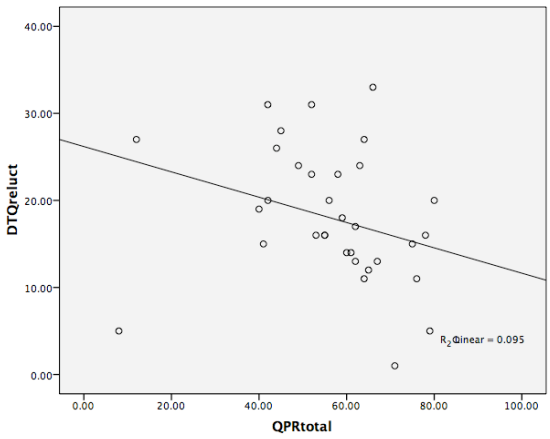

DTQreluct
PTGtotal
R2 Linear = 0.155

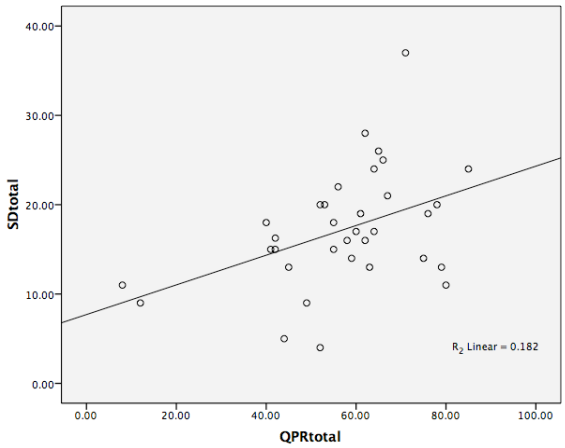

SDtotal
PTGtotal
R2 Linear = 0.222

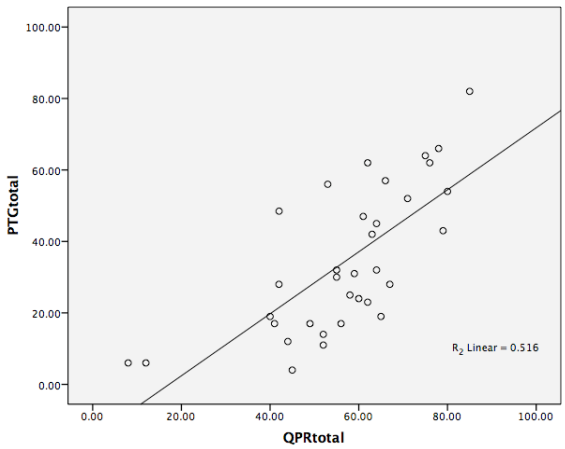

IEStotal
QPRtotal
R2 Linear = 0.345


RUMauto
QPRtotal
R2 Linear = 0.254


DTQurge
QPRtotal
R2 Linear = 0.095


DTQreluct
QPRtotal
R2 Linear = 0.095


SDtotal
QPRtotal
R2 Linear = 0.182


PTGtotal
QPRtotal
R2 Linear = 0.516

Appendix 13

Correlation Coefficients Obtained in the Analyses Involving the QPR (After the Change of the Lowest Score)

Table 6

Correlation Coefficients for Secondary Research Questions (Obtained After the Change of the Lowest Score on the QPR)

Scale	QPR	*p* - value
IES-R - total	- .59	< .01 (1-tailed)
DTQ - reluctance	- .33	.06 (2-tailed)
DTQ - urge	.31	.07 (2-tailed)
Actual Self-Disclosure	.43	.01 (1-tailed)
ERRI-SF - intrusive	- .50	< .01 (2-tailed)