ABSTRACT

Title of Document:	PERSONAL GROWTH INITIATIVE AS A MODERATOR OF EXPRESSIVE WRITING TASKS: TEST OF A MATCHING HYPOTHESIS
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This study advances knowledge regarding a new potential client variable moderator to therapeutic writing. Therapeutic writing, also referred to in the literature as expressive or experimental writing, utilizes the expressive nature of writing as a therapeutic means to recovery and growth. The current study tested the moderating effects of a client variable, *personal growth initiative* (PGI; Robitschek, 1998), on cognitive and affective therapeutic outcomes including depression, the impact of the event, subjective well-being, positive affectivity, and the subjective evaluation of the task. More specifically, this study explored whether participants differ in the extent to which they profit from two different versions of expressive writing depending on whether they are high or low on the personality dimension of personal growth initiative (PGI). Findings revealed that, overall, those lower in PGI found greater benefit from the traditional writing task than the BPS task. In contrast, those higher in PGI found greater benefit from the BPS task than the traditional writing task.

Personal Growth Initiative as a Moderator of the Outcome of Expressive Writing
Tasks:
Test of a Matching Hypothesis

By

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CHAPTER 1

Introduction

Therapeutic writing, also referred to in the literature as expressive or experimental writing, utilizes the expressive nature of writing as a therapeutic means to recovery and growth. The notion of expression as it relates to therapy is based on the abreaction theory created by Freud and his colleagues at the inception of psychology (Breur & Freud, 1895/1966). This theory maintains that symptoms related to traumatic events can be assuaged by recovering memories of trauma through expressive talking and free association, thereby liberating the appropriate affect associated with the trauma.

The idea of expression as a means to therapeutic recovery remains a central tenant of psychology. Some evidence shows that the traditional expressive writing task may create a venue for "abreaction," allowing clients to explore feelings, make sense of events, create narratives for experiences, and release appropriate affective responses (Lepore & Smyth, 2002). Regardless of the particular cause, it is apparent that expressive writing offers an easily manipulated task that has potential to reach many clients quickly and cheaply, both in the context of formal therapeutic relationships and in less traditional therapeutic interventions (e.g., online interventions). For these reasons, among others, interest in expressive writing in both the practice and research sectors has risen dramatically in the past two decades.

Over the past 20 years, researchers have accumulated findings demonstrating the positive treatment effects of expressive writing. Three meta-analyses have summarized these findings. In the first of these meta-analyses, Smyth (1998) synthesized the findings of 13 experimental writing studies. Using Cohen's (1988) rules of thumb for r effect

sizes (small effect = .1; medium effect = .3; large effect = .5), the author found an average *r* of .23, indicating a small to medium overall mean effect of expressive writing across physical and psychological health outcomes. Frisna, Borod, and Lepore (2004) found a smaller, though significant overall average effect size across outcomes of .10 when analyzing 9 studies (only one of which was included in the Smyth meta-analysis).

More recently, Frattaroli (2006) meta-analyzed a total of 146 randomized studies to determine what facilitative features allow for these beneficial effects to emerge and to establish the overall average effect of expressive writing . In her study, she found the overall average effect size across outcomes to be relatively small at .08. However, when sub-sampling eight studies that administered the expressive writing intervention under the most facilitative conditions, the overall average effect size across outcomes was .20. Although not conclusive, this result does give preliminary evidence of a larger overall effect size when optimal conditions are utilized. However, Frattaroli (2006) and Sloan and Marx (2004) warn researchers against weighting the average overall effect size of expressive writing too highly. Given the methodological diversity within this literature, Frattaroli advocated focusing on which variables might moderate the beneficial effect found in expressive writing. I will now use Frattaroli's findings to examine what is known in the field of expressive writing.

A majority of the studies within the expressive writing field have manipulated the key design features, employed different types of samples, and included different dependent variables (Sloan & Marx, 2004). Frattaroli examined these features to determine effect size moderators of expressive writing outcomes. The author investigated (a) report information variables (e.g., publication status, characteristics of the

authors), (b) setting variables (e.g. the use of special populations, location of treatment), (c) treatment variables (e.g., treatment dose measured by length of the session, intervals between disclosure sessions, type of instructions and events), (d) participant variables (e.g. individual difference variables), and (e) methodological variables (e.g. type of instructions, timing of follow-up period).

Frattaroli (2006) reached several conclusions about the types of conditions that yielded the largest effect sizes. For example, the setting, or location of the treatment, moderated the effect of expressive writing on psychological health, a broadly defined variable that included 13 subcategories (e.g. anger, distress, coping, positive functioning, depression). Findings indicated that higher effect sizes were found in studies in which participants completed the tasks outside of the laboratory ($r = .12$) as compared to completing the tasks in a controlled setting ($r = .03$). An example of a treatment moderator variable was the number of treatment sessions implemented. Effect sizes were slightly but significantly larger in studies where participants were given three or more sessions in contrast to less than three sessions for the overall effect size ($r = .08$ vs. 04, respectively). Frattaroli concluded that moderator variables had an important impact on the effect size of resulting outcomes and suggested that future research should focus on moderators that may elucidate the optimal conditions for administering the expressive writing task. This suggestion is consistent with Pennebaker's (2004) argument for the need to research the practical questions of when expressive writing does and does not work and for whom.

In response to this call, the current study will test the moderating effects of a client variable, *personal growth initiative* (Robitschek, 1998), on cognitive and affective

therapeutic outcomes. More specifically, this study will explore whether participants differ in the extent to which they profit from two different versions of expressive writing depending on whether they are high or low on the personality dimension of personal growth initiative (PGI). The current research will also use regulatory fit theory (Frietas & Higgins, 2002; Higgins, 2000) to guide hypotheses on the interaction between type of task and PGI on differential outcomes.   I will now briefly introduce the moderator variable of personal growth initiative, the two types of writing tasks, and regulatory fit theory which provides the theoretical framework for the interactional, or matching, hypotheses.

PGI is defined as one's active and intentional involvement in changing as a person (Robitschek, 1998). PGI is a metacognitive construct that describes an orientation towards actively and purposefully engaging in the growth seeking process. PGI contains cognitive components (e.g. motivation to change, knowledge of the change process, and efficacy related to the change process) and behavioral components (e.g. general goals relating to personal change and plans to attain those goals; Robitschek, 2003). For example, an individual high in PGI might critically evaluate past, current, and future experiences to both determine potential areas for growth and monitor growth experiences. Behaviorally, these individuals would likely seek out experiences deemed important to personal growth. In contrast, an individual low in PGI would not consider growth as a criterion for examining past, current, and future experiences and therefore would not behaviorally seek out intentional growth experiences.

Given that PGI is a broad goal orientation, it is likely that PGI would affect the outcome and process of a variety of decisions. One such decision is how an individual

chooses to cope with a stressful life event. An individual high in PGI might choose to cope or "feel better" through striving to learn and change from the experience. This goal of personal growth might require a critical evaluation and deeper exploration of feelings and thoughts related to this event. In contrast, an individual low in PGI might not aim to grow past previous levels of perceived self-awareness and would instead hope to return to baseline affective levels to facilitate "feeling better." This study will aim to determine if the level of PGI interacts with the type of expressive writing task utilized to produce differential outcomes.

The two different expressive writing tasks expected to interact with PGI level are the traditional expressive writing task and the "best possible self" task. The traditional paradigm asks participants to write about their deepest thoughts and feelings regarding a specific trauma, how it affected their life at the time, and how it affects them now. This task has been shown to reduce health visits and to increase psychological well-being (Pennebaker, Colder, & Sharp, 1990; Russ, 1992). The "best possible self" paradigm (BPS) asks participants to think about their life in the future and imagine that everything has gone as well as it possibly could. It asks participants to imagine a scenario where they have accomplished all of their goals and realized all of their dreams. Although the BPS does not ask participants to think about their specific trauma or stressful life event, it has been found to produce similar reductions in illness-related visits (Harris, Carlozzi, McGovern, & Harrist, 2007) and improvements in psychological well-being (King, 2001) as did the traditional task. It has also been shown to produce an immediate increase in positive affect following the completion of the task, in contrast to the immediate decrease in positive affect found following the traditional writing task (King, 2001).

The current study will assess the effects of expressive writing on adjustment to the dissolution of a romantic relationship. For young adults, the role of romantic relationship partner can represent a defining aspect of identity. Such relationships may also be a source for emotional support and security, social status, and intimacy. Given the potential importance of such relationships, romantic break-ups may challenge an individual to cope with a variety of negative emotions which can lead to emotional distress (Kaczmarek et al., 1990). Therefore, this common and potentially important stressful life event provides an opportunity to explore the impact of expressive writing on psychological outcomes.

Goal orientation (or regulatory orientation) generally refers to an intrapersonal motivational goal that may affect a variety of decisions (Avnet & Higgins, 2006). The activities or strategies by which a goal orientation is pursued are defined as the goal pursuit means. Regulatory fit theory proposes that when people engage in strategies (or goal pursuit means) that match their goal orientation they "feel right" about what they are doing, and this fit experience will then strengthen subsequent evaluative reactions (Avnet & Troy, 2005; Higgins, 2000). Beyond the strengthening of subjective evaluative judgments, fit between the goal orientation of the individual and the type of task has been shown to increase both motivation to perform tasks and actual task performance (Higgins, 2005). The beneficial treatment effects of the expressive writing task may be linked to the regulatory fit between the particular writing task utilized and the client's goal orientation. One such goal orientation is PGI.

It is expected that participants high in PGI will show greater increases in psychological health in the traditional writing task than in the best possible self task

because there will be a regulatory fit between type of task (the traditional writing paradigm) and PGI level (high PGI). That is, the goal of those high in PGI is to experience growth out of their experiences and one way to pursue this goal orientation would be to expend effort at exploring the stressor or traumatic experience – a sort of "no pain, no gain" orientation. The traditional writing task would match the exploration required to achieve the goals of change and growth for those high in PGI and, hence, provide a regulatory fit.

In contrast to those high in PGI, the goal for individuals low in PGI is not to attain growth out of traumatic experiences or stressors but rather to "feel better" and reduce the impact of the trauma on their everyday life. The BPS task might facilitate "feeling better" because it can raise positive affect and allow those low in PGI to progress towards their goals, which emphasize symptom reduction over insight. It is expected then that participants low in PGI will show greater increases in psychological health in the best possible self condition than in the traditional writing task condition because there will be a regulatory fit between type of task (the BPS task) and PGI level (low PGI).

In sum, the current study will answer the call of current researchers to explore new client moderator variables that may contribute to the effectiveness of expressive writing. Furthermore, regulatory fit theory, which has not yet been applied in the expressive writing research domain, provides a logical rationale to support the predicted matching personality x task hypotheses. This study will seek to test the hypothesis that regulatory fit between PGI level and type of task will enhance the beneficial effects found through expressive writing.

CHAPTER 2

Literature Review

The phrase, "the talking cure," was coined by Breur and Freud (1895/1966) to describe the goal of psychoanalysis at the inception of psychology. This notion captures the essence of abreaction theory, or the fundamental philosophy that symptoms related to traumatic events can be "talked through" or worked through to a point of catharsis or resolution. Abreaction theory has since been adapted by many psychotherapeutic traditions and remains one of the central tenants of psychology to date.

Although Freud and Breur (1895/1966) referred specifically to talking as the means to abreaction, researchers have looked towards writing as another venue for the healing and growth experience. This "writing cure" has been studied over the past twenty years and has proven to be an efficient therapeutic intervention (Pennebaker, 2004). Researchers have focused on such outcomes as health functioning that includes physiological and psychological functioning (Frattaroli, 2006). Findings suggest that in as little as three twenty minute sessions, participants experience marked improvements within their cognitive, affective, and behavioral functioning (Frattaroli, 2006). Researchers have also examined the methodological, setting, participant, and treatment variables that enhance or minimize the beneficial effects of expressive writing (Frattaroli, 2006).

Although researchers have made progress in identifying some moderator variables, only a small minority of studies have focused on specific potential client moderating variables. The few studies that directly address participant variables have not tested the possible interaction of client variables with types of writing task. The purpose

of this study will be to address this gap by testing the moderating effects of a relevant person variable, and by examining the potential interaction of this variable with the particular type of writing task utilized.

The following literature review will first examine the current research on moderators within the expressive writing literature. This review will provide a comprehensive look at the moderator research to date both generally and in relation to client moderator variables. Next, the proposed client moderator variable, personal growth initiative, will be introduced. The review will then highlight two types of therapeutic tasks that have been used in expressive writing. Following these sections, regulatory fit theory will be presented as the basis for the current interactional hypothesis of this study. A final sub-section will discuss how regulatory fit theory can be used to explain how personal growth initiative might interact with the type of expressive writing task to produce differential effects on participants.

<center>Overall Effects and General Moderators of Expressive Writing</center>

The use of meta-analysis provides a unique opportunity to comprehensively address if an intervention works, how well it works, and when and with whom it works (Frattaroli, 2006; Rosenthal & DiMatteo, 2002). Several meta-analyses have attempted to calculate the average effect size of expressive writing and to explore effect size moderators on a variety of outcomes. Three such analyses will be discussed; two smaller meta-analyses will be briefly reviewed and one larger recent analysis will be discussed in greater detail.

Smyth (1998) meta-analyzed thirteen studies of expressive writing using the fixed-effects approach. A fixed-effects approach is often used when a relatively small

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number of articles are included in the analysis. In this approach, the sample size is determined by the total number of participants in the included studies; in other words, the participant is the unit of analysis (Hedges, 1994).

Using Cohen's (1988) rules of thumb for r effect sizes (small effect = .1; medium effect = .3; large effect = .5), Smyth (1998) found small to medium r values reflecting the effect of writing interventions on four outcome variables, including reported health (r = .23), physiological functioning (r = .32), general functioning (.33), and psychological well-being (r = .31). Across all studies, Smyth found a small average effect size of .23 and concluded that expressive writing enhances health outcomes. Frisna et al. (2004) examined the effects of written emotional disclosure on health outcomes of clinical populations. Using the fixed-effects approach, Frisna et al. meta-analyzed nine studies, yielding a smaller average effect size of .10.

Although these two meta-analyses provide a useful gauge of the overall effects of expressive writing, their use of a fixed-effects analysis may limit generalizability. Specifically, the fixed-effects approach utilizes the participant as the unit of analysis, which restricts researchers to make conclusions that apply only to the participants in the studies that were included in the analysis (Raudenbush, 1994). In contrast, the random-effects approach uses the study as the unit of analysis, which allows researchers to generalize findings beyond the studies included in the analysis. Furthermore, these meta-analyses used only a small number of studies in the literature. With the recent proliferation of studies within this area, there seemed a need to reassess the literature and conduct a more comprehensive and current meta-analysis.

Recently, Frattaroli (2006) meta-analyzed a total of 146 randomized studies to establish a more comprehensive overall effect size of expressive writing and to determine what study features moderate effect sizes. In her study, she found significant effect sizes on many outcome variables. For the purpose of this review we will limit the discussion to outcome variables used in the current study related to psychological health. Three of the thirteen psychological variables explored were distress ($r = .10$), depression ($r = .07$), and positive functioning ($r = .05$), which included measures of mood, happiness, optimism, and satisfaction with life. She found the overall unweighted mean r to be relatively small at .08. However, when sub-sampling eight studies that administered the expressive writing intervention under the most facilitative conditions (detailed below), the effect size was .20. Although not conclusive, this result does give preliminary evidence of a larger overall effect size when optimal conditions are utilized.

In meta-analyzing the moderators of the expressive writing effect, Frattaroli (2006) determined that the "successful study" (established through a significant t or F value of the test of the moderator in this random effect analysis) tended to have the following conditions: (a) a relatively short follow-up period , (b) the provision of very detailed instructions, (c) payment of participants, (d) administration of at least three writing sessions, (e) participants who disclosed about events for which they had no or little closure, (f) participants who wrote essays at home, (g) participants with health problems, or (h) participants with a history of trauma. These moderators, however, have rarely been the primary focus of the research questions addressed within these studies. Frattaroli suggested that researchers further examine these potential moderators, which is consistent with Pennebaker's (2004) recommendation that research in this area should

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examine the practical questions of when and with whom expressive writing is most beneficial.

<div align="center">Moderators of Expressive Writing</div>

To date, there has been little attention given to client variables within the expressive writing research literature. Participant variables have included such factors as situational components (e.g., type of trauma experience), stable trait components (e.g., the Big Five personality factors), or different cognitive, affective, and behavioral styles (Frattaroli, 2006). This review will summarize and critique the relevant research on client variables in expressive writing.

Sheese, Brown, and Graziano (2004) investigated the Big Five dispositional traits and the quality of social relationships as two possible moderators of the self-reported health outcomes of expressive writing. Participants were 546 undergraduates who were randomly placed into either a control or experimental group. Participants in the experimental condition wrote about the most traumatic experiences of their lives, while participants in the control condition wrote about the occurrences of the day. Regression analyses revealed that extraversion and degree of social support moderated the effects of expressive writing on self-reported general health functioning ($\beta = .22$, $\beta = .23$, respectively). Specifically, participants with greater extraversion and higher degrees of social support were more likely to benefit from treatment than did those reporting lower levels of extraversion and social support. Although informative, it might be interesting to study the potential interaction of extraversion and the type of task utilized. It is possible that individuals who are extraverted versus introverted would benefit from different types of writing tasks.

Cameron and Nicholls (1998) examined the moderating effect of dispositional optimism on the benefits of expressive writing in a sample of undergraduates adjusting to the college experience. In addition to the traditional disclosure and control tasks, researchers examined an emotional regulation writing task. This task was aimed at both exploring thoughts and feelings and helping participants attend to, enact, and appraise coping strategies in regard to adjustment difficulties. The researchers hypothesized that pessimists might benefit more from the self-regulation task than the traditional disclosure task. This logic followed a compensatory model holding that pessimists lack self-regulation ability and therefore might benefit more from a task that enhances these skills. Results confirmed that when each treatment (i.e., writing task) was compared to the control group, pessimists in the self-regulation condition showed a pre-post decrease in health clinic visits ($r = .13$); however, pessimists in the traditional disclosure condition showed no such decrease in health clinic visits ($r = .02$).

This study provided a more nuanced picture of how the type of writing task might interact with client variables; however, this study, like many others in this literature, only investigated expressive writing's effects on physical health outcomes. Frattaroli (2006) noted small average effect sizes for psychological health including positive functioning, distress, and depression. The current study, therefore, aims to examine additional psychological outcome variables. The current research also aims to provide a more nuanced investigation by examining the interaction between two types of writing tasks and a potentially important client variable. The next section will introduce this client variable and suggest its importance in the therapeutic process.

Personal Growth Initiative

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Definition

Personal growth initiative is a metacognitive construct defined as the active and intentional engagement in changing and developing as a person (Robitschek, 1998). It is a global trait-like construct that may reflect the pursuit of a variety of affective, behavioral, or cognitive self-changes. Intentionality is of key importance in that those with high Personal Growth Initiative (PGI) tend to select personal growth as a goal and intentionally seek out personal growth experiences. Furthermore, PGI is theoretically assumed to contain both individual cognitive and behavioral components comprised of general goals relating to personal change and plans to attain those goals (Robitschek, 2003).

Research Findings

The literature on PGI is still in its infancy; therefore, the construct is currently in need of further validation. However, initial evidence supports PGI as a unique construct that is associated with a variety of relevant cognitive constructs. PGI is measured using the Personal Growth Initiative Scale (PGIS; Robitschek). This likert-type scale consists of nine-items that capture an individual's level of intentional focus on the "meta goal" of self-change. These items capture both cognitive and behavioral aspects of intentional self-change. One example of a cognitively oriented item on the PGIS is "I know what I need to do to get started toward reaching my goals." An example of a behaviorally oriented item, or a question that measures the actual behaviors related to change is, "If I want to change something in my life, I initiate the transition process."

Robitschek's (1998) first validation study hypothesized a positive moderate relationship between PGI and assertiveness, internal locus of control, and instrumentality.

Theoretically, a person should be assertive to believe they are entitled to grow. Furthermore, individuals high in PGI might be more likely to endorse the assumption that their behavioral growth actions will lead to desired growth outcomes (an internal locus of control). Similarly, an individual high in PGI would theoretically be motivated to take action to get the "job" of growth in motion, which would reflect instrumentality. In a study involving 330 undergraduates, Robitschek (1998) found that assertiveness, internal locus of control, and instrumentality were moderately to strongly associated with PGI (r = .41, r = .56, r = .45, respectively).

A subsequent study predicted a positive moderate correlation between PGI and independent self-construal or the focus on the self, as distinct from other people (Robitschek, 2003). This hypothesis was based on the assumption that PGI focuses on one's own growth, which may be independent of other's growth. Using a sample of 165 undergraduates of Mexican descent, Robitschek found a strong relationship between these two variables (r = .49).

In another study involving 169 undergraduate students, Robitschek (1999) hypothesized that different ways of growing would be differentially correlated with PGI scores. Specifically, participants were asked to report the degree to which they felt they had achieved growth using Ryff's (1989) domains of psychological well-being. They were then asked, using a global behavioral self-report measure, to indicate the ways in which they had accomplished this growth. Robitschek reasoned that in espousing growth as a goal, those high in PGI would be more likely to both recognize growth and report growth as intentional. As hypothesized, findings indicated that participants who had higher PGI scores reported a greater level of growth that demanded both awareness and

intentionality ($r = .51$). In contrast, these participants reported lower levels of

unintentional growth, or growth not based on effort ($r = -.50$).

PGI was also found to be associated with types of coping styles and vocational

variables. Specifically, Robitschek and Cook (1999) sampled 205 college students to

explore hypothesized associations between PGI, two types of coping styles (reflective,

and suppressive), and career exploration and vocational identity. She hypothesized that

there would be positive correlations between PGI and reflective coping (an intentional

coping style), vocational exploration and, vocational identity; and that there would be

negative correlations between PGI and a suppressive coping style.   Findings indicated

that the reflective coping style, vocational exploration, and level of vocational identity

were each associated positively with PGI scores (r = .42, r = .39, r = .52, respectively).

Suppressive coping (indicating less willingness to explore) was significantly negatively

correlated with PGI, as predicted (r = -.37).

PGI scores were also found to be related to self-reported measures of family

functioning. In a correlational study, Whittaker and Robitschek (2001) assessed several

family functioning variables in an undergraduate sample of 336 participants. PGI was

found to correlate positively with such family variables as problem solving,

communication, father differentiation, and mother differentiation ($r = .26$, $r = .30$, $r = .19$,

$r = .32$, respectively). PGI also correlated negatively with family conflict ($r = -.23$).

Further evidence of construct validity comes from a study of the association of

PGI with the theoretically related construct of hope (Shorey, Little, Snyder, Kluck, &

Robitschek, 2007). The construct of hope and PGI are both future oriented, positive, and

related to perceived abilities to change and grow. It is important, therefore to determine

that these constructs are related but not substantially overlapping. The sample consisted of 378 undergraduate participants. Researchers used structural equation modeling to determine if hope and PGI are empirically distinct constructs. Shorey et al. found that a two-factor model (portraying hope and PGI as unique but related constructs) fit the data better than did a one-factor (combined construct) model. The latent variable correlation between PGI and hope was .84, indicating that the two constructs are highly related yet somewhat distinct.

PGI has also been found to be relatively distinct from social desirability bias, cognitive ability, and age, which helps to establish its discriminant validity. In particular, Robitschek (1998) found that theoretically unrelated constructs such as social desirability, SAT scores, and age showed no significant association with PGI ($r = .12$, $r = -.03$, $r = .05$, respectively).

Although all of the reviewed studies are correlational in nature, they provide initial evidence that supports PGI as a unique construct of potential importance. These studies suggest that PGI scores possess both convergent and discriminate validity. I will now discuss the potential importance of this construct within the therapeutic context.

Applicability to the Therapeutic Contexts

Clients often enter therapy after experiencing a trauma or stressful life event. It is important, then, to determine which therapeutic techniques prove most beneficial to the client. It if often the case, however, that these techniques are not uniformly helpful for all clients but instead depend on client factors. One such client variable of interest is PGI. It is possible, for instance, that when confronted by a stressful life experience or trauma, those high in PGI will seek to find meaning and growth from their experience,

while those low in PGI simply seek to remediate the symptoms, with less emphasis on exploration. The current study will test how PGI interacts with two types of writing tasks that may enhance or minimize the beneficial outcomes of expressive writing. I will now describe these types of tasks in detail.

Two Types of Task: The Traditional Paradigm and the Best Possible Self Task

The findings reviewed earlier suggest the numerous benefits associated with expressive writing and, more specifically, of a writing task that asks participants to disclose and explore their deepest emotions and thoughts related to a traumatic or stressful life experience (Pennebaker & Beall, 1986). Although there are several theories about why this task produces beneficial effects, these theories all rest upon the assumption that disclosure is a key mechanism through which results are obtained (King & Miner, 2000). For example, after a break-up an individual might benefit from disclosing their deepest thoughts and feelings regarding the break-up. The traditional expressive writing paradigm may provide an opportunity to do so in a secure manner, in which the disclosure of potentially ego-threatening information and difficult thoughts and feelings are anonymous.

However, an interesting new trend has led some researchers away from the traditional paradigm and has called into question the necessity of emotional disclosure in reaping beneficial effects. Greenberg, Wortman, and Stone's (1996) novel approach marked a departure from the traditional writing paradigm. This study utilized a sample of 600 female college students (so as not to confound results with potential sex differences in emotional expression) and contained two active experimental groups (an imagined trauma group and a real trauma group) and a control group. Participants in the "imagined

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trauma group" read an account of an experienced trauma. They were encouraged to "imagine" that they themselves had experienced this trauma and to use the expressive writing task to explore and disclose their imagined thoughts and feelings related to the event. In contrast, the "real trauma group" was asked to recall and write about an actual experienced trauma. Interestingly, both experimental groups experienced a comparable decrease in health care utilization as compared to the control group. Specifically, the data revealed that the two experimental groups experienced a medium to large decrease in illness related visits, as measured by the university health center and their private physicians ($r = .37$). Further analysis revealed that illness visits did not differ significantly between experimental groups, such that the imagined trauma group experienced a similar decrease in illness related visits relative to the real trauma group (F $(1,94) = 0.00$, ns).

King and Miner (2000) similarly departed from the traditional paradigm and tested a new expressive writing task that asked participants to examine the benefits of a trauma. Participants were 118 undergraduates who were randomly assigned to one of the following four groups: (a) a "trauma-only group" that received the traditional paradigm instructions asking participants to write about the most traumatic event of their life, (b) a benefits-only group that was asked to write about only the positive aspects of a trauma, (c) a combination group that was instructed to spend half of their time writing about the trauma and the other half writing only about the positive aspects of the trauma and, (d) a control group instructed to write about neutral control topics. Findings indicated that the benefit-only group and the trauma-only group (i.e., the traditional paradigm) had less health clinic visits than the control group ($r = .58$ and $.53$ respectively) in a 5 month

follow-up. These studies suggest that participants need not focus on an actual experienced trauma nor explore the painful aspects of an experienced trauma to experience the benefits of expressive writing.

Further departing from the traditional paradigm, King (2001) tested whether writing that did not require disclosure could produce similar health benefits. Eighty-one participants were randomly placed into the trauma writing group, the "best possible self" (BPS) writing group, a combination group (consisting of both a trauma writing portion and a BPS writing portion), or a control group. Participants in the BPS-only group were asked to imagine that all of their life goals had been realized and that their life has gone as well as it possibly could.   By contrast, participants in the trauma-only group (i.e., the traditional paradigm writing group) were instructed to disclose an experienced trauma. The combination group was asked to spend half of their time writing about their best possible self and the other half writing about an experienced trauma. For the control group, instructions asked participants to write in detail about their plans for the next day. The researchers were interested in the effects of the two writing tasks on (a) net positive affectivity, (b) psychological health, and (c) physical health. The next several paragraphs will describe the results of this study.

Net positive affectivity (PA) was calculated by subtracting negative affect (NA) from PA. When writing about one's BPS (including the BPS-only group and the combination group), participants exhibited a medium to large increase in net positive mood ($r = .45$). In contrast, results revealed a small decrease in net PA within the trauma groups (including the trauma only and combination group; $r = -.21$).   These results indicate a mood benefit from writing about one's BPS.

To determine the effects of essay content on psychological well-being, King (2001) performed a 2 (trauma vs. no trauma) x 2 (BPS vs. no BPS) two-way Analysis of Variance (ANOVA). The term "no trauma" simply represents those conditions that do not include any instructions to disclose about a personal trauma (i.e. the BPS only group and the control group). The term "no BPS" represents those conditions that do not include any instructions to write about one's BPS (i.e. the trauma only group and the control group). Each level of the two writing task variables, therefore, represents the presence or absence of the writing task. In other words, this analysis tested the difference between the presence versus absence of the trauma or BPS writing tasks on the psychological health outcome variable. Findings revealed a main effect for writing about BPS, such that those who wrote about BPS (the BPS only and combination group) were higher in psychological well-being than those who did not write about BPS at all (the control and trauma only group; $F(1,77) = 3.93$, $p = .05$). No such effect was revealed for the trauma variable.

In regards to physical health, findings indicated that participants in the BPS-only group and disclosure group showed small to medium effects on physical health (as indicated by the number of health related visits at the University Health Center) compared with the control group at a five month follow-up ($r = .29$ and $.23$, respectively). In sum, King's study indicates that those in the BPS condition might enjoy health, psychological well-being, and mood benefits. Initial evidence, therefore, points to the utility of the BPS task as a viable alternative to the traditional disclosure paradigm.

In a break-up situation, it may be that the potentially positive experience of writing about life goals may momentarily increase positive affectivity and decrease

distress. This may lead to a "broaden and build" cycle of positive outcomes, in which one particular beneficial event may create a cascade of similar positive events (Fredrickson, 2001). For example, it may be that the boost in positive affectivity afforded by writing about life goals can create more positive social interactions, which lead to a stronger social support system and better psychological health. There may be cognitive effects such that this task succeeds in momentarily stifling the process of ruminating over the pain and hurt over a romantic break-up, and instead focuses participants on looking at possibilities of what lies ahead. This freed up "cognitive space" may lead to a more hopeful perspective of the future and more goal oriented actions.

Furthermore, writing about ones life's goals may have implications for self-regulation (King, 2001). Perhaps the BPS task is useful to the extent that it helps individuals to bring their higher level goals to awareness which may allow them to have "clearer" goals that provide increased motivation and focus. In support of this assertion, individuals who have valuable and clear goals are generally more likely to enjoy positive psychological functioning than those who do not (e.g., Emmons, 1986; Omodei &Wearing, 1990). In other words, the BPS task may offer the individual a unique opportunity to clarify and elucidate higher-level life goals. This novel activity may also help to reduce goal conflict between current goals and higher level goals, which has been found to be associated with physical illness (Emmons & King, 1988).

It is possible that an individual's level of PGI may affect which expressive writing tasks prove most beneficial. It may be that individuals benefit more from activities or task that are congruent with their prescribed goals. For example, an individual high in

PGI may benefit more from activities or tasks that are congruent with and encourage progress towards growth oriented goals. Conversely, individuals low in PGI may benefit more from activities that do not focus on effortful growth and instead concentrate on alternative goals. The current study, therefore, will seek to establish a rationale for the hypothesized connections between type of expressive writing task employed (the BPS vs. the traditional writing paradigm) and PGI level. The next section will examine a particularly relevant theory that will guide the interactional hypothesis presented in the current research.

Regulatory Fit Theory: PGI as a Goal Orientation

Self-Regulation and Regulatory Orientation

Self-regulation describes a person's ability to effectively pursue goals, to register feedback on the progress of goals, and then to change behavior accordingly (King, 2001). The ultimate purpose of this monitoring process is to attain the goal of interest through a series of "feedback loops" in which a person registers progress and, consequently, adapts their behavior. For example, if a student's goal is to receive an A in class, she or he would (a) recognize the grade received on a midterm as important feedback, and (b) react by increasing, decreasing, or maintaining his or her study time in order to achieve the goal.

Regulatory orientation describes a person's particular interests or concerns that *guide* his or her behavior and the self-regulation process in general (Avnet & Higgins, 2006). This regulatory orientation represents an abstract guiding principle that can be characterized as a process goal or metagoal. In other words, the regulatory orientation can be thought of as another type of goal that can be achieved via the pursuit of a primary

material goal. PGI can be seen as a type of regulatory orientation or process oriented

metagoal that guides behavior and pursuits across domains.

Regulatory Fit: Relation between Regulatory Orientation and the Means of Goal Pursuit

Regulatory fit refers to the match between an individual's regulatory orientation

and the methods used to pursue the primary material goal (Higgins, 2000). This fit is

concerned with whether the method of goal pursuit disrupts or sustains one's regulatory

orientation (Avnet & Higgins, 2006). A fit situation would occur when the means of goal

pursuit sustain or match the regulatory orientation of the pursuer. Drawing from the

example above, an individual who has a growth orientation (an individual high in PGI)

would experience a fit when he or she can receive an A via means that encourage growth,

such as experiential exercises or challenging readings. In this case the individual would

achieve *two* goals, a primary material oriented goal and a process oriented goal. In the

case of a non-fit situation, the means of goal pursuit would not match or, more accurately,

would disrupt this orientation. A non-fit situation might be one where the growth

oriented student receives an A through minimal work and little challenge. In this case,

the individual would only receive the benefit of achieving the primary material goal of

receiving an A, but would not receive the additional benefit of accomplishing his or her

process goal of growth. This non-fit situation would allow the individual to achieve only

one goal instead of the two goals achieved in the fit situation.

Applicability to the therapeutic process

According to regulatory fit theory, any means to pursue a primary goal that jointly

fulfills a secondary process goal, will serve to (a) increase the pursuer's motivation and,

(b) increase their subjective evaluation of the goal pursuit means. The issue of increasing

motivation and satisfaction is particularly applicable to the therapeutic setting. If a psychotherapist succeeds at fitting the interventions used to the client's regulatory orientation, they may enhance motivation and overall satisfaction with the therapeutic process. A parallel logic may be applied to expressive writing. If an individual experiences a fit between their regulatory orientation (in this case PGI) and the type of writing task utilized, than they may achieve more benefit than in the case of a non-fit experience..

The Interactional Hypotheses: Regulatory Fit and Expressive Writing

When an individual experiences a stressful life event such as a relationship break-up, they will often seek to "feel better" and attempt to raise their psychological health to previous baseline levels (Hill, 2006, pg.5). It may be, therefore, that when an individual higher in PGI has experienced a stressful life event, they will seek to feel better through activities that allow for growth. One such growth activity is exploration of thoughts and feelings related to the stressful life event which is facilitated by the traditional writing paradigm. This method of recovery would allow the individual to accomplish both the primary goal of feeling better and the process oriented goal of achieving growth and therefore sustain their regulatory orientation. Conversely, it is possible that someone without this goal orientation might prefer to alleviate negative symptoms and get "back to normal" by elevating their positive affect, as in the case of the BPS writing task. This method of recovery would sustain their orientation which is not concerned with intentional growth, while achieving the "feeling better" primary goal. This method will allow them to tap into other process oriented goals, such as future plans.

In line with the regulatory fit theory I, therefore, predict that PGI will moderate the effect of type of task such that individuals higher in PGI will find greater benefit from the traditional task than from the BPS task. Conversely, I predict that individuals who are lower in PGI will find greater benefit from the BPS task than the traditional task. Furthermore, this study will utilize the following psychological outcome variables found to be significant in Frattaroli's (2006) meta-analysis: psychological well-being, positive affectivity, distress, and depression. More specific hypotheses are listed below in the hypothesis section.

<div align="center">What This Study will Add to the Literature</div>

This study will seek to employ a theoretical framework not previously addressed in the expressive writing literature. Furthermore, it will use a novel construct of personal growth initiative (PGI) within a quasi-experimental design, thereby adding to PGI's construct validity data.

<div align="center">Hypotheses</div>

Hypothesis 1: There will be a larger improvement in psychological health (as indicated by an increase in subjective well-being and a reduction in depression and distress from pre-intervention to post-intervention) when there is a greater fit between participants' regulatory orientation and the type of expressive writing task utilized.

> Hypothesis 1a: The higher the PGI, the greater the increase in subjective well-being for those participating in the traditional writing paradigm group as compared to the BPS paradigm group at post-intervention. The lower the PGI, the greater the increase in subjective well-being for those participating in the BPS paradigm as compared to the traditional writing paradigm at post-intervention.

Hypothesis 1b: The higher the PGI, the greater the decrease in depression for those participating in the traditional writing paradigm group as compared to the BPS paradigm group at post-intervention. The lower the PGI, the greater the decrease in depression for those participating in the BPS paradigm as compared to the traditional writing paradigm at post-intervention.

Hypothesis 1c. The higher the PGI, the greater the decrease in distress for those participating in the traditional writing paradigm group as compared to the BPS paradigm group at post-intervention. The lower the PGI, the greater the decrease in distress for those participating in the BPS paradigm as compared to the traditional writing paradigm at post-intervention.

Hypothesis 2: There will be a larger pre-post gain in positive affectivity when there is greater fit between the regulatory orientation and the type of task utilized.

Hypothesis 2a: Those higher in PGI will experience a greater average increase in PA across interventions by participating in the traditional writing paradigm group as compared to the BPS paradigm group.

Hypothesis2b: Those lower in PGI will experience a greater average increase in PA across interventions by participating in the BPS paradigm group as compared to the traditional writing paradigm group.

Hypothesis 3: Subjective evaluations of the task (as indicated by the participants' average subjective evaluations across writing sessions) will be higher when there is a greater fit between the regulatory orientation and the type of task utilized.

Hypothesis 3a: Those higher in PGI will report higher subjective ratings of task

experience when in the traditional writing paradigm as compared to the BPS

paradigm group.

Hypothesis3b: Those lower in PGI will report higher subjective ratings of task

experience when in the BPS paradigm group as compared to the traditional writing

paradigm group.

Hypothesis 4 – Manipulation Check Hypotheses: There will be significant differences in

the percentage of positive emotion, negative emotion, past tense, and future tensed words

between the two writing conditions.

Hypothesis 4a: The traditional paradigm will produce a significantly greater

number of   negative emotion words than the BPS paradigm.

Hypothesis 4b: The traditional paradigm will produce a significantly lower

number of   positive emotion words than the BPS paradigm.

Hypothesis 4c: The traditional paradigm will produce a significantly higher

number of   past focused words (e.g. past tense used to reference past events) than the

BPS paradigm.

Hypothesis 4d: The BPS paradigm will produce a significantly higher number of

future focused words (e.g. using future tense to refer to future events) than the traditional

paradigm.

CHAPTER 3

Method

Participants

A power analysis was completed using Cohen's (1992) recommendations to determine the sample size necessary to achieve a power of .80 with a significance level of .05. Given the exploratory nature of this research, type II error (i.e., retaining the null hypothesis when it's false) was deemed to be of greater concerned than type I error. Therefore, a relatively liberal alpha level was selected. To find medium effect sizes using moderated regression analysis with four independent variables (including interaction terms), Cohen suggests 118 participants. The sample for this study initially consisted of 192 students at a large Mid-Atlantic university who had experienced a romantic break-up within the past six months. However, the sample size used to test specific hypotheses ranged from 110 to 159, given attrition over the course of the study.

Specifically, the attrition rate for those who completed the first session but did not complete the subsequent two writing sessions was 17% (thirty-three participants). Of the 159 participants who completed all of the writing sessions, 49 failed to complete the follow-up assessment, resulting in a posttest to follow-up attrition rate of 31%. Therefore, the tests of hypotheses 2 and 3 involved a sample of 159 participants who had completed all three writing sessions within a one-week time period ($N = 86$ for the traditional writing paradigm group and $N = 73$ for the BPS group). A sample of 110 was used to test hypothesis 1 ($N = 58$ for the traditional writing paradigm group and $N = 52$ for the BPS group). These participants had completed all three writing sessions *and* the two-

29

week follow-up survey. The *N* of 110 slightly undershoots the target sample size, based on the power analysis.

The mean age of the participants was 19.5 years (*SD* = 1.28) and the average length of the previous romantic relationship was 17 months (range = 1 to 71 months). Of the entire sample (*N*=159), 88 of the participants were white (55%), 27 were African American (17%), 26 were Asian (16%), 15 were Latino/a (9%), and three described themselves as "other" (2%).   Due to a technical error, no data were collected regarding the sex of the participants. However, prescreening data from the psychology undergraduate research pool for the semester during which data were collected indicated that 67% of the pool was female and 33% were male.

Measures

Personal Growth Initiative Scale (PGIS; Robitschek, 1998). The Personal Growth Initiative Scale (PGIS) was used to assess Personal Growth Initiative or the "active, intentional engagement in the process of personal growth" (Robitschek, 1998, p.184; see Appendix A). The PGIS consists of 9 items rated on a 0 – 5 likert type scale, with 0 indicating strong disagreement and 5 indicating strong agreement with the statement. Scores were calculated by summing the responses to the items, and can range from 0 – 45. Those high on the scale possess a penchant for growth, while those low on the scale do not intentionally seek out the growth process. Sample items include "I have a plan for making my life more balanced," and "I know how to change specific things that I want to change in my life."

The PGIS has shown adequate reliability estimates including internal reliability estimates ranging from .78-.88 and a test-retest reliability of .74 over eight weeks in a

college student sample (Robitschek, 1998, 1999). The PGIS also shows acceptable

convergent validity estimates. For example, PGIS shows moderate positive correlations

with instrumentality, growth, assertiveness, and internal locus of control (ranging from

.24 to .56) and moderate negative correlations with chance locus of control and growth

that is unintentional (ranging from -.24 to -.54; Robitschek 1998, 1999). The PGIS also

correlates with the conceptually related construct of hope (r = .25; Shorey et al., 2007).

Evidence of discriminant validity includes small, nonsignificant correlations with the

theoretically unrelated constructs of social desirability, SAT scores, and age (r = .12, r = -

.03, r = .05, respectively; Robitschek, 1998). The internal consistency reliability estimate

for the PGIS in the current study was .92.

Impact of Events Scales (IES; Horowitz, Wilner, & Alverez, 1979). The IES (see

Appendix B) is one of the most commonly used measures of symptoms of distress related

to trauma and/or stressful life events. The IES consists of two subscales that measure the

frequency of intrusive and avoidant thoughts relating to a stressful event. These can be

combined to form a total score reflecting symptom distress. The instructions ask

respondents to indicate how frequently each distressing thought has occurred within the

last seven days. The measure consists of 15 items rated on the following 4-point scale:

not at all = 0, rarely = 1, sometimes = 3, and often = 5. The range of total scale scores is

0 to 75, with higher scores indicating more intrusive thoughts and attempts at avoidance.

The IES shows good internal and test-retest reliability and validity estimates. For

example, Corcoran and Fisher (1994) found high average internal consistency estimates

for the intrusive subscale (α = .86) and the avoidant subscale (α. = .90). Test-retest

reliability estimates were tested over the period of one week and indicated sufficient

reliability estimates (α = .87 for the total score, .89 for the intrusion subscale, and .79 for the avoidance subscale; Horowitz et. al, 1979). The IES demonstrates sufficient convergent validity for both the intrusive and avoidant subscales (Hodgkinson & Joseph, 1995; Spurrell & McFarlane, 1995). For example, validity estimates show significant correlations between the intrusive and avoidant subscales and other measures of psychological distress (Sundin & Horowitz, 2002), such as depression (r = .44, r = .52, respectively; Spurrel & McFarlane, 1995), anxiety (r = .53, r = .37, respectively; Spurrel & McFarlane, 1995) and global symptom level of distress as measured by the General Health questionnaire (r = .60, r = .44, respectively; Hodgkinson & Joseph, 1995).

The IES is constructed so that it can apply to any stressful life experience. This study used an adaptation, following Lepore and Greenberg (2002), to assess intrusive and avoidant thoughts related specifically to a relationship break-up. The only change made to the original scale was the replacement of the term "it" (referring to the event) with "the break-up." Sample items include "I tried not to think about the break-up" and "My feelings about the break-up were kind of numb." This version of the scale has yielded an adequate reliability estimate (alpha = .90 for the total scale score; Lepore & Greenberg, 2002).

The correlation between the intrusion and avoidance subscales of the IES was examined to determine the utility of using a single scale score in the current study. The two subscales were found to intercorrelate highly (r = .66, p <.01 and r = .69, p < .01, respectively, at the first and second assessments) and to correlate in similar fashion with the study's other variables. Thus, the total score was used in the subsequent analyses.

The reliability coefficient of the total IES scale score was .85 at the pretest and .87 at the two-week follow-up.

       *The Center for Epidemiological Studies – Depression Scale (CES-D: Radloff, 1977).*The CES-D (see Appendix C) is a widely used measure for diagnosis and evaluation of depressive symptoms. Created by the Center for Epidemiological Studies (Radloff, 1977), this 20 item self-report instrument uses four points indicating the frequency of experienced depressive symptoms over the past week. Specifically, 0 indicates "rarely or none of the time (less than one day), 1 is some of the time (1-2 days), 3 is occasionally (3-4 days), and 4 indicates most or all of the time (5-7 days). Sample items include "I was bothered by things that don't usually bother me" and "I felt fearful." Scores are summed and range from 0 – 80, with 15-21 indicating mild to moderate levels of depression and a score of over 21 indicating more severe depression.

       The CES-D yields good psychometric estimates. For example, Radloff (1977) found a test-retest reliability of .59 over an 8 week period and an internal consistency alpha of .85 in a community based sample. The CES-D also demonstrates sufficient convergent validity with the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), another commonly used instrument to assess depressive symptoms (*r* = .58; Wilcox, Field, & Prodromidis, 1998). For the current study, the reliability coefficient of the CES-D scale was .92 and .93 for the pretest and posttest assessment, respectively.

       Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS (see Appendix D) is a 20-item scale which measures both positive and negative affective states. The study employed only the Positive Affect (PA)

subscale, consisting of a 10-adjective list of words describing positive affect (e.g., active, alert, attentive). The instructions ask participants to indicate to what extent they are experiencing these particular positive feelings at the moment. Each word is rated along a 5-point scale with 1 indicating very slightly or not at all, 2 a little, 3 moderately, 4 quite a bit, and 5 extremely. Scale scores range from 10-50, with higher scores indicating greater positive affect.

A possible detriment to measuring positive affect is that it is generally considered dispositional in nature and exhibits stability over time. Specifically, the test-retest reliability, when measured twice over an 8 week time interval, was .68, suggesting moderate stability (Crawford & Henry, 2004; Watson, Clark, & Tellegan, 1988). The PANAS, however, accounts for this concern by offering an alternative to the global, more trait-like assessment of positive affectivity. The current study used this "moment to moment" version that alters the directions to match the time-frame of interest. Instructions prompted the participants to "indicate to what extent you feel this way right now, that is, in the present moment." Watson, Clark, and Tellegen (1988) reported a test-retest reliability of .54 over an eight week interval, indicating moderate score stability over this time frame (i.e., scores may be somewhat sensitive to situational influence).

Watson et al. (1988) found an internal consistency reliability estimate for the moment PA subscale of $\alpha = .89$. Furthermore, this scale shows good convergent validity as indicated by its correlations with similar mood scales. For example, the PA subscale correlates negatively with (a) the Hopkins Symptom Checklist (HSCL; Derogotis et. al, 1974), a 58 item measure of distress and dysfunction ($r = -.29$; Watson et. al, 1988) and (b) the Beck's Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh,

1961), a measure of depressive symptomology (r = -.35). For the current study, the reliability coefficient of the PA scale was .92 and .93 for pretest and posttest measurements, respectively.

   Satisfaction with Life Scales (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS (see Appendix F) assesses respondents' current satisfaction with their life as a whole. It consists of five questions (e.g., "In most ways my life is close to my ideal"), which are rated on 7-point Likert-type scales ranging from 1 (strongly disagree) to 7 (strongly agree). The SWLS yields scores ranging from 7-35, with higher scores indicating a greater degree of satisfaction with life.

   The SWLS shows good reliability estimates. Diener et al. (1985) tested this measure in a community based sample of older individuals. The authors reported both high internal consistency (α = .87), and high test–retest reliability over a two-week period and one-month period (r = .84 and .84, respectively). Furthermore, this scale demonstrates sufficient convergent reliability with both other self-report instruments and peer reports. For example, the SWLS shows convergence with the Life Satisfaction Index-A (LSI-A; Neugarten, Havighurst, &Tobin, 1961), a 20-item measure of well-being in older individuals (r = .82; Diener et. al, 1984). Peer reports were obtained by having a close other respond to the LSI-A for the target participant. The SWLS showed sufficient convergence with peer reports of life satisfaction, as demonstrated by its moderate correlation with peer reports (r = .51).

   The SWLS is a frequently used scale of subjective well-being within the expressive writing literature (Frattaroli, 2006). It captures the subjective experience of how "happy" people are in their current state and would be expected to increase as the

effects of trauma and/or stressors lessen. The current study yielded internal consistency reliability coefficients of .87 and .86 at pretest and posttest assessments, respectively.

Subjective Evaluation of Task Experience. Participants were asked to indicate their subjective evaluation of how enjoyable, interesting, meaningful, and valuable the task was after each of the three writing tasks (see Appendix F). This list of adjectives was logically derived from both previous research and the current hypotheses. The first source was Frietas, Lieberman, and Higgins' (2002) study on regulatory fit theory and the enjoyment of goal-directed action. In this study, participants rated how interesting, enjoyable, and exciting they found the task to be. These three adjectives yielded an alpha coefficient of .93. The term "exciting" was not be used in the current research because it does not seem to fit the nature of the writing task.

In addition to interesting and enjoyable, the current study asked participants to evaluate how *meaningful* the task was for them, consistent with the procedures of Norman et al. (2004). Participants were also asked to indicate how *valuable* they found the task, consistent with the theory that a regulatory fit will increase perceived value of the task (Avnet & Higgins, 2006). Specifically, after each writing session, participants rated how enjoyable, interesting, meaningful, and valuable the tasks were on a 9 point scale, with 1 indicating not at all and 9 indicating extremely so. Item ratings were summed to create a total score averaged across writing sessions. The reliability estimate of this total Subjective Evaluation score averaged across writing sessions in the current sample was .91. The reliability estimate for each writing sessions were .89, .93, .96, respectively.

The Personal Growth Subscale from the Psychological Well Being Scale. The Personal Growth Subscale (PG) from the Psychological Well Being Scale (PWBS) was used as an alternative way to assess the tendency to seek personal growth (Ryff, 1989; see Appendix G). Specifically, this subscale assesses the extent to which an individual feels continued development, is open to new experiences, sees oneself as growing and expanding, and has a sense of "changing in ways that reflect more self-knowledge and effectiveness (Ryff, 1989, p. 101). The PG subscale consists of 14 items rated on a 1 - 6 likert type scale, with 1 indicating strong disagreement and 6 indicating strong agreement with the statement. Scores are calculated by summing the responses to the items, and can range from 14 – 84. Those high on the scale value growth and development, while those low on the scale have a sense of personal stagnation and do not have a clear sense of life meaning. Sample items include "With time, I have gained a lot of insight about life that has made me a stronger, more capable person," and "For me, life has been a continuous process of learning, changing, and growth."

The PG subscale has shown good reliability estimates with an average internal reliability of .85 and a test-retest reliability ranging from .81 to .88 over a six-week period (Ryff, 1989). The PG subscale also shows acceptable convergent validity estimates. For example, PGIS shows moderate positive correlations with morale, self-esteem, internal locus of control, and life satisfaction (*r*s range from .25 to .44) and moderate negative correlations with depression and an external locus of control (*r*s range from -.30 to -.48; Ryff, 1989). For the current study, the reliability coefficient of the PG subscale was .88.

Procedure

Recruitment.   Participants were recruited from an undergraduate psychology pool in a major Mid-Atlantic public university. During the recruitment phase, an advertisement was posted to the university's undergraduate psychology website that is used for the purposes of study recruitment. The advertisement (see Appendix H) aimed to both identify students who had experienced a relationship break-up in the last six months and have been feeling some ongoing distress over this break-up. In return for participating in the study, students were given three experimental credits. Post-hoc analyses were conducted to determine the level of distress experienced due to the break-up. The author compared baseline scores for the sample on the Impact of Events Scale to normative data (see Results section for details) in order to determine the range of generalizability of the findings (e.g., are the findings relevant to individuals experiencing low vs. high distress after a break-up?).

Experimental conditions. Participants who agreed to be in the study (see Appendix J for Informed Consent) were randomly assigned to one of two conditions. These conditions represent two treatment groups: the best possible self condition (BPS) and the traditional writing paradigm condition. As per Pennebaker's (1989) recommendations, participants were instructed to type their responses in a quiet, comfortable, and private spot. Participants were allowed to complete all writing tasks online. Consistent with Frattaroli's (2006) meta-analytic findings, participants were instructed to write three 20-minute essays on three separate days within a week's time.

Prior to the first writing session, participants received a questionnaire packet that included the following measures: IES, SWLS, CES-D, and PA. For the remaining two writing sessions, participants filled out only the PA scales prior to the writing session.

After each writing session, participants filled out both PA measures and subjective evaluations rating of how enjoyable, interesting, meaningful, and valuable they found the writing task. Two weeks following the completion of the last writing session, participants were asked to complete a post-intervention questionnaire packet which included the IES, SWLS, and CES-D measures. The figure, below, illustrates the experimental design of the study.

Participants received personalized e-mails from the experimenter reminding them of their upcoming writing sessions, and the importance of writing for the full 20 minutes. Participants also received reminders if they had not completed their subsequent writing session within 48 hours of the prior completed writing session (Appendix I). Two weeks following the completion of the last writing session, participants received an e-mail invitation to complete a follow-up questionnaire. Because participants had been given their experimental credit at the completion of the third writing session, a $50 raffle was used as an incentive to complete the two-week follow-up questionnaire. If the participants had not completed the follow-up assessment within 48 hours of receiving the invitation to participate, they were invited to participate again in a reminder e-mail. All participants received these initial instructions (adapted from Lewis, Derlega, & Clarke, 2005) before their first writing session:

> Over the next week, you will be asked to write for at least 20 minutes, three times over this week. You will be at home or some place you designate where you can type your response alone and in a quiet, comfortable, and private location. It is very important that you write for at least 20 minutes. Before and after each writing session, you will complete a brief questionnaire. Two-weeks following

your last session, you will be contacted to complete a last, brief questionnaire

packet. Your writing is confidential. We will identify your responses by

participant number only. We have one list that matches your participant number

to your university id number. This is necessary so that we can give you credit for

your participation. However, all identifying information will be destroyed after

the close of the study. We are very interested in what you say. We assure you that

none of your writing will be linked to you personally. The one exception is that, if

what you say indicates that you intend to harm yourself or others, we are legally

and ethically bound to match your ID with your name. It is very important that

you feel confident about our promise to maintain your privacy. If at any time you

have questions, you may contact the primary researcher, Charles B. Gelso at the

following phone number and e-mail: 301-405-5909; gelso@psyc.umd.edu.

Participants were then given different instructions depending on their randomly

assigned condition. Participants in the traditional writing paradigm experimental group

received the following instructions on the first day of the writing task (Pennebaker &

Bealle, 1986):

We want you to let go and write for twenty minutes about your deepest thoughts

and feelings about the relationship. You can write about your thoughts and

feelings regarding the relationship, how the relationship affected your life when

you were in it, or the effect of the relationship on your life in the present. The

important thing is that you dig down into your deepest emotions and explore them

in you writing. Do not worry about grammar and spelling.

The instructions for the subsequent second and third days were similar except for the additional beginning instructions to "build upon your previous essay(s) and write about your deepest thoughts and feelings about the relationship." Although the researcher was not able to track the amount of time spent on the essays due to the survey program's limitations, she imposed a character response limit of 12, 500 characters. Post hoc analyses were used to determine if the "dose" of the treatment differed by condition (i.e., if participants wrote different length essays as a function of treatment condition).

In the BPS condition participants read the following general instructions (King, 2001):

Think about your life in the future. Imagine that everything has gone as well as it possibly could. You have worked hard and succeeded at accomplishing all of your life goals. Think of this as the realization of all of your life's dreams. Now write for twenty minutes about what you've imagined.

Similar to the traditional writing paradigm group, the writing instructions on the subsequent days matched the first day except for the additional beginning instructions to "build upon your previous essay and think about your life in the future." A similar response limit was imposed to help control for the amount of time spent on each writing session.

At the end of each writing session in each condition, participants completed the dependent measures and were then reminded of the next daily writing session. If the participants did not finish their next writing session within 48 hours, they were sent a reminder e-mail. The writing sample was saved into the university experiment website to conduct manipulation checks.

In the last writing session, upon completion of the dependent measures, participants were reminded of the two-week follow-up questionnaire, and received three credits for their participation. In addition, participants were given information regarding the counseling services available on campus. Two weeks following the last writing session, participants received an e-mail inviting them to complete the follow-up questionnaire. Upon completion of the follow-up questionnaire, respondents were fully debriefed (see Appendix K) and were thanked for their participation. They were also entered into a drawing to win fifty dollars in cash, which aimed to provide an additional incentive to complete the follow-up questionnaire packet. Information about the counseling services on campus was again made available to all participants.

Researchers matched participant responses across the various time points via their student ID number. After this match process was completed, all identifying information was erased.

Manipulation check. A manipulation check was used in order to ensure that participants received the intended treatment and adhered to instructions. Two variables used in the manipulation check were verb tense (i.e., past or future tensed words) and affectivity (i.e., positive or negative emotion words). The current study assessed these variables using the Linguistic Inquiry and Word Count (LIWC) software program, which allows users to calculate the percentage of the writing session that falls into these categories of words (Pennebaker, Booth, & Francis, 2001). Dose or length of the essays was assessed through the average number of words written within each condition.

CHAPTER 4

Results

The results of the statistical analyses will be presented in this chapter. First, I

describe the preliminary data screening process to check for the accuracy of data entry,

missing values, scale reliability, the normality of the distribution, and variable

intercorrelations. Second, I describe the general analytic strategy, including the process

of standardization of the variables, dummy coding of conditions, and the creation of

interaction terms. Next, the hypothesis-testing analyses are reported. Finally, results of

the manipulation check and additional analyses are presented.

Data Screening and Descriptive Statistics

All the variables of interest were entered into SPSS 16.0 and checked for missing

values, distributional properties (i.e., skewness and kurtosis), and internal consistency

reliability. The values of all individual items fell in the appropriate range as indicated by

the minimum and maximum data values within each scale (see Table 1). All of the scales

yielded acceptable reliability estimates, with alpha coefficients ranging from .77-.95.

Means and standard deviations of the original scales are also presented in Table 1. The

nine missing item values in the data set were replaced by individual participants' own

means on the relevant scale.

The skewness and kurtosis for almost all of the individual items and scales used in this

analysis were less than 1, suggesting that the scores were, for the most part, fairly

normally distriubuted (see Table 2). Note that the predictor and moderator variables were

all standardized, as recommended by Frazier,Tix, and Barron (2006). Scores on one

scale, the PGI, however, produced substantial kurtosis (2.2). Because they were non-

normally distributed, a rank order transformation was conducted. The rank ordered

scores were then converted to z scores. This normalized rank order variable, labeled

NPGI, was distributed much more normally (skewness = -.02, kurtosis = .35) and was

used in the subsequent analyses. The correlations, means, and standard deviations for the

variables used in testing hypotheses 1-3 are shown in Table 2. Note that T1 and T4

denote pretest and follow-up scores, respectively. All of the correlations were in the

expected direction.

General Analytic Strategy

The primary predictions (hypotheses 1, 2, and 3) regarding the fit between

participant growth style and experimental condition were tested by means of a moderated

multiple regression analysis (Baron & Kenny, 1986). Regression was chosen, as opposed

to analysis of variance, to preserve the continuous nature of PGI scores and to avoid the

use of artificial cut points that may reduce power to detect interactions (Aiken & West,

1991; Frazier et al., 2006). In the regression analyses, all predictor and moderator

variables were normalized to reduce the potential for multicollinearity among the

variables entered into the equation (West, Aiken, & Krull, 1996). In addition, the

categorical condition variable was contrast coded (traditional disclosure task = 1; BPS = -

1) as is advised when testing two active treatments that are conceptually weighted equally

(Aiken & West, 1991). Next, an interaction term (PGI x experimental condition) was

computed to test the hypotheses that PGI interacts with experimental condition to

influence treatment efficacy.

Tests of Hypotheses

Hypothesis 1: There will be a larger improvement in psychological health (as indicated by an increase in subjective well-being and a reduction in depression and distress from pre-intervention to post-intervention) when there is a greater fit between participants' regulatory orientation and the type of expressive writing task utilized.

The data from 110 participants, 58 of whom were randomly placed in the traditional writing group and 52 of whom were in the BPS group, were used in the present group of analyses. The pretest scores were assessed just before the first intervention and follow-up (T4) scores were measured two-weeks following the last writing session. The regression strategy was used to predict follow-up scores, controlling for pretest scores. Specifically, pretest scores were entered at the first step of each regression equation, following by the experimental condition and growth (PGI) score at the second step, and the PGI x condition interaction at the third step.

Hypothesis 1a: The higher the PGI, the greater the increase in subjective well-being for those participating in the traditional writing paradigm group as compared to the BPS paradigm group at post-intervention. The lower the PGI, the greater the increase in subjective well-being for those participating in the BPS paradigm as compared to the traditional writing paradigm at post-intervention.

The regression findings, summarized in Table 3, indicated that the main effects were not significant yet the interaction between PGI and condition added significant, unique variance ($\Delta R^2 = .02, p < .05$) in the prediction of subjective well-being at follow-up (see Table 3). Figure 2 plots the significant interactions by using the cut-off of one standard deviation below and above the mean for low and high PGI scores, respectively. The hypothesized direction of the interaction was not supported by the results (see Figure

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2).   In fact, participants higher in PGI reported greater subjective well-being when exposed to the BPS task as compared to the Traditional Writing task. Therefore, the BPS task differentially benefited those with higher PGI, which was the opposite of expectations. In contrast, participants lower in PGI reported greater subjective well-being when exposed to the Traditional Writing task as compared to the BPS task. Therefore, the Traditional Writing task differentially benefited those with lower PGI, which was the opposite of expectations.

Hypothesis 1b: The higher the PGI, the greater the decrease in depression for those participating in the traditional writing paradigm group as compared to the BPS paradigm group at post-intervention. The lower the PGI, the greater the decrease in depression for those participating in the BPS paradigm as compared to the traditional writing paradigm at post-intervention.

As shown in Table 4, the interaction term did not account for significant, unique variance in follow-up depression beyond the effects of pretest depression, experimental condition, or PGI status. Thus, Hypothesis 1b was not supported.

Hypothesis 1c. The higher the PGI, the greater the decrease in distress for those participating in the traditional writing paradigm group as compared to the BPS paradigm group at post-intervention. The lower the PGI, the greater the decrease in distress for those participating in the BPS paradigm as compared to the traditional writing paradigm at post-intervention.

The interaction term in Table 5 did not reach significance. Therefore, Hypothesis 1c was not supported.

Hypothesis 2: There will be a larger pre-post gain in positive affectivity when there is greater fit between the regulatory orientation and the type of task utilized.

Pre-session PA scores for each writing condition were averaged across the three writing sessions . Post-session PA scores were similarly averaged across writing sessions. A regression was conducted predicting post-session PA scores, controlling for pre-writing session, or baseline, levels of PA. Specifically, average pretreatment PA scores across all three writing sessions were entered at the first step, followed by PGI and experimental condition at the second step, and the PGI x condition interaction term at the third step.

Hypothesis 2a: Those higher in PGI will experience a greater average increase in PA across interventions by participating in the traditional writing paradigm group as compared to the BPS paradigm group.

The data from 159 participants, 86 of whom were randomly placed in the traditional writing group and 73 of whom were in the BPS group, were used in the present group of analyses. As shown it Table 6, the interaction term did not account for unique variation in PA, thereby failing to support Hypothesis 2a. However, type of condition did explain significant variance beyond pretest PA scores, which supports the result found in previous research (King, 2001). Specifically, those in the BPS condition tended to report higher post-session PA scores than those in the traditional writing condition, regardless of level of PGI.

Hypothesis2b: Those lower in PGI will experience a greater average increase in PA across interventions by participating in the BPS paradigm group as compared to the traditional writing paradigm group.

As show in Table 6, the interaction term did not account for unique variation in PA, thereby failing to support Hypothesis 2b.

Hypothesis 3: Subjective evaluations of the task (as indicated by the participants' average subjective evaluations across writing sessions) will be higher when there is a greater fit between the regulatory orientation and the type of task utilized. To test this hypothesis, a total subjective evaluation score was created by averaging participants' scores both across time points and across subjective evaluation items ($\alpha = .77$).

Hypothesis 3a: Those higher in PGI will report higher subjective ratings of task experience when in the traditional writing paradigm as compared to the BPS paradigm group.

In the regression predicting subjective evaluation, the interaction term explained significant, unique variance beyond the main effects of condition and PGI (see Table 7). However, the hypothesized direction of the interaction was not supported by the results. Figure 3 plots the significant interactions by using the cut-off of one standard deviation below and above the mean for low and high PGI scores, respectively. As shown in the graph of the interaction (see Figure 3), those with higher PGI scores reported more favorable evaluations of the task when participating in the BPS group rather than the Traditional Writing paradigm group.

Hypothesis3b: Those lower in PGI will report higher subjective ratings of task experience when in the BPS paradigm group as compared to the traditional writing paradigm group.

In contrast to the predictions, those with lower PGI scores rated the writing task about equally favorably, regardless of whether they were in the traditional or BPS condition.

Manipulation Check Hypotheses: There will be significant differences in the percentage of positive emotion, negative emotion, past tense, and future tense words between the two writing conditions.

The Linguistic Inquiry and Word Count (LIWC; Pennebaker et. al, 2001) was used to calculate the percentage of positive and negative emotion words and past and future tense words within each writing session. The percentage of each type of word was summed across writing sessions for all four categories of word (e.g. past tense word percentage sum, future tense word percentage sum). Multivariate t-tests were run to test the differences between the two writing conditions (traditional and BPS) in terms of the percentage of each word category generated over sessions. The results are summarized in Table 8.

Hypothesis 4a: The traditional paradigm will produce a significantly greater percentage of negative emotion words than the BPS paradigm. On average, the traditional task produced a significantly greater percentage of negative emotions words than the BPS task, thereby supporting the hypothesis.

Hypothesis 4b: The traditional paradigm will produce a significantly lower percentage of positive emotion words than the BPS paradigm.   On average, the traditional task produced a significantly lower percentage of positive emotions words than the BPS task, which was consistent with the hypothesis.

Hypothesis 4c: The traditional paradigm will produce a significantly higher percentage of past focused words (e.g. past tense used to reference past events) than the BPS paradigm. On average, the traditional task produced a significantly higher

percentage of past tense words than the BPS task. This difference was consistent with the hypothesis.

      Hypothesis 4d: The BPS paradigm will produce a significantly higher percentage of future focused words (e.g. using future tense to refer to future events) than the traditional paradigm. On average, the BPS task produced a significantly higher percentage of future tense words than the traditional task, thereby supporting the hypothesis.

      In sum, support was found for each of the sub-hypotheses of Hypothesis 4 and each of the obtained effect sizes was large, according to Cohen's (1992) criteria for the d statistic.

Additional Analyses

      Five sets of supplementary analyses were conducted. First, to determine the population to which the data may be generalizable, normative data on the level of distress (as measured by the IES) in both clinical and non-clinical samples were compared to the current sample. The current sample's mean baseline level of distress ($M = 38.2$, $SD = 14.02$) was not significantly different than the level of distress found in a clinical sample of 66 individuals' seeking outpatient treatment for depression ($M = 39.5$; $SD = 17.2$; Horowitz, 1979), t (233) = -0.59, $p > .05$. The current sample's mean baseline level of distress was also not significant when compared to that of a non-clinical sample of undergraduate students in an introductory psychology class who acknowledged having "a significant romantic relationship end during the past 2 weeks" ($M = 39.4$, $SD = 11.72$; Smith & Cohen, 1993), t (213) = .57, $p > .05$. Taken together, the current sample shows comparable levels of distress to clinical samples and to distressed undergraduate samples.

Second, to rule out the possibility that the findings are confounded by dose of treatment (e.g., amount of time or effort spent on the writing task), post hoc analyses were conducted to test if essay length varied significantly by writing condition. The Linguistic Inquiry Word Count (Pennebaker et. al, 2001) was used to calculate the total number of written words produced by each participant, averaged across session. A t-test was computed to compare the mean number of words produced by participants in the two writing conditions. Results indicate that the traditional writing task yielded a significantly greater number of average words ($M = 393.39$, $SD = 248.75$) than the best possible self task ($M = 256.66$, $SD = 149.68$), $t (160 = 4.14, p < .01, d = .65)$. This difference represents a medium effect size.

Third, an additional set of regressions was run to determine if the significant main effect of word count influenced the regression findings. Specifically, the regressions were replicated, controlling for word count. As shown in Table 9, once word count was entered along with pretest scores at the first step of the regression equation predicting subjective well-being, the interaction between the NT1PGI and condition was no longer significant. Likewise, the PGI x condition interaction term did not produce a significant change in explained variance above and beyond the main effects in predicting either depression or distress (see Tables 10 and 11). However, the main effect of writing condition remained significant in the prediction of positive affectivity scores (see Table 12). Specifically, those in the BPS condition reported higher posttest positive affect than did those in the Traditional Writing Task condition.

Furthermore, the interaction between NT1PGI and condition predicted a gain in positive affectivity once controlling for word count (see Table 12). Figure 4 graphs the

significant interactions by using the cut-off of one standard deviation below and above

the mean for low and high PGI scores, respectively. The hypothesized direction of the

interaction was not supported by the results.   In fact, participants higher in PGI reported

greater PA when exposed to the BPS task as compared to the Traditional Writing task.

Therefore, the BPS task differentially benefited those with higher PGI, which contrasted

with expectations. In contrast, participants lower in PGI did not experience a differential

gain in PA depending on the condition to which they were randomly assigned.

Therefore, regardless of the type of writing task, participants low in PGI experienced

roughly equal gains in PA.

The findings regarding the prediction of subjective evaluation resembled the

earlier findings in which word count was not controlled (see Table 13). Figure 5 plots the

significant interactions by using the cut-off of one standard deviation below and above

the mean for low and high PGI scores, respectively. The interaction term accounted for

significant unique variance and a graph of the interaction indicated that those high in PGI

evaluated the writing task more favorably in the BPS condition versus the Traditional

Writing task condition; however, those low in PGI rated the task comparably regardless

of their experimental condition (see Figure 5).

Next, to track the within group pre-post changes, a repeated measures ANOVA

was conducted on the three outcome variables measured in the follow-up assessment.

This analysis determined if there was (a) a general improvement over time across groups

as indicated by a significant main effect of time, and (b) if the conditions improve

differentially over time as indicated by a significant time x condition interaction.

Repeated Measures ANOVA for Subjective Well-Being Scores. The main effect of time and the interaction of time x condition did not reach significance for subjective well-being scores (see Table 14). Thus, there were no significant changes in subjective well-being over time and participants in the two conditions did not improve differentially over time.

Repeated Measures ANOVA for Depression Scores. The main effect of time was significant for depression scores [F (1, 111) = 9.54, $p < .001$], but the interaction of time x condition was not (see Table 15). Thus, there was a general trend toward diminished depression scores over time but no differential reduction by type of condition.

Repeated Measures ANOVA for Distress Scores. The main effect of time was significant for distress scores [F (1, 111) = 30.00, $p < .001$], but the interaction of time x condition was not (see Table 15). Thus, there was a general trend toward diminished distress scores over time but no differential reduction by type of condition.

CHAPTER 5

Discussion

This chapter will summarize, discuss, and interpret the study's findings.   First, the findings of the main and supplemental analysis will be discussed in reference to possible explanations for the results and their connection to previous findings. Next, theoretical and methodological implications of the study will be discussed and suggestions for future research will be presented. Finally, limitations of the study will be examined and a general conclusion will summarize the study.

Hypotheses

Hypothesis 1. Hypothesis 1a stated that the higher the PGI, the greater the increase in subjective well-being for those participating in the traditional writing paradigm group as compared to the BPS group at follow-up. Consistent with the literature, the preliminary analysis indicated that there were no main effects found for either condition or level of PGI (King, 2001). However, there was a significant interaction between level of PGI and writing condition in predicting subjective well-being scores at follow-up when controlling for pre-test scores. The direction of the hypothesized interaction was, however, not supported by the results. In fact, participants higher in PGI experienced more subjective well-being at the follow-up when participating in the BPS group as compared to the traditional writing paradigm group. The opposite was true of participants lower in PGI, who reported more well-being at follow-up in the traditional writing paradigm group than in the BPS group. It is important to note that the repeated measures ANOVA indicated that there was no significant increase over time in SWLS scores. This indicates that, although there was a

significant interaction at follow-up, in fact, there was no increase in subjective well-being over time.

The rationale for the hypothesis had been that the traditional writing task would provide an opportunity to engage in a growth experience, which would be more highly prized by those higher in PGI. At the same time, the best possible self paradigm was not expected to offer much opportunity for personal growth, which might be preferable for those lower in PGI. An optimal match between condition and PGI style was expected to lead to more subjective well-being.

The results found instead that individuals high in PGI benefited more from a task that allowed for the exploration of one's ideal self in the future. One explanation may be that individuals perceived the BPS task as a valid growth enhancing experience. It is plausible that an individual high in PGI would take the writing opportunity to engage in thinking about changing and developing as a person. Therefore, individuals may see this as a growth experience regardless of whether it is connected to the distress of the break-up. However, those lower in PGI may have benefited from the opportunity to process difficult experiences associated with the relationship break-up, a process in which they might not normally have engaged. Prior research suggests that individuals lower in PGI tend to use a more suppressive coping style, which indicates less willingness to explore under normal conditions (Robitschek & Cook, 1999).

Hypothesis 1b stated that the higher the PGI the greater the decrease in depression at follow-up for those participating in the traditional writing task as compared to the BPS task. This hypothesis was not supported with the results of the study. Consistent with the literature, the results revealed that there were no significant main effects of either the

condition or the level of PGI (Austenfeld, Paolo, & Stanton, 2006). The interaction

between level of PGI and condition was not significant and, thus, the interactional

hypothesis was not supported. To test if there was a general improvement over time

across groups, a post hoc analysis was conducted using a repeated measures design.

Results demonstrated that depression scores did decrease across time in both conditions;

however, there was no differential reduction by type of condition. This suggests that

participants experienced about the same improvement in depression scores, regardless of

the condition to which they were exposed.

Hypothesis 1c stated that the higher the PGI, the greater the decrease in distress

for those who participated in the traditional writing task, as compared to those in the BPS

task. As expected, there were no significant main effects for either condition or the level

PGI. However, contrary to predictions, the interactional hypothesis was not supported.

Post hoc analysis using a repeated measures design revealed a main effect for time. This

suggests that the amount of distress regarding the break-up did decrease across time;

however, this reduction of distress did not occur differentially by condition.

Hypothesis 2. Hypothesis 2a stated that those higher in PGI would experience a

larger pre-post gain in PA by participating in the traditional writing paradigm task as

compared to the BPS task. Hypothesis 2b stated that those lower in PGI would

experience a larger pre-post gain in PA by participating in the BPS task as compared to

the traditional writing paradigm task. In congruence with past findings from the

literature, there was a significant main effect for condition such that the BPS group

yielded a greater pre-post gain in PA than did the traditional writing group (King, 2001;

Harrist et al., 2006). However, the main interactional hypothesis was not supported by

the results of the study. The interaction between PGI and condition did not account for any additional variance above and beyond the main effects of the pre scores for positive affectivity (the covariate), PGI, and condition. In other words, PGI had no effect on the relationship between the type of task and posttest positive affectivity. However, when controlling for word count, which was found to be significantly larger for participants in the traditional writing group than the BPS group, a significant result emerged. Similarly to the findings regarding the follow-up subjective well-being scores, the direction of the interaction was not supported. In fact, participants higher in PGI experienced a greater increase in PA in the traditional writing task condition than the BPS condition. In contrast, participants lower in PGI experienced roughly the same gain in positive affectivity regardless of the condition to which they were assigned.

Hypothesis 3. Hypothesis 3a stated that those higher in PGI would report higher subjective ratings of the task experience when in the traditional writing paradigm as compared to the BPS task.   Hypothesis 3b proposed that those lower in PGI would report higher subjective ratings of the task experience when assigned to the BPS task as compared to the traditional writing paradigm task. Analyses revealed that there were no main effects found for either condition or level of PGI. The interaction between level of PGI and condition was found to add explanatory power to the regression model, although the form of the interaction was contrary to expectations. Similar to the findings regarding the follow-up subjective well-being scores, the direction of the interaction was not supported; participants higher in PGI gave higher subjective evaluation scores in the BPS condition as compared to the traditional writing condition. The opposite was true of participants lower in PGI, as results revealed a higher subjective evaluation in the

traditional writing condition as compared to the BPS condition. The reasons for this pattern of findings may be the same as those offered with respect to the findings regarding subjective well-being (Hypothesis 1a, above).

Hypothesis 4. Hypothesis 4 stated that there would be significant differences in the percentage of positive emotion, negative emotion, past tense, and future tensed words between the writing conditions. This set of hypotheses was designed to ensure that participants' received the intended treatment (i.e., that there was treatment fidelity). Specifically, it was expected that the traditional writing task would produce significantly more past tensed and negative emotion words (Hypothesis 4a and 4c). It was also expected that the BPS task would produce significantly more future tensed and positive emotion words than the traditional writing task (Hypothesis 4b and 4d). Analyses supported these predictions and revealed that the traditional writing task yielded a greater number of past tense and negative emotion words than the BPS task. In contrast, the BPS task yielded more future tense and positive emotion words. These results suggest that participants' writing output was consistent with the instructions for their conditions; hence, it may be assumed that they experienced the two treatments as intended.

Implications

When taken together, several conclusions can be made regarding the effectiveness of each task in improving psychological health and of the role of PGI as a moderator of treatment outcomes. First, results suggest that participants in both the traditional writing task and the BPS task experienced a decrease in depression and distress regarding the break-up. Specifically, the two tasks may do equally well at aiding the reduction of symptoms. In contrast, the BPS task may have done a better job at enhancing positive

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affectivity. These results are consistent with previous research regarding the two tasks (Austenfeld et al., 2005; King, 2001; S. Harrist, Carlozzi, McGovern, & A. W. Harrist, 2006). However, these findings must be considered in light of the fact that the study did not contain a no-treatment control condition. Although it is possible that the changes observed were due to naturally occurring factors, such as the passage of time, rather than to the writing tasks per se, prior research does suggest that both writing conditions are superior to no-treatment (Frattaroli, 2006; King, 2001).

The findings regarding the role of PGI as a moderator are more complex. Results suggest that the impact of the fit between PGI and type of task on psychological health is selective. Specifically, level of PGI affected the outcomes of the writing conditions on subjective well-being and subjective evaluation of the task, and PA when accounting for word count, but not on the outcomes of distress or depression. PGI represents a preference towards growth experiences. As a preference, it may be more directly linked to how an individual feels about their satisfaction in life, how it positively affects their affect, and how they evaluate therapeutic activities rather than to the presence of specific symptoms.

Individuals high in PGI may already be actively engaging in growth experiences which include the exploration of their thoughts and feelings related to their past relationship and its break-up. The BPS paradigm may create a novel opportunity for them to pause and focus on more future-focused activities and on the discrepancy between one's current self and ideal self. This might lead the individual who is high in PGI to reduce this discrepancy and seek out growth experiences that are more congruent with their ideal self. This speculation, which is consistent with Roger's client-centered

approach to consciousness raising in therapy (as cite in Prochaska & Norcross, 2007), may offer fertile ground for future research.

In contrast, those low in PGI may benefit by being encouraged to use different coping skills (e.g., exploration of past events, self-disclosure) than they might typically employ. It may be that such individuals will begin to apply a more reflective coping skill style in which the exploration of past experiences or the process of confiding is embraced. This may ultimately affect the way in which they interact with others, causing them to be more open and honest about their thoughts and feelings (Pennebaker & Graybeal, 2001). Evidence for this interpretation, which is consistent with social integration theory comes from studies that have found that participants assigned to the traditional writing task were more likely than controls to discuss their traumatic experiences in the months following the writing sessions (Kovac & Range, 2000).

It is important to note that PGI is not only a new measure, but a new construct. The current literature has reveled that those high in PGI are more likely to have an internal locus of control, to be more assertive, and to have higher efficacy in their ability to achieve goals. Furthermore, the individual higher in PGI uses a more reflective or active type of coping style, and is generally hopeful about the future (which refers to both the belief in things getting better and a sense of agency to accomplish those goals; Petersen, 2006). In regard to functioning, individuals higher in PGI exhibit greater family functioning within their family of origins, which points to the adaptive nature of having higher levels of PGI.

However, because the PGI construct is relatively new, more construct validation work is needed to gain further clarity regarding what the PGI scale is measuring.

Theoretically, it is possible that those who endorse such items as "I know what I need to do to get started towards reaching my goals," or "I take charge of my life" are simply more goal-directed. Alternatively, they may prematurely foreclose their decisions rather than seeking to explore and "grow" in a self-actualized manner. It could also be argued that individuals who score high on goal-direction or fall into the premature closure category would have similar correlates (e.g., internal locus of control, assertiveness, and instrumentality). It may be, therefore, be that those high in PGI fall into two distinct groups of those that truly engage in the self-actualization process and those that are simply "goal-oriented" (which may encompass foreclosure and goal-directed sub-types). Although other correlates may counter this argument (e.g., positive correlation of PGI to functioning, and reflective coping), it is clear that more work needs to be done in defining and constructing the construct and scale of PGI.

It is also interesting to note that the PGIS scores were negatively skewed within this sample. Because most participants endorsed high levels of PGI ($M = 39.56$), the characteristics of low scorers are unclear. For example, what would someone be like who does not espouse growth goals and who disagrees with such items as "I know how to change specific things I want in my life" or "I take charge of my life?" Does this individual follow the Eastern tradition of finding "peace" through recognizing less control, or does this person lack a sense of agency, thereby feeling a sense of ineffectiveness and hopelessness? The fact that the current evidence may lend itself to multiple theoretical formulations highlights the necessity for further construct validation. However, the current results do not disconfirm the definition and conceptualization of PGI. Therefore, the remaining discussion will be based on the assumption that the

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present conceptualization of PGI is correct, with the caveat that further research is needed for clarification.

The data did not support the "matching" hypotheses regarding the fit between the individuals' regulatory orientation (in this case PGI) and the means they use to pursue their primary goal (the type of task engaged in). There are several potential reasons for this finding, for example, (a) PGI is more of a preference than a guiding and pervasive regulatory orientation, (b) the tasks did not sufficiently represent a person-task fit situation for those high or low in PGI, or (c) individuals may benefit from writing interventions that engage a coping style different from the ones they typically employ.

Previous research points to the validity of the regulatory fit theory (Avnet & Higgins, 2006; Higgins, 2000) and has shown that individuals will pursue goals with greater vigor and achieve greater performance when the means of doing so matches their regulatory orientation. However, most of these studies have been set in highly controlled laboratory settings and have used different regulatory orientations compared to the current study. Future work might explore the conditions under which this "fit" hypothesis holds more or less well.

It is noteworthy that the current study used an online format for the writing sessions and that there was a substantial amount of participant attrition across the three writing sessions, despite numerous reminder e-mail messages. The number and types of words also distinguished the two writing conditions. Future research employing the online writing format might try to provide a stronger rationale for why it would be beneficial to write for the prescribed 20 minutes and for at least three sessions. Pennebaker's website provides a useful example:

http://homepage.psy.utexas.edu/HomePage/Faculty/Pennebaker/home2000/Background.
Previous research has, in fact, found that individuals experience the greatest gain if they
participate in at least three writing sessions lasting about 20 minutes each (Frattaroli,
2006).

Only two other dissertations and no empirical journal articles have studied the use
of expressive writing in an online format and, to date, no studies have tested the use of
this intervention as an adjunct to personal therapy. More research is needed to explore
the benefits and drawbacks of such writing and the practical implications within the field
of psychology. Future work might explore the impact of client variables on different
expressive writing tasks in an actual clinical setting to address the question of when and
with whom does expressive writing work as a supplementary activity to therapy. In other
words, what client moderator variables affect the outcome of the different types of
interventions?

Limitations

As with all studies, this study has several limitations. One limitation involves the
sample. First, the sample was composed of students from one college campus who were
recruited from an undergraduate psychology pool. It is likely that many of these students
were more psychologically-minded than is true of the general population, which could
have affected the results of the study. Furthermore, although the findings suggest that
this sample had a comparable level of distress to that of an outpatient clinical sample, it is
difficult to generalize the findings to other clinical or community populations. In one
meta-analysis (Smyth, 1998), larger psychological health effect sizes were found for
writing interventions in studies with college students versus non-students.

Another limitation concerns the description of the gender composition of the present sample. Due to a technical error, information on gender was not collected. Although this information was estimated based on the pre-screening undergraduate psychology recruitment pool information, a precise composition could not be obtained. Smyth's (1998) meta-analysis found that, across 9 studies, men tended to experience greater gains from the expressive writing paradigm than women. It is unclear in the current study how the gender breakdown may have affected the results.

Also, it may have been that giving participants credit after the third session, rather than giving them credit after the fourth session, may have contributed to the higher attrition rates between the last writing session and the two-week follow-up. The decision was made to help with recruitment; however, it may have been that the cost of this decision was less participation at follow-up which may have affected the findings.

Furthermore, it is important to note that the significant difference on word count between the writing tasks was conceptualized as a potential confound. However, it may be that the nature of the tasks naturally lend themselves to different "doses" so that differences in word counts are inherent to the tasks itself, rather than confounds of the design. That is, people may simply have more to say about (and an easier time elaborating) their "deepest thoughts and feelings" than their best possible selves. If this is the case, it may be that controlling for word count is conceptually inappropriate.

The online nature of the study may be considered as both a strength and a limitation. Although the current study attempted to control for extraneous variables by providing clear instructions to the participant and by performing several post hoc analyses and manipulation checks, it is impossible to discount the possibility that not all

participants followed instructions. Findings revealed a large standard deviation for word count in both writing conditions, which suggests that participants varied in their adherence to the instructions. This potential non-compliance to protocol attenuates confidence in the results obtained and the conclusions made. Finally, the self-report nature of the study is another limitation. The issue of common method variance and the possibility of a response set in the use of self-report measures may have inflated the relationship found among the variables in the study.

Conclusion

Despite these limitations, the overall results of this study speak to the potential value of PGI as a moderator of the two types of expressive writing tasks studied – although the nature of the moderation may differ from the pattern originally hypothesized. These findings suggest that PGI may play an important role in the usefulness of certain therapeutic interventions and should be considered in therapeutic work. Furthermore, this study's online format highlights the potential to use therapeutic writing under more naturalistic conditions, outside the confines of an artificial laboratory setting. Finally, this study responds to Pennebaker's (2004) call for researchers to examine relevant participant/client variables that may moderate the beneficial effects found in expressive writing.

Table 1

Correlations, Ranges, Means, Standard Deviations, and Reliability Coefficients of the Predictor and Criterion Variables

	1	2	3	4	5	6	7	8	9	10	11
1. T1SWLS	-										
2. T1CES-D	-.47**	-									
3. T1IES	.17	.53**	-								
4. PGI	.41**	-.25**	.08	-							
5. PWBS	.27**	-.39**	-.06	.42**	-						
6. PrePA	.37**	-.29**	.05	.34**	.20**	-					
7. PostPA	.32**	-.19**	.02	.30**	.25**	.76**	-				
8. SE	.17*	.07	.18*	.10	.13	.45**	.65**	-			
9. T4SWLS	.65**	-.49**	.04	.34**	.33**	.49**	.38**	.25**	-		
10.T4CES-D	-.30**	.60**	.28*	-.16	-.21**	-.26	-.23**	-.08	-.48**	-	
11.T4IES	-.05	.46**	.50**	.07	-.05	.18	.13	.22*	-.10	.56**	-
Possible Scale Range	7-35	0-80	0-75	9-54	14-84	10-50	10-50	1-9	7-35	0-80	0-75
Obtained Scale Range	7-35	0-52	0-73	9-54	35-84	10-50	10-50	1-9	8-34	0-44	0-67
Mean	23.32	21.19	38.20	39.56	66.89	27.09	29.31	4.57	23.36	17.3	29.38
Standard Deviations	6.29	11.73	14.08	7.61	10.06	7.27	8.41	1.66	6.01	11.49	14.03
α	.87	.92	.85	.92	.88	.77	.79	.95	.86	.93	.97

* Correlations $p < .05$ ** Correlations $p < .01$

Table 2

Skewness and Kurtosis of the Normalized Predictor Variables and Raw Criterion Variables

Variable	Skewness	S.E. of Skewness	Kurtosis	S.E. of Kurtosis
ZT1SWLS	-.39	.18	-.47	.35
ZT1CES-D	.29	.18	-.57	.35
ZT1IES	-.15	.18	-.16	.35
NPGI	-.02	.18	-.19	.35
ZPWBS	-.49	.18	-.21	.35
ZPrePA	.25	.18	-.30	.35
PostPA	.10	.18	-.31	.35
SE	.26	.18	-.50	.35
T4SWLS	-.54	.22	-.56	.44
T4CES-D	.59	.22	-.68	.44
T4IES	-.03	.22	-.47	.44

Table 3

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Subjective Well-being (Satisfaction with Life Scale; SWLS scores) at Follow-Up

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	ZT1SWLS	.68	.47	108	95.02**	3.76**	.63**	.00**
Step 2	Condition	.68	.00	106	.23	-.03	-.01	.94
	NT1PGI					.55	. 09	.27
Step 3	NT1PGI x	.70	.02	105	4.03*	-.90*	-.14*	.05*
	Condition							

$p < .05$ ** $p < .01$

Table 4

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Depression (Center for Epidemiological Center for Depression; CES-D scores) at Follow-Up

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	ZT1CES-D	.60	.36	108	60.47**	6.71**	.57**	.00**
Step 2	Condition	.60	.00	106	.08	-.10	-.01	.90
	NT1PGI					-.67	-.06	.50
Step 3	NT1PGI x	.61	.02	105	3.29	1.76	.14	.07
	Condition							

$\underline{p} < .05$ ** $\underline{p} < .01$

Table 5

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Distress (Impact of Event or IES scores) at Follow-Up

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	ZT1IES	.409	.24	108	34.31**	7.13**	.49**	.00**
Step 2	Condition	.49	.00	106	.31	-.89	-.06	.46
	NT1PGI					-.44	-.03	.73
Step 3	NT1PGI x Condition	.52	.02	105	3.04	2.21	.15	.08

$p < .05$ ** $p < .01$

70

Table 6

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Positive Affectivity (PA scores)

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	ZPAPre	.77	.59	157	233.10**	6.54**	.77**	.00**
Step 2	Condition	.78	.02	155	3.59	-1.18*	-.14*	.01*
	NT1PGI					.18	.02	.70
Step 3	NT1PGI x Condition	.79	.01	154	3.41	-.80	-.09	.07

* $p < .05$ ** $p < .01$

Table 7

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting the Average Subjective Evaluation(SE) across Writing Sessions

	Predictors	R	ΔR^2	df	ΔF	β	B	p
Step 1	Condition	.16	.03	156	2.01	.13	.08	.33
	NT1PGI					.26*	.16*	.05*
Step 2	NT1PGI x Condition	.24	.03	155	5.54*	-.31*	-.19*	.02*

*p < .05 ** p < .01

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Table 8

Summary of t-tests of the Mean Differences between Conditions on the Four Word Categories

	Traditional Writing Task		Best Possible Self Task			
Category of Words	*Mean*	*SD*	*Mean*	*SD*	*t-value*	*Cohen's d*
Positive Emotion	11.55	3.23	19.33	11.10	-6.30***	-.99
Negative Emotion	8.17	2.87	2.30	1.95	14.87***	-2.35
Past Tense	18.59	6.92	5.83	3.86	14.07***	2.22
Future Tense	3.15	1.37	7.19	5.87	-6.27***	-.1.0
* <u>*p*</u> < .05 ** <u>*p*</u> < .01						

Table 9

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Subjective
Well-being (Satisfaction with Life Scale; SWLS scores) at Follow-Up, Controlling for
Word Count

	Predictors	R	ΔR^2	Df	ΔF	B	β	p
Step 1	ZT1SWLS	.69	.47	108	48.52**	3.77**	.63**	.00**
	WCSum					.38	.07	.38
Step 2	Condition	.69	.00	106	.34	-.15	-.03	.72
	NT1PGI					.53	.09	.29
Step 3	NT1PGI x Condition	.70	.02	105	3.05	-.81	-.13	.08

* p < .05 ** p < .01

Table 10

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Depression(Center for Epidemiological Studies of Depression; CES-D scores) at Follow-Up, Controlling for Word Count

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	ZT1CES-D	.60	.36	108	30.16**	6.71**	.57**	.00**
	ZWCSum					-.05	-.01	.96
Step 2	Condition	.60	.00	106	.06	-.09	-.01	.93
	NT1PGI					-.67	-.06	.50
Step 3	NT1PGI x Condition	.61	.02	105	3.04	1.75	.14	.08

* $p < .05$ ** $p < .01$

Table 11

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Distress (Impact of Event Scale; IES scores) at Follow-Up, Controlling for Word Count

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	ZT1IES	.51	.26	108	18.85**	7.40**	.51**	.00**
	WCSum					-.1.40	-.10	.27
Step 2	Condition	.51	.00	106	.07	-.55	-.04	.69
	NT1PGI					-.43	-.03	.74
Step 3	NT1PGI x	.52	.01	105	2.00	1.85	.12	.16
	Condition							

* p < .05 ** p < .01

Table 12

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting Positive Affectivity (PA scores , Controlling for Word Count

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	ZPAPre	.77	.60	108	117.42**	6.54**	.77**	.00**
	WCSum					-.32	-.04	.47
Step 2	Condition	.78	.02	106	2.96*	-1.09*	-.13*	.02*
	NT1PGI					.18	.02	.69
Step 3	NT1PGI x Condition	.79	.01	105	3.80	-.87*	-.10*	.05*

* *p* < .05 ** *p* < .01

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Table 13

Summary of Hierarchical Moderated Multiple Regression Analysis Predicting the Average Subjective Evaluation (SE scores) across Writing Sessions, Controlling for Word Count

	Predictors	R	ΔR^2	df	ΔF	B	β	p
Step 1	WCSum	.10	.01	156	1.55	.07	.04	.61
Step 2	Condition	.17	.02	156	1.68	.10	.04	.45
	NT1PGI					.26*	.16*	.05*
Step 3	NT1PGI x Condition	.24	.03	155	*4.86	-.30*	-.18*	.03*

* $p < .05$ ** $p < .01$

Table 14

Summary of Repeated Measures ANOVA on Satisfaction with Life Scale (SWLS scores), an index of Subjective Well-being

Source	SS	Df	Mean Square	F	p
Time	6.82	1	6.82	.59	.45
Condition	130.26	1	130.26	2.15	.15
Time x Condition	6.99	1	6.99	.60	.44
* p < .05 ** p < .01					

Table 15

Summary of Repeated Measures ANOVA on CES-D Depression Scores

Source	SS	df	Mean Square	F	p
Time	500.97	1	500.97	9.54	.003***
Condition	87.91	1	87.91	.42	.52
Time x Condition	16.66	1	16.66	.32	.58
* p < .05 ** p < .01*** p<.001					

Table 16

Summary of Repeated Measures ANOVA on IES Distress Scores

Source	SS	df	Mean Square	F	p
Time	2918.43	1	2918.43	30.0	.000***
Condition	656.77	1	656.77	2.32	.13
Time x Condition	344.60	1	344.60	3.54	.06
* p < .05 ** p < .01*** p<.001					

```
┌─────────────────────────────────────┐        ┌─────────────────────────────────────┐
│              Time 1                 │        │              Time 2                 │
│ 1. Baseline Questionnaires          │   ⇒    │ 1. PA                               │
│      - IES, SWLS, CESD, PA,         │        │ 2. Writing Session 2                │
│        PWBS                         │        │ 3. Post-Questionnaire 2             │
│ 2. Writing Session 1                │        │    - PA, Subjective Evaluation      │
│ 3. Post-Questionnaire 1             │        │                                     │
│    - PA, Subjective Evaluation      │        │                                     │
└─────────────────────────────────────┘        └─────────────────────────────────────┘

┌─────────────────────────────────────┐        ┌─────────────────────────────────────┐
│              Time 4                 │        │              Time 3                 │
│       Two-Week Follow-Up            │   ⇐    │ 1. PA                               │
│ 1. Post-Questionnaire               │        │ 2. Writing Session 3                │
│    - IES, SWLS, and the CESD        │        │ 3. Post-Questionnaire 3             │
│                                     │        │    - PA, Subjective Evaluation,     │
│                                     │        │ 4. Reminder of Two-Week             │
│                                     │        │ Follow-Up                           │
└─────────────────────────────────────┘        └─────────────────────────────────────┘
```
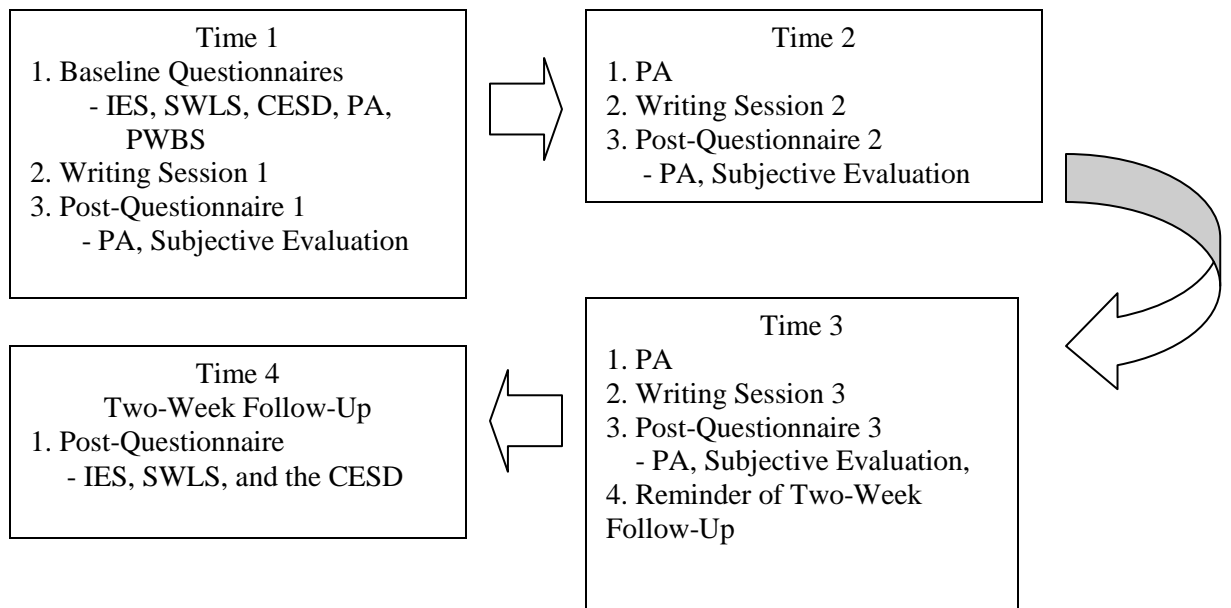
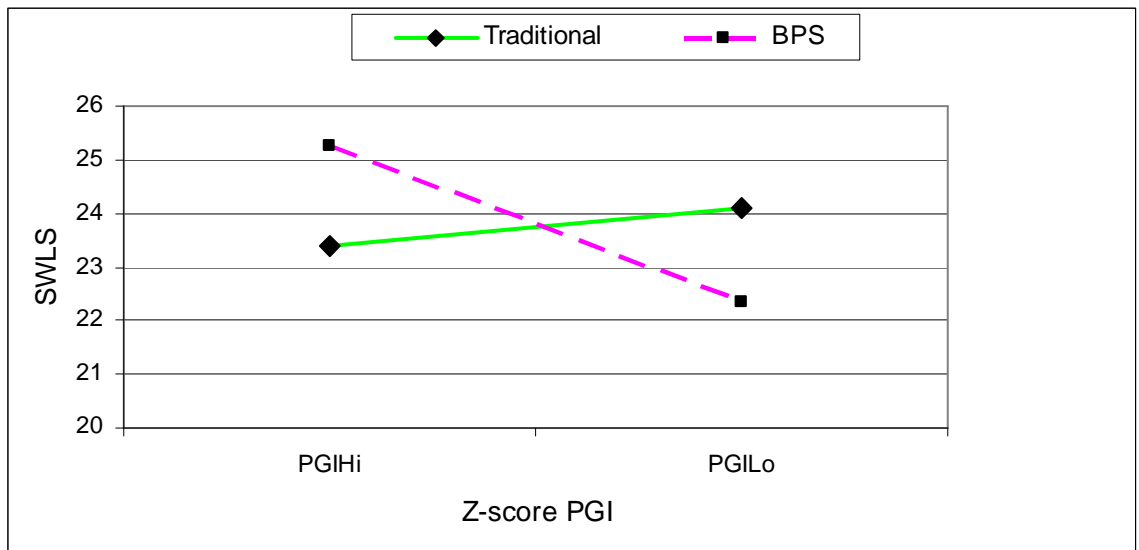*Figure 1.* Experimental design of the study

Figure 2. Interaction between Personal Growth Initiative (PGI) and experimental condition predicting subjective well-being at follow-up, as measured by the Satisfaction with Life Scales (SWLS).
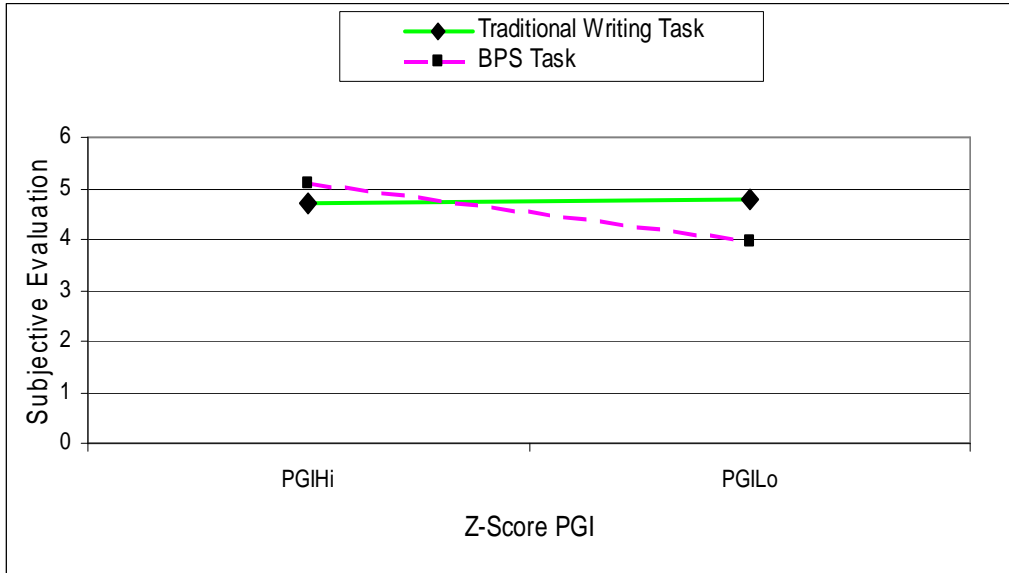
Figure 3. Interaction between Personal Growth Initiative (PGI) and experimental condition predicting the average subjective evaluation (SE) scores across writing sessions.
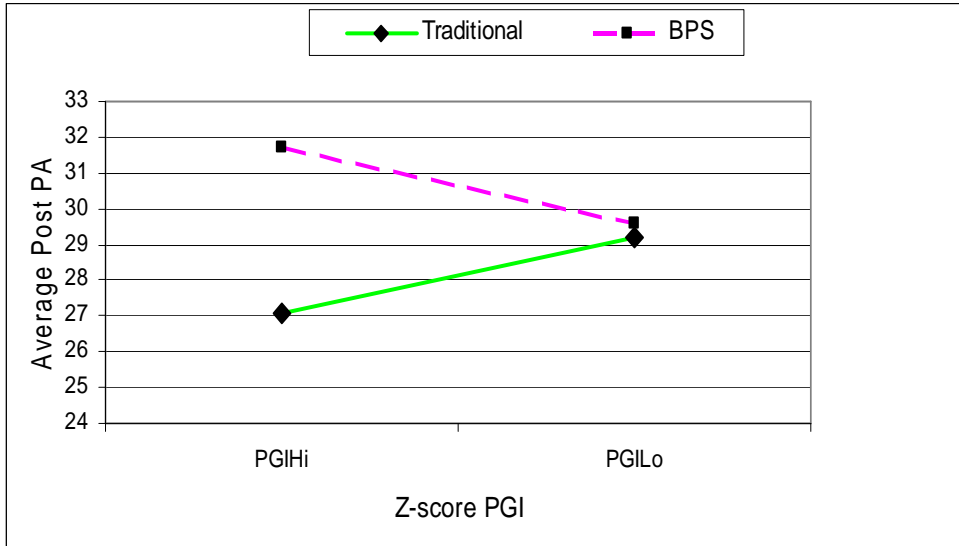
Figure 4. Interactions between Personal Growth Initiative (PGI) and condition predicting the average post writing Positive Affectivity (PA) scores across writing sessions, controlling for word count.
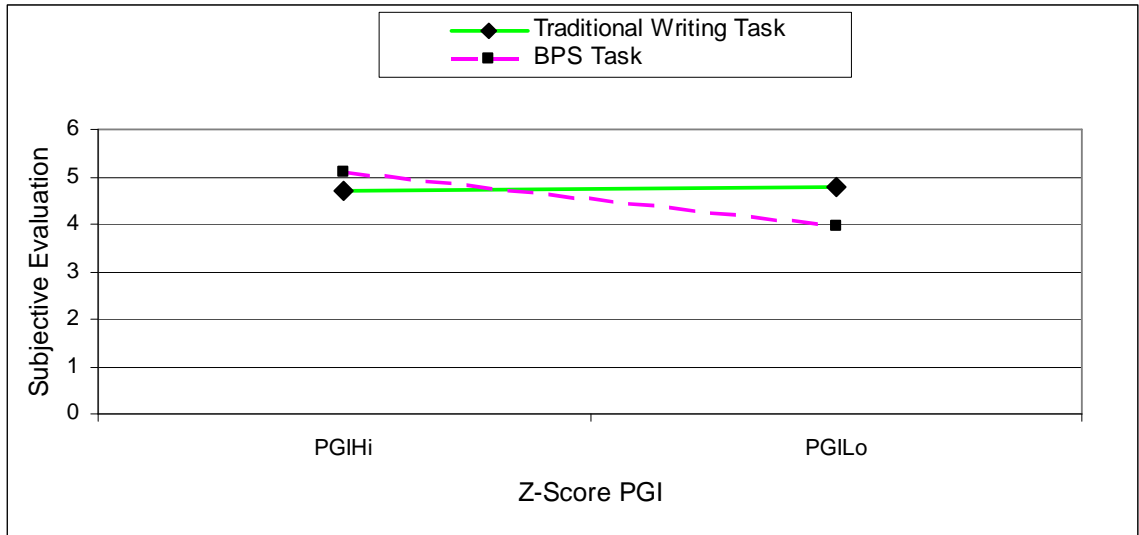
Figure 5. Interactions between Personal Growth Initiative (PGI) and condition predicting the average subjective evaluations (SE) across writing sessions, controlling for word count.

Personal Growth Initiative Scale (PGIS)

Using the scale below, circle the number which best describes the extent to which you agree or disagree with each statement.

1 = Definitely disagree
2 = Mostly disagree
3 = Somewhat disagree
4 = Somewhat agree
5 = Mostly agree
6 = Definitely agree

1. I know how to change specific things that I want to change in my life.

      1   2   3   4   5   6

2. I have a good sense of where I am headed in my life.

      1   2   3   4   5   6

3. If I want to change something in my life, I initiate the transition process.

      1   2   3   4   5   6

4. I can choose the role that I want to have in a group.

      1   2   3   4   5   6

5. I know what I need to do to get started toward reaching my goals.

      1   2   3   4   5   6

6. I have a specific action plan to help me reach my goals.

      1   2   3   4   5   6

7. I take charge of my life.

      1   2   3   4   5   6

8. I know what my unique contribution to the world might be.

      1   2   3   4   5   6

9. I have a plan for making my life more balanced.

        1   2   3   4   5   6

Impact of Events Scale

Below is a list of comments made by people after stressful life events. Using the following scale, please indicate (with a) how frequently each of these comments were true for you DURING THE PAST SEVEN DAYS.

1. I thought about the break-up when I didn't mean to.

               Not at all   Rarely   Sometimes   Often

2. I avoided letting myself get upset when I thought about the break-up or was reminded of the break-up.

               Not at all   Rarely   Sometimes   Often

3. I tried to remove the break-up from memory.

               Not at all   Rarely   Sometimes   Often

4. I had trouble falling asleep or staying asleep, because of pictures or thoughts about the break-up that came into my mind.

               Not at all   Rarely   Sometimes   Often

5. I had waves of strong feelings about the break-up.

               Not at all   Rarely   Sometimes   Often

6. I had dreams about the break-up

               Not at all   Rarely   Sometimes   Often

7. I stayed away from reminders of the break-up

               Not at all   Rarely   Sometimes   Often

8. I felt as if the break-up hadn't happened or the break-up wasn't real.

               Not at all   Rarely   Sometimes   Often

9. I tried not to talk about the break-up.

                        Not at all   Rarely   Sometimes   Often

10. Picture about the break-up popped into my mind.

                        Not at all   Rarely   Sometimes   Often

11. Other things kept making me think about the break-up

                        Not at all   Rarely   Sometimes   Often

12. I was aware that I still had a lot of feelings about the break-up, but I didn't deal with them.

                        Not at all   Rarely   Sometimes   Often

13. I tried not to think about the break-up.

                        Not at all   Rarely   Sometimes   Often

14. Any reminder brought back feelings about the break-up.

                        Not at all   Rarely   Sometimes   Often

15. My feelings about the break-up were kind of numb.

                        Not at all   Rarely   Sometimes   Often

The Center for Epidemiological Studies - Depression Scales (CES-D)

Please indicate how often you have felt this way during the past week by using the following numbers:

1 = rarely or none of the time (less than one day)
2 = some of the time (1-2 days)
3 = occasionally or a moderate amount (3-4 days)
4 = most or all of the time (5-7 days)

	1	2	3	4
I was bothered by things that usually don't bother me.	☐	☐	☐	☐
I did not feel like eating; my appetite was poor.	☐	☐	☐	☐
I felt that I could not shake off the blues even with help from my friends.	☐	☐	☐	☐
I felt that I was just as good as other people.	☐	☐	☐	☐
I had trouble keeping my mind on what I was doing.	☐	☐	☐	☐
I felt depressed.	☐	☐	☐	☐
I felt that everything I did was an effort.	☐	☐	☐	☐
I felt hopeful about the future.	☐	☐	☐	☐
I thought my life had been a failure.	☐	☐	☐	☐
I felt fearful.	☐	☐	☐	☐
My sleep was restless.	☐	☐	☐	☐
I was happy.	☐	☐	☐	☐
I talked less than usual.	☐	☐	☐	☐
I felt lonely.	☐	☐	☐	☐
People were unfriendly.	☐	☐	☐	☐
I enjoyed life.	☐	☐	☐	☐

I had crying spells. ☐ ☐ ☐ ☐

I felt sad. ☐ ☐ ☐ ☐

I felt that people disliked me. ☐ ☐ ☐ ☐

I could not get "going." ☐ ☐ ☐ ☐

APPENDIX D

Positive Affect Subscale

Please indicate to what degree you are feeling each item below at this moment using the scale below.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

1. ____ Interested
2. ____ Excited
3. ____ Strong
4. ____ Enthusiastic
5. ____ Proud
6. ____ Alert
7. ____ Inspired
8. ____ Determined
9. ____ Attentive
10. ____ Active

APPENDIX E

The Satisfaction with Life Scale (SWLS)

Directions: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neither Agree or Disagree
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

_____1. In most ways my life is close to my ideal.

_____2. The conditions of my life are excellent.

_____3. I am satisfied with life.

_____4. So far I have gotten the important things I want in life.

_____5. If I could live my life over, I would change almost nothing.

APPENDIX F

Subjective Evaluation of Writing Task

How enjoyable did you find this writing task today?

1	2	3	4	5	6	7	8	9
Not at All Enjoyable		Somewhat Enjoyable		Enjoyable		Very Enjoyable		Extremely Enjoyable

How interesting did you find this writing task today?

1	2	3	4	5	6	7	8	9
Not at All Interesting		Somewhat Interesting		Interesting		Very Interesting		Extremely Interesting

How meaningful did you find this writing task today?

1	2	3	4	5	6	7	8	9
Not at All Meaningful		Somewhat Meaningful		Meaningful		Very Meaningful		Extremely Meaningful

How valuable did you find this writing task today?

1	2	3	4	5	6	7	8	9
Not at All Valuable		Somewhat Valuable		Valuable		Very Valuable		Extremely Valuable

APPENDIX G

The Psychological Well-Being Scales (PWBS)

Directions: Below are fourteen statements with which you may agree or disagree. Using the 1-6 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree
2 = Moderately Disagree
3 = Slightly Disagree
4 = Slightly Agree
5 = Moderately Agree
6 = Strongly Agree

_____1.   I am not interested in activities that will expand my horizons.

_____2.   In general, I feel that I continue to learn more about myself as time goes by.

_____3.   I am the kind of person who likes to give new things a try.

_____4.   I don't want to try new ways of doing things--my life is fine the way it is.

_____5.   I think it is important to have new experiences that challenge how you think about yourself and the world.

_____6.   When I think about it, I haven't really improved much as a person over the years.

_____7.   In my view, people of every age are able to continue growing and developing.

_____8.   With time, I have gained a lot of insight about life that has made me a stronger, more capable person.

_____9.   I have the sense that I have developed a lot as a person over time.

_____10.   I do not enjoy being in new situations that require me to change my old familiar ways of doing things.

_____11.   For me, life has been a continuous process of learning, changing, and growth.

_____12.   I enjoy seeing how my views have changed and matured over the years.

_____13. I gave up trying to make big improvements or changes in my life a long time ago.

_____14. There is truth to the saying you can't teach an old dog new tricks.

APPENDIX H

<u>Advertisement for Recruitment</u>

Have you experienced a relationship break-up in the last six months and are you feeling some
ongoing distress over this break-up? If so, you are eligible to participate in this 3 credit study.

APPENDIX I

Hello There,

Thank you for completing the first part of my three part study. It has been 48 hours since you completed the first part of the study. **Note that the second and third parts of the study require less time to complete than the first.** As per my study's guidelines, all three sections must be completed WITHIN ONE WEEK and must be a MINIMUM of 12 hours apart from each other in order to receive credit. To access the sight of the SECOND SECTION (each section has a different link), complete the following steps made as simple as possible for your convenience:

1) To access the website, cut and paste the following link into your web browser.

http://www.surveymonkey.com/s.aspx?sm=OpZKOmJS3SOrH7yHkmpFNQ_3d_3d

2) When asked for a *password*, type "write" (you will use this same password for each session).

3) Once you access the survey, read and follow the directions provided.

4) **IMPORTANT NOTE** – *the last page of the study will display the link to the final part of the study.*

If you misplace this e-mail or have any questions or concerns you can contact me directly at helenamimimartin@yahoo.com or reply to this e-mail.   Thank you very much, in advance, for your participation and completion of my study!

Best,

Helena (Mimi) Martin

Informed Consent Form
Project Title: Relationship Break-Ups

Statement of Age of Subject (Please note: parental consent always needed for minors) In signing this form you state that you are at least 18 years of age and wish to participate in a program of research being conducted by Charles B. Gelso in the Department of Psychology at the University of Maryland, College Park.

Purpose of the Study: The purpose of this research is to investigate the effects of expressive writing following relationship breakups. Specifically, experimenters will attempt to assess what type of writing task is most beneficial for particular participants.

Procedures: At the first session, lasting approximately 50 minutes, you will complete five self-report measures which should take approximately 15 minutes. The initial packet will include measures of the distress experienced over the break-up, subjective well-being and mood, a measure of your propensity towards growth, depression and your impressions of the task. Following the completion of this questionnaire, you will be given instructions to do a writing task for approximately 20 minutes. You will then complete the initial scales again and sign out of the program. At a second writing session lasting approximately 35 minutes, you will complete a second writing session lasting 20 minutes. Following this session you will complete some questionnaires. The last session will follow the procedures described in the first. In addition, you will then be debriefed and reminded that you will receive an invitation in one month's time to complete a follow-up survey. If you are in a psychology course, you will receive course credit for participation.

Confidentiality: All information collected in this study is confidential to the extent permitted by law. The data you provide will be grouped with data others provide for reporting and presentation; your name will not be used in any reports or presentations.

Risks: You may think about some things regarding your past relationship that you have not thought about before participating in this study. Some of the questions are personal in nature.

Benefits, Freedom to Withdraw, & Ability to Ask Questions: The experiment is not designed to help you personally, but to help the investigator learn more about methods to help people deal with relationship break-ups. You are free to ask questions or withdraw from participation at any time and without penalty. Your participation is completely voluntary. You can decline to answer any questions that make you uncomfortable.

Contact Information of Investigator: Charles B. Gelso, Department of Psychology, University of Maryland, College Park, Maryland 20742. Email: gelso@psyc.umd.edu.

Contact Information of Institutional Review Board: If you have any questions about your rights as a research subject or wish to report a research-related injury, please contact:

Institutional Review Board Office, University of Maryland, College Park, Maryland 20742; (email) irb@deans.umd.edu; (telephone) 301-405-0678.

APPENDIX K

Debriefing Form – Break-Up Study

General Aim and Purpose

Thank you for participating in this study. There were two central purposes to the current research. The first purpose was to look at the impact of two brief writing interventions intended to target symptom reduction. The second purpose was to determine how one particular client variable of interest can affect the intervention's impact on symptom reduction. In other words, how might this variable differentially impact the beneficial effects of the writing interventions. This client variable (in scientific language this is known as the moderator variable) was personal growth initiative (PGI) or a general preference for personal growth experiences.

Main Hypotheses

It was thought that those high on PGI, or those who are more likely to value personal growth, would fair better with a writing intervention that would facilitate personal growth. As previous research has found that exploration is a key variable to gaining insight and personal growth, than those individuals who were higher in PGI might benefit more from an intervention that encourages exploration. In contrast, those lower in PGI might instead prefer a more direct route to symptom reduction that does not require exploration and personal growth. These individuals might benefit more from a writing task that aims to increase positive affect (or put them in a good mood) and therefore reduce the frequency and intensity of problematic symptoms.

Independent Variables, Dependent Variables and Procedures

The independent variable was the type of writing intervention assigned to the participant. As this was a quasi-*experimental* design, participants were randomly assigned to one of two writing interventions. The traditional writing intervention required participants to explore their deepest thoughts and feelings regarding the break-up. The Best Possible Self (BPS) writing intervention required participants to write about their ideal self in the future. This intervention has been shown to increase positive affectivity, which in turn has been proven to reduce problematic symptoms.

The moderator variable of interest was a naturally occurring "trait like" variable of PGI that could not be manipulated in the study. This explains the *quasi*-experimental nature of the study. A total of three writing interventions were utilized, as previous research has shown that three writing interventions proves to be an ideal number of writing sessions to achieve the desired effect of symptom reduction.

The dependent variables of interest were well-being, positive affect, depression, the impact of the stressful life event (i.e. the break-up), and the subjective evaluation of the task itself. Positive affect was measured before and after each writing intervention to

obtain an average change in positive affectivity due to the interventions. In other words, did the writing intervention in general lead to an elevation in mood? The subjective evaluation of the task was also measured after to each writing intervention in order to capture the participant's immediate reactions to the tasks. The other outcome variables of interest were only measured prior to the first writing interventions to obtain a baseline score two weeks following the writing interventions to see if the wiring interventions had a lasting impact on these variables (i.e., depression, well-being, and the impact of the break-up).

Deception

It is important to note that no deception was used in this study.

Contact Information and Counseling Services

Thank you again for your participation in this study. If you are ever concerned about personal issues, you can contact the counselors at the Campus Counseling Center at the University of Maryland (301.314.7651) or you may call the University Health Center (301.314.8106). If you have any questions about this research, please feel free to contact Helena Mimi Martin at helenamimimartin@yahoo.com or UMDBreakupstudy@gmail.com .

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