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# How is shame resolved? An experimental study on the roles of anger and sadness

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How is shame resolved?  
An experimental study on the roles of anger and sadness.

By

Tsubasa Sawashima

A Dissertation  
Submitted to the Faculty of Graduate Studies  
through the Department of Psychology  
in Partial Fulfillment of the Requirements for  
the Degree of Doctor of Philosophy  
at the University of Windsor

Windsor, Ontario, Canada

2018

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## DECLARATION OF ORIGINALITY

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## ABSTRACT

Introduction: The aim of the current study was to explore emotional sequences involved in resolving shame, with a primary focus on comparing the effects of facilitating anger vs. facilitating sadness in the context of shame activation. The main hypothesis posited that facilitating anger, as opposed to sadness, would better promote emotional recovery from shame. This was inspired by an emerging line of research suggesting that facilitating an emotion that is incongruent (e.g., anger), as opposed to congruent (e.g., sadness), in its action tendency with the emotional distress presenting (e.g., shame) might better promote emotional outcome. Method: A randomized experimental design was used to directly compare the extent of emotional recovery in participants who underwent one of three emotional sequences. “Attending to shame” was a condition designed to promote continual engagement with feelings of shame at both steps of the 2-step emotional sequence. The other two conditions, “facilitating anger” and “facilitating sadness”, were designed to activate shame in the first step and then to promote either anger or sadness, respectively, at the second step of the sequences. Emotions were conceptualized and identified following Pascual-Leone and Greenberg’s sequential model of emotional processing (2007). The sample consisted of 62 undergraduate students who reported struggling to resolve their feelings of shame in reaction to a past emotional injury by a significant person in their lives. Participants’ shame, sense of resolution, and perceived sense of usefulness for each condition were assessed at post-task. Participants’ defense styles, levels of trust in the offender, aggression, and depressive symptoms were also explored for possible links with emotional processing and outcome. Results: Bootstrapped multiple regression analyses revealed that the facilitating anger sequence was uniquely associated with gains in participants’ sense of direction for resolving distress ( $B = 4.50$  when compared to attending to shame;  $B = 3.38$  when compared to facilitating

sadness). Facilitating anger as opposed to shame also reduced participants' feelings of shame but only in individuals who had less use of immature defense styles ( $B = 4.79$ ). Facilitating anger and facilitating sadness, compared to attending to shame, both promoted participants' self-awareness into their own personal struggles ( $B = 2.95$  and  $B = 1.67$ , respectively). Discussion: Findings confirmed empirical literature on the sequential model of emotional processing that promoting a different emotion, albeit a negative emotion, in the activation of distress is associated with emotional benefits. Findings further revealed that facilitating anger, as opposed to sadness, was uniquely associated with some aspects of emotional recovery in individuals struggling to resolve their feelings of shame. This may implicate the salubrious effect of promoting an emotion that is incongruent to the presenting emotional distress.

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## CHAPTER I

### Introduction

In her seminal work, Kubler-Ross (1969) proposed the five stages of grief model to illustrate that individuals who have experienced a personal loss (e.g., terminal illness, loss of a beloved) work through five stages of emotional experiences toward resolution (denial, anger, bargaining, depression, and finally acceptance). As suggested by Pascual-Leone (in prep.), Kubler-Ross' model may have been the first model to propose that distinct sequences of emotions may be involved in emotional recovery in the aftermath of a difficult event.

In the tradition of psychotherapy process research, one key research question has been: *How* individuals come to feel better after an upsetting event. Studies have aimed to answer this question by exploring and elucidating the *active ingredients* of psychotherapy, or in-session psychotherapy experiences that are facilitative of treatment outcome (e.g., Kiesler, 1973; Rice & Greenberg, 1984; Wampold, 2011). One particular school of psychotherapy, experiential psychotherapy, has paid special attention to research and theory in understanding the role of emotions as clients progress from the initial stages of distress toward resolution (for an overview see Pascual-Leone, Paivio, & Harrington, 2016). Observing over time how distress is resolved and discerning whether specific sequential patterns of emotions exist could offer important and useful insight for researchers and clinicians alike. This line of inquiry promises to offer insight into: (a) possible mechanisms of client change in psychotherapy; and more broadly, (b) possible mechanisms of emotional recovery as a general process; and (c) ways in which emotional recovery may be assisted by, for instance, contributing to clinicians' knowledge on productive emotional experiences that may be facilitated in-session.

### **What are Emotions?**



Emotions are construed as brief, temporary states that (a) arise from a synthesis of physiological, expressive motor, and cognitive-affective information network that (b) orient and organize an individual toward a specific set of response tendencies (e.g., Ekman, 1972, 1999; Frederickson, 2001; Frijda, 1986; Greenberg & Safran, 1989; Lazarus, 1984; Leventhal, 1982; Oatley & Jenkins, 1996; Pascual-Leone et al., 2016; Rosenberg, 1998). While various theories differ in the precise definition of emotion and the language used to describe it, there is general consensus on the aforementioned conceptualization of emotion.

Discerning key aspects of emotion one at a time, physiological changes (e.g., increased heart rate when experiencing fear) are observed to accompany the experience of emotion (e.g., Kozak, Foa, & Steketee, 1988; Levenson, 1994). Expressive motor processes, including facial expressions, also accompany emotional experiences (e.g., Ekman, 1972, Ekman & Friesen, 1975). In addition, emotions are viewed to be embedded within the context of autobiographical memory, such that when an emotion is aroused, an information network of personally meaningful structures is activated. Cognitive appraisals, selective attention, and meaning-making are all examples of this affective-cognitive schematic information processing. Although the physiological and expressive motor processes are largely universal (e.g., Ekman, 1972), it is this cognitive-affective schematic information network that renders emotional experiences unique and idiosyncratic to the individual. That is, owing to their links to autobiographical memory structures, emotions can become activated as conditioned or learned responses via personal learning history, such as a learned fear response at the face of a neutral, otherwise non-threatening stimulus (e.g., Foa & Kozak, 1986; Levey & Martin, 1983).

Finally, emotions contain specific *action tendencies* that orient an individual toward specific sets of behaviours aimed at satisfying important existential (survival) needs (Arnold,

1960; Frijda, 1986; Lazarus, 1991, 1984). Here, existential needs are the types of needs that serve the wellbeing of a person. Existential needs include, for instance, threat-relevant needs such as a need to fight or flight and approach-related needs such as a need for love and nurturing and a need for mastery and growth. First introduced by Arnold (1960), basic action tendencies are considered to be evolutionally adaptive in that they promote behaviours which are directed at satisfying these existential needs. Fear, for instance, orients an organism to freeze, monitor the surroundings, and then fight or flee (Greenberg & Paivio, 1997). Taken together, emotions are construed as momentary internal states that arise from the synthesis of physiological processes, expressive motor processes, and cognitive-affective information network activation, and together they usher an individual toward fulfilling her or his existential needs.

**Not only Emotions themselves, but also the Sequential Orders in which Emotions Emerge, may Play a Role in Distress Resolution**

One key focus in psychotherapy research is to explore how emotional recovery occurs as productive sequential processes of emotional experiences. Although much advances are made in this area, it is useful to first describe the pertinent theories and research findings from positive psychology and specifically, on experiencing positive emotion in the context of negative emotion activation.

In literature, classifying emotions have proven to be difficult, owing partly to the inconsistencies in naming and in operationalizing different emotions across theorists and researchers (Bratte & Russell, 1998). In spite of this observed challenge, the body of research on self-rated mood, rating of facial expressions, and linguistic collection of emotion terms across cultures (Diener & Emmons, 1985; Diener, Larsen, Levine, & Emmons, 1985; Russell, 1980, 1983; Zevon & Tellegen, 1982) has consistently detected a two-factor classification model of

emotion consisting of positive and negative emotion dimensions. In this model, positive and negative emotions are not considered to be on the opposite ends of one continuum; rather, positive and negative emotions are independent dimensions. Individuals are therefore thought to be able to experience high levels of both positive and negative emotions simultaneously. Further advancements have refined this conceptualization such that currently some theorists argue that although positive and negative emotions exist on two independent dimensions, these dimensions are modestly correlated when in-moment emotions, as opposed to mood traits that encompass longer periods of time, are considered (e.g., Schmukle, Egloff, & Burns, 2002).

Specifically, Watson, Clark, and Tellegen's introduction of the Positive and Negative Affect Schedule (PANAS; 1988), a self report measure of in-moment affect, has been one key advancement in research and theory of the positive-negative dimensional model of emotion. As the authors described, "...positive affect (PA) reflects the extent to which a person feels enthusiastic, active, and alert. High PA is a state of high energy, full concentration, and pleasurable engagement.... In contrast, Negative Affect (NA) is a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness" (pp. 1063). The pleasure-displeasure distinction between positive and negative emotions, sometimes called *valence*, is highlighted as the key feature that distinguishes an emotion as positive vs. negative and is considered to be a cross-cultural, universally-held attribution (Farroni, Menon, Rigato, & Johnson, 2007; Osgood, 1952). Research focus exploring neuronal underpinnings of the pleasure-displeasure principles has also garnered much inquiry and debate in neuroscience (Berridge & Kringelbach, 2013; Lindquist, Satpute, Wager, Weber, & Barrett, 2015).

Although an area of ongoing debate, development of the PANAS has contributed toward research efforts to help refine the two-dimensional theoretical model of emotions. For instance, Schmuckle and colleagues (2002) demonstrated that while positive and negative affects as traits (i.e., how an individual generally feels on average) are often observed to be independent of one another (Tellegen, Watson, & Clark, 1999; Watson & Clark, 1997; Watson, Clark, & Tellegen, 1988), positive and negative affects as states (i.e., how an individual feels in the present moment) are indeed negatively correlated (Schmuckle et al., 2002). That is, individuals' in-moment, situation-specific negative and positive emotional reactions were observed to be such that more negative feelings were correlated with less positive feelings, and vice versa. This conceptualization of positive and negative affect as separate but correlated dimensions have garnered some empirical support (Crawford & Henry, 2004; Merz & Roesch, 2011; Terraciano, McCrae, & Costa, 2003) although with mixed findings, and remains to be an area of current research inquiry.

Situated within these aforementioned advancements, Fredrickson and colleagues conducted a series of non-clinical studies exploring the sequential processing of in-moment negative emotion, with a focus on exploring the effects of activating a positive emotion in the context of negative emotion activation (Fredrickson, 2001; Fredrickson & Levenson, 1998; Fredrickson, Mancuso, Branigan, & Tugade, 2000; Tugade & Fredrickson, 2004). Specifically, the investigators demonstrated that, while eliciting joy and content (positive emotions) in the context of neutral/resting baseline had virtually no effect on individuals' cardiovascular activity, eliciting these emotions in the context of pre-existing anxiety (negative emotion) sped up the rate at which individuals recovered from the anxiety-associated cardiovascular responses. By contrast, having emotionally neutral experiences, as opposed to the positive emotions, in the

context of anxiety activation did not impact the anxiety-associated cardiovascular responses. Furthermore, experiencing sadness (negative emotion) in the activation of anxiety in fact prolonged recovery from the anxiety-associated cardiovascular responses. Taken together, the investigators observed that the sequential experiencing of negative-to-positive emotions uniquely facilitated individuals' physiological recovery from the impact of negative emotional experiences beyond the passage of time alone.

To further expand upon their findings, Tugade and Fredrickson (2004) compared cardiovascular reactions of individuals who differed in their levels of psychological resilience, or their ability to experience positive emotions in times of stress, as measured by the Ego-Resiliency Scale (Block & Kremen, 1996). The investigators demonstrated that individuals who were able to experience higher levels of happiness and interest in the context of anxiety activation showed a faster recovery rate in their anxiety-related cardiovascular responses, compared to their counterparts who struggled to experience these positive emotions. Again, these findings point to the salubrious effect of sequentially experiencing positive emotions in the context of negative emotion activation. These laboratory studies are also in line with other laboratory and cross-sectional studies in which positive affect is shown to improve coping and self-regulation in times of distress (Moskowitz, Shmueli-Blumberg, Acree, & Folkman, 2012; Tice, Baumeister, Shmueli, & Muraven, 2007).

**Beyond the binary classification of positive vs. negative emotions: Sequential processing of incompatible emotions appear beneficial in resolving unwanted emotions.**

Fredrickson and colleagues' earlier findings as cited above highlight two key principles in distress resolution. First, the investigators suggested that positive emotions and negative emotions are incompatible in their action tendencies. On the one hand, negative emotions narrow

an individual's repertoire of responses into a specific set of behaviours that orient him or her toward fulfilling an existential need. On the other hand, positive emotions expand an individual's repertoire of responses so that he or she may optimally engage with the given situation where the existential need is already met. This incompatibility in action tendencies, the investigators argued, is what gives positive emotions the power to "undo" pre-existing negative emotions (Fredrickson & Levenson, 1998; p. 192-193).

Secondly, Fredrickson and colleagues observed that this "undoing" occurs in the specific sequence of negative-to-positive emotional experiences. While positive emotions "undid" the cardiovascular responses associated with negative emotions, these positive emotions had virtually no effect on cardiovascular activity when experienced under emotionally neutral circumstances. These findings seem to suggest that, not only do the types of emotions themselves, but also the sequences in which emotions are experienced, play a critical role in the process of resolving unwanted emotions such as distress.

The notion that one emotion may be used to change another, pre-existing incompatible emotion, has also been suggested by an earlier body of research on exposure therapy for anxiety (Rachman, 1967; Wolpe, 1968). Indeed, inducing a relaxed state in the context of high anxiety – the induction of incompatible emotional experiences – in the form of *counter conditioning* is a common and empirically supported treatment for clients who suffer from anxiety. In yet another branch of research, a series of studies in neuropsychology have demonstrated that the activation of the left hemispheric areas associated with approach-behaviours tend to dampen the pre-existing activation of the right hemispheric areas associated with withdrawal behaviours (Davidson, 2000; Davidson & Begley, 2012). These findings again support the notion that, when incompatible, an emotion may be used to effectively "undo" another, pre-existing emotion.

Taken together, earlier works by Fredrickson and colleagues suggest that sequences of emotional experiences, such as the induction of positive emotion in the context of negative emotion activation, play a role in the process of resolving unwanted emotions (Fredrickson, 2001; Fredrickson & Levenson, 1998; Fredrickson, et al., 2000; Tugade & Fredrickson, 2004). In line with these findings, recent advances in psychotherapy research and theory have revealed that the temporal sequences in which emotions emerge, in addition to the types of emotions themselves, are relevant to the process of resolving emotional distress in psychotherapy. These developments have been made through: (a) identifying key emotions beyond the binary classification of positive vs. negative emotions that emerge as clients work through their personal difficulties; and (b) elaborating on the sequential processing of emotions as it relates to treatment outcome (i.e., resolution of distress).

### **Study of Emotion and Sequences of Emotion in Psychotherapy: A Brief Overview**

Psychotherapy provides a context within which various forms of emotional distress are encountered and emotional recovery observed over time. As early as Sigmund Freud, the founder of psychoanalysis, the significant role of emotions was recognized in daily functioning, distress, and psychotherapy experience (1910). The conceptualization of emotion in psychotherapy has evolved since then, and the extent to which emotional processing is emphasized as a key player in producing client change has varied across different schools of psychotherapy (e.g., Davanloo, 1992, 2005, Eagle, 1984, and Sullivan, 1953 in psychoanalysis and psychodynamic therapies; e.g., Beck, 1976, and Rachman, 2001 in cognitive-behavioural therapies; e.g., Perls, Hefferline, & Goodman, 1965, and Rogers, 1957 in humanistic-experiential therapies). Among the various orientations, some researchers and theorists in both experiential and psychodynamic traditions have explicitly focused on understanding the emotional aspects of psychotherapy experience as

they relate to treatment outcome (i.e., distress resolution; Abbass & Town, 2013; Davanloo, 1992, 2005; Fosha, 2003, 2009; Gendlin, 1964; Greenberg & Kahn, 1976; McCullough & Andrews, 2001; Perls, 1973; Rice, 1974; Rogers, 1959). At least two brief psychodynamic approaches, Davanloo's intensive short-term dynamic psychotherapy (ISTDP; Davanloo, 1992, 2005) and Fosha's approach to accelerated experiential dynamic psychotherapy (AEDP; Fosha, 2003, 2009), and experiential approaches such as emotion-focused psychotherapy (EFT; Greenberg, 2002; Pascual-Leone, Andreescu, & Greenberg, 2016), are such examples. These orientations will be briefly discussed, with a focus on their theoretical approaches to understanding client in-session experiences of emotion.

**Some short-term psychodynamic therapies conceptualize emotional sequences as a pathway to uncover and resolve clinically-relevant distress.** Davanloo's intensive short-term dynamic psychotherapy (ISTDP; Davanloo, 1992, 2005; Abbass & Town, 2013) is a psychodynamic approach that is aimed specifically to encourage client experience of unconscious, unresolved attachment-related emotions. These emotional injuries are thought to stem from past unhealthy learning experiences with attachment figures (e.g., parents) and include painful emotions such as shame and despair. In this empirically supported treatment (for a meta-analysis, see Abbass, Town, & Driessen, 2012), the therapist may assist clients in "breaking down defenses" in a process often referred to as a "head on collision" (Davanloo, 2000 pp. 235-253). That is, the therapist assists clients to overcome their own affective-cognitive processes that block them from experiencing the painful but personally-relevant emotional injuries. The purpose here is to precipitate a transformation or a shift in client emotional experiences, so that the client may become willing to access and explore the deep-rooted, painful emotional injuries that underlie their psychological dysfunction.



Within a more behavioural formulation of Davenloo's ISTDP, clients are observed to initially express "affect phobia" (McCullough & Andrews, 2001; p. 83), or unconscious fear and anxiety for experiencing and expressing painful emotion. Once clients are able to bypass this emotional resistance, clients become able to focus on and fully explore their attachment trauma and emotional injuries. This process in turn is thought to foster clients' insight and clarity into their own psychological struggles. In this manner, a new, healthier way of experiencing their emotional injuries (i.e., beginning of healing) takes place. Specifically, McCullough and colleagues (2003) argue that the therapeutic process of overcoming affect phobia unfolds through the decrease of inhibitory affects (e.g., anxiety, shame, guilt) and the increase of activating affects (e.g., anger, sense of closeness). Relevant research suggests that these two overarching *kinds* of emotions represent an internal struggle for the client, and changes to both represent therapeutic targets (Schanche, Stiles, McCullough, Svartberg, & Nielsen, 2011). Again, although the theorists and researchers do not explicitly speak to it, the sequential processing of emotions is noted as a process that emerges as clients work through their emotional distress toward a sense of personal resolution.

Within this psychodynamic framework, Fosha developed accelerated experiential dynamic psychotherapy (AEDP; 2003, 2009), which is marked by a more humanistic and less confrontational style. Similarly to the aforementioned theorists, Fosha proposes that a wide array of emotional and behavioural dysfunctions arise from long-standing, unresolved attachment-related emotional injuries. The goal of AEDP, according to Fosha, is to resolve these emotional injuries within the context of a supportive, inquisitive, and healthy attachment interaction between the therapist and the client, while putting the primary emphasis on the experiential process of unfolding emotion. That is, clients are first observed to shift from their initial

unhealthy emotional presentation (e.g., emotional avoidance, feeling alone in their suffering) to experiencing more clinically relevant emotional distress (i.e., attachment-related emotional injuries such as shame and despair). Once clients engage with these previously avoided or unprocessed emotional injuries, the safe, therapeutic environment is thought to encourage the emergence of alternative, positive emotional experiences, such as self-compassion, love, and acceptance (i.e., resolution). Fosha explicitly discusses these shifts in client presentation as a temporal pattern of emotional experiences (e.g., 2007). Citing five stages of emotion change, Fosha proposes that the client initially works through his or her avoidance of underlying core emotional experiences (State One: Defense). In doing so, he or she enters the work with the therapist to co-create a safe therapeutic environment and foster an openness to experiencing these emotional injuries (First State Transformation). Connecting with his or her emotional injuries, or *primary categorical emotions* (e.g., grief, anger; State Two: Core Affect), within the secure attachment context of the therapeutic dyad, subsequently lays the foundation for emotional healing, or the emergence of and processing of positive emotions (e.g., relatedness, mastery; Second State Transformation). Finally, clients are thought to enter the Core State, marked by resolution, agency, and an authentic and clear sense of self-identity. Fosha's clinical approach to AEDP offers an important insight into productive series of emotional experiences that unfold over time as individuals work to resolve their emotional distress. This formulation of emotional change as a multi-step transformational process is also borrowed from humanistic-experiential work by Gendlin (e.g., 1964), Greenberg (e.g., 2002, 2016), and others, which represents a parallel development in the psychotherapy literature through emotion-focused therapy.

**Emotion-focused therapy views emotional transformation as a crucial process in resolving distress.** Emotion-focused therapy (EFT) is deeply rooted in the humanistic-experiential tradition (Greenberg, 2002; Greenberg & Paivio, 1997; Greenberg & Safran, 1989; Greenberg & Watson, 2006; Pascual-Leone et al., 2016; Rice & Greenberg, 1984). Similarly to the aforementioned therapeutic approaches, the aim of EFT is to encourage the within-session experiences of emotions. Clients must first bypass *secondary emotions* and/or *instrumental emotions*. Secondary emotions are secondary reactions to the initial feelings and thoughts that arise within the immediate situation. Instrumental emotions are emotions used by an individual, consciously or unconsciously, to manipulate or elicit a response from another person. Both types of emotions, secondary and instrumental, are thought to block clients from accessing and exploring the underlying, core emotional experiences called *primary emotions*. Indeed, the goal in emotion-focused therapy is to guide clients to access *primary adaptive emotions*. Experiencing primary adaptive emotions in turn are thought to facilitate distress resolution because these emotions orient an individual to meet his or her existential need, thereby improving psychological wellbeing.

However, primary emotions, or direct emotional reactions to a given situation, can be adaptive or maladaptive. *Primary maladaptive emotions* are conditioned emotional responses from past unhealthy learning experiences that have become engrained in the individual to a point that these responses now have become the individual's direct, dominant responses to a given situation. These emotions entail a negative self-evaluation in addition to an existential need. Primary maladaptive emotions are distressing and do not promote need fulfillment because the incongruence that arises between the negative self-evaluation (e.g., I do not deserve love) and the existential need (e.g., need for love) curtails an individual's ability to behave adaptively to

satisfy his or her need. It follows that, when maladaptive, these primary emotions must be modified via the emergence of alternative, adaptive forms (Greenberg & Watson, 2006; Pascual-Leone et al., 2016). Based on these essential ideas, Greenberg (2002, 2016) has identified emotional changes as either a two-step sequence, where clients move from (1) secondary emotion to (2) primary adaptive emotion; or as a three-step sequence, where clients move from (1) secondary emotion to (2) primary *maladaptive* emotion and then move to (3) primary adaptive emotion. This process is termed *emotional transformation* (Fosha, 2009; Greenberg, 2002; Greenberg & Pascual-Leone, 2006; Pascual-Leone & Greenberg, 2007). As Greenberg and Pascual-Leone (2006) suggest, “this principle asserts that although thinking usually changes thoughts, only new feeling can fundamentally change emotions.” (p. 8).

Based on this prior work, Pascual-Leone and Greenberg (2007) developed the *sequential model of emotional processing*, an empirically-driven model of emotional transformation that is aimed at capturing (a) qualitatively distinct types of emotions that (b) emerge in predictable patterns over time in the course of resolving distress.

### **Pascual-Leone and Greenberg’s (2007) Sequential Model of Emotional Processing as a Model of Emotional Transformation**

With the sequential model of emotional processing, Pascual-Leone and Greenberg (2007) propose that distinct emotions, or *emotional states*, emerge in an ordered pattern over time as individuals resolve their emotional distress. These emotional states are, from the early distress to the most advanced state of resolution: *global distress, fear/shame, rejecting anger, assertive anger, self-compassion, grief/hurt, and acceptance/agency*. Briefly, as individuals differentiate, and make more specific, their feelings and thoughts embedded within their early distress (i.e., advancing through *global distress, fear/shame, and rejecting anger*), they move toward

identifying their existential need(s) and embracing the emergence of primary adaptive emotions (*assertive anger, self-compassion, grief/hurt*). Individuals are observed to vacillate among these adaptive emotions, all of which have positive self-evaluation(s) embedded within them. The final and most advanced emotional state is marked by a sense of acceptance, self-efficacy, and moving forward (*acceptance/agency*).

Elaborating further, research has demonstrated that individuals progress through the model (Pascual-Leone & Greenberg, 2007) in a canonical, cyclical pattern. As opposed to a linear pattern involving a straight upward slope toward recovery, individuals are observed to evidence occasional “emotional collapses” or regressions to earlier emotional states. Emotional recovery, therefore, unfolds in a “two steps forward, one step back” pattern (Pascual-Leone, 2009), with an overall trend of increasing levels of later states of adaptive emotions (*assertive anger, self-compassion, grief-hurt*) and decreasing levels of earlier states of distress (*global distress, fear/shame, rejecting anger*) over time (Choi, Pos, & Magnusson, 2016; Haberman, Diamond, & Shahar, 2015; Khayyat-Abuaita, 2015; McNally, Timulak, & Greenberg, 2014; Pascual-Leone, Yeryomenko, Sawashima, & Warwar, 2017).

Although the model was developed by studying client change in experiential psychotherapy for depression and interpersonal injuries (Pascual-Leone, 2009; Pascual-Leone & Greenberg, 2007), the model has been validated in a variety of clinical populations and psychotherapeutic orientations (e.g., Berthoud, Kramer, Caspar, & Pascual-Leone 2015; Choi, et al., 2016; Keogh, Timulak, & McElvaney, 2014; Kramer, Pascual-Leone, Despland, & de Roten, 2014; Lifshitz, Diamond, Kobak, Krauthamer, & Diamond, 2015; McNally et al., 2014; Wong & Pos, 2014). Moreover, key components (i.e., emotional states) of the model and their links to emotional recovery have been observed in additional subclinical populations (Kramer & Pascual-

Leone, 2016; Rhode, Stein, Pascual-Leone & Caspar, 2015). Furthermore, the link between the temporal sequences of identified emotions and treatment outcome (i.e., distress resolution) has received empirical support from process research (for a review, see Pascual-Leone, 2018), including an ongoing study specifically on the sequential processing of shame (Miller & Greenberg, 2017 June; dissertation in progress). Based on these premises, in the current study, the sequential model of emotional processing was used as the theoretical framework to explore how shame is resolved via emotional transformation in a subclinical population.

**Productive sequences in resolving shame.** Pascual-Leone and Greenberg's sequential model of emotional processing (2007) indicates that in productive processing of emotional distress toward resolution, shame is often followed by either assertive anger or grief/hurt. In contrast, unproductive (or even pathological) processes may include collapsing from shame to the less advanced emotional state of global distress or brooding on negative self-evaluations. In the sections that follow, key emotional states explored in the current study, namely, shame, assertive anger, and grief/hurt, will be described, with the aim to provide context in which the sequential processing of shame may be perceived over time (see Figure 1).

Aroused emotion...

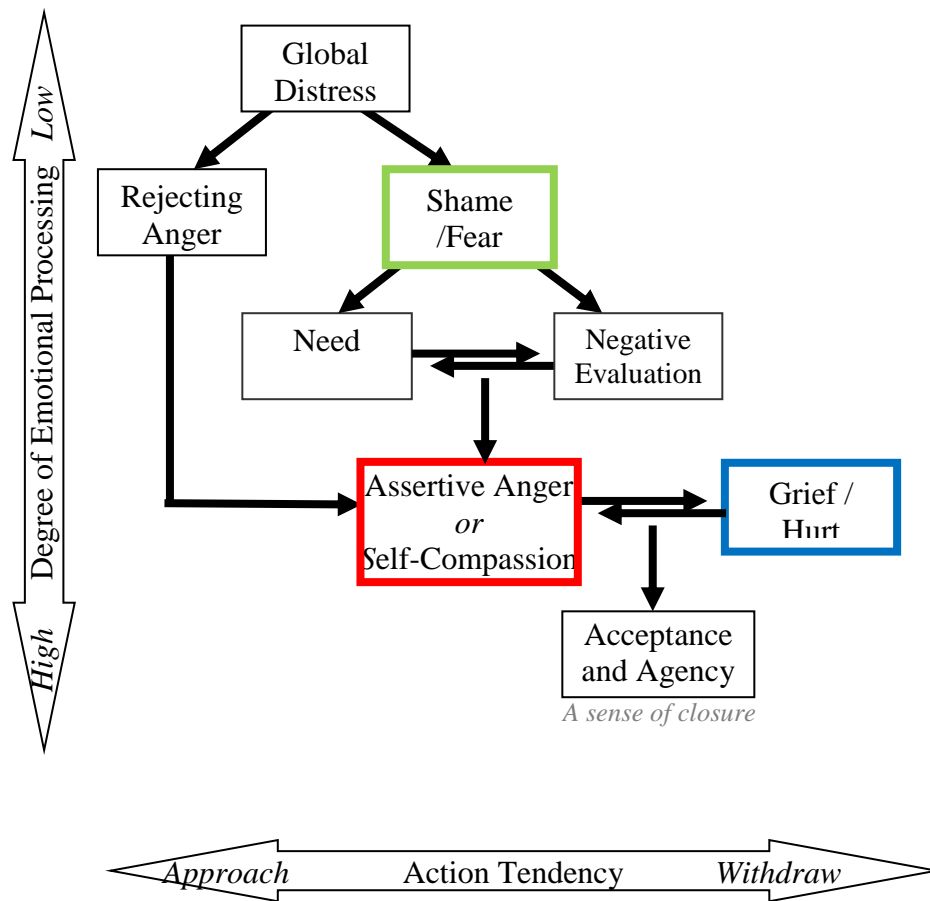


Figure 1. The sequential model of emotional processing (modified with permission from Pascual-Leone & Greenberg, 2007).

Note. Although the entire model is outlined in this figure, the current study explored only the three emotions highlighted in colour –namely, *shame*, *assertive anger*, and *grief/hurt*.

**Shame.** Shame is a highly personal emotion: it contains negative self-evaluations that stem from an individual’s autobiographical learning experiences. Shame is felt by the individual as an ‘old and familiar’ type of emotional pain. Shame may be expressed in the forms of feelings of inadequacy, unworthiness, unlovableness, insecurity, or loneliness. Individuals experiencing

shame are characteristically aware of the source of their distress, but still feel ‘stuck’ in their suffering in that they often do not have an explicit awareness of their underlying unmet need and thus lack direction for how to best address their distress. As a result, individuals often feel stagnant in the painful cycle of ruminating and brooding over this emotional pain without a direction to move past it.

It is important to highlight that shame as described in Pascual-Leone and Greenberg’s emotional processing model is *maladaptive* and is distinguished from *adaptive* shame. Adaptive shame is a fleeting emotion, as opposed to the chronic and stagnant state observed in maladaptive shame. Adaptive shame is also a direct reaction to the immediate event or situation that orients an individual appropriately to fulfill an existential need, as opposed to an over-reaction that arises from a negative autobiographical learning from the past (maladaptive shame). An individual who feels ashamed for stealing but moves past this experience and learns never to offend again, for instance, may be considered to be experiencing adaptive shame, while an individual who feels ashamed for being the victim of a theft due to his or her underlying feelings of inadequacy and weakness, is considered to be experiencing maladaptive shame. Adaptive shame, which may be construed as shame that arises from an ethical transgression from the self, would be resolved by acknowledging and attending to the associated existential need (e.g., need for integrity in the above example). This is contrasted to maladaptive shame in which the tension between the negative self-evaluation (e.g., I am weak) and an awareness of the existential need (e.g., need for integrity and strength) curtails an individual from attending to their need in a healthy manner.

As a side note, although maladaptive forms of fear and shame are recognized as distinct emotions, they are considered to be functionally equivalent and are represented together as



*fear/shame* in Pascual-Leone and Greenberg's model (2007). This is because these two emotions (a) are rooted in similar types of autobiographical contexts and therefore (b) share similar affective-cognitive information with respect to the self and the world. Finally, (c) these maladaptive emotions are both associated with the action tendencies of withdrawing and closing down.

Activating and attending to shame is, albeit painful, a crucial step in resolving distress, as this maladaptive emotion can then become available for modification via exposure to new, corrective meaning making experiences. Here, articulation of an unmet need and negative self-evaluation is a pivotal step. By way of emotional transformation, these processes support the emergence of new, alternative emotions that represent the advanced emotional states in the model – namely, assertive anger, grief/hurt, and/or self-compassion (bottom of Figure 1).

***Assertive Anger.*** All adaptive emotions in the model, including assertive anger and grief/hurt, characteristically embody (a) a clearly defined unmet need and (b) positive self-evaluation. Individuals experiencing assertive anger are oriented to meet their existential need by outwardly asserting these needs and their healthy sense of entitlement to these needs (e.g., “I deserve to be loved”; “I have value and will not accept this mistreatment”). Assertive anger may be expressed in the forms of boundary setting and standing up for one's rights.

***Grief/Hurt.*** Grief/hurt also embodies a positive self-evaluation and well-articulated unmet need. Unlike assertive anger, however, grief/hurt does not orient an individual to defend or pursue an unmet need directly. Rather, it orients an individual toward the appraisal of critical needs. Individuals in grief/hurt acknowledge the full scope of their emotional pain that arises from the lost or missed opportunities for need fulfillment, without the despair, resignation, hopelessness, or helplessness observed in earlier states of distress (e.g., “I missed having a

family growing up and that has been a personal loss in my lived experience”). In this manner, although grief/hurt involves withdrawal (rather than approach, as in assertive anger), its unique adaptive role is in the reality check of recognizing what has been lost so that one can accept the damage done, while still carrying forward the unmet need to be addressed in other ways, which may involve reaching out to other people or other opportunities.

### **Theories that Do Not Account Emotional Transformation as the Key Process of Change**

Following Pascual-Leone and Greenberg’s model (2007), from the perspective of experiential and emotion-focused therapy, maladaptive shame could be resolved by sequences of emotion involving alternative emotions. However, from the framework of traditional cognitive therapy, wherein thoughts are used to change feelings, exchanging one emotion for another should have little differential impact (Alford & Beck, 1997; Beck, 1995; Greenberger & Padesky, 1995). Further, in various branches of cognitive behavioural theory, such as rational emotive therapy (Ellis, 1993), the goal in resolving distress is to gain cognitive control over one’s affective reactions, as opposed to changing the emotional experiences themselves. Similarly, some exposure-based approaches argue that simply exposing an individual to the source of distress, either the external distressing stimulus or the internal related psychological processes that give rise to the distress, may help attenuate the distress (Foa & Kozak, 1986; Rauch & Foa, 2006). In this case, resolving emotional distress does not necessitate exchanging an emotion with another emotion; rather, the distress reaction simply attenuates with prolonged exposure. Finally, positive psychology theories (Seligman, 2011; Seligman & Csikszentmihalyi, 2000; Seligman, Steen, Park, & Peterson, 2005) emphasize the importance of one’s ability to experience positive emotions for psychological wellbeing. In line with Fredrickson and colleagues’ findings noted above, in the perspective of positive psychology, introducing positive

emotion would be beneficial as an “antidote” to negative emotion (i.e., emotional distress) whilst exchanging one negative emotion (e.g., shame in Pascual-Leone and Greenberg’s 2007 model) for another negative emotion (e.g., grief or anger in the 2007 model) should not be markedly helpful. These contrasting perspectives represent a research opportunity and suggest that examining various sequences of emotion could help illuminate the issue of how changing emotions may or may not impact presenting distress.

### **Are All Emotional Sequences Equally Effective in Resolving Emotional Distress?**

Key emotional states and the sequential patterns of emotional transformation as posited by Pascual-Leone and Greenberg’s model (2007) have been successfully identified and examined in a variety of psychotherapeutic contexts and client populations (with a sum total of over 300 clinical cases) and sub-clinical population (with a sum total of 130 undergraduate students; Pascual-Leone, 2018). Within this emerging research area, most studies have aimed to clarify whether the sequential processing of *any* of the advanced emotional states from the model were linked to psychotherapy outcome (i.e., distress resolution). As such, these studies have typically grouped the three advanced emotional states (assertive anger, grief/hurt, self-compassion) together in their data analysis. Furthermore, most studies have relied on direct observation of psychotherapy process, rather than on experimental manipulation of emotions. Owing partly to this, the question of whether or not different isolated sequences of emotions outlined in the model are differentially effective in facilitating emotional recovery is not yet well understood. It is possible, for instance, that trajectories involving different advanced emotional states differ in the extent to which they facilitate the resolution of different types of earlier distressing emotional states (i.e., top of Figure 1; global distress, fear/shame, and rejecting anger). In short, exploring whether or not sequences involving different emotions differentially

facilitate distress resolution is a recently emerging line of query and warrants further research attention.

A few studies aimed at exploring the outcome of various emotional sequences have yielded mixed results. Rochman and Diamond (2008) conducted a series of semi-structured mood induction tasks that were designed to facilitate the experience of particular emotions, namely anger and sadness, in different sequences. The sample involved sixty-three undergraduate students who reported unresolved anger toward a significant attachment figure (e.g., family member, romantic partner, long-term friend). In the first part of the study, twenty-seven undergraduate students were randomly assigned to either Sadness-to-Anger or Anger-to-Sadness conditions. Participants in the Sadness-to-Anger condition were guided to experience first sadness and then anger in the context of discussing their relationship with the significant other. Their counterparts in the Anger-to-Sadness condition were guided to experience first anger and then sadness. In the second part of the study, seventeen additional participants underwent an Anger-to-Anger condition wherein they were guided to experience anger at both stages of the mood induction task. Their counterparts ( $N = 19$ ) underwent a Sadness-to-Sadness condition wherein they were guided to experience sadness at both stages of the mood induction task.

Arousal of the sympathetic automatic nervous system, or sympathetic arousal for short, includes changes in bodily functions such as heart rate and body temperature. These physiological responses are observed to accompany emotion and are often studied as indexes of emotional arousal (Cannon, 1929). In their study, Rochman and Diamond (2008) used finger temperature as an index of sympathetic arousal and demonstrated that all participants experienced sympathetic arousal from baseline upon experiencing a negative emotion (i.e., anger or sadness) at the first step of the mood induction. However, only those in the Anger-to-Sadness

condition - who experienced anger first and sadness second - showed an additional increase in sympathetic arousal at the second step. Further, experiencing sadness triggered a greater level of sympathetic response when sadness was induced *after* anger, as opposed to any other sequences (i.e., after baseline or after sadness). The researchers speculated that the observed changes in sympathetic arousal when comparing different emotion sequences may have clinical implications. That is, they speculated that individuals who present with unresolved anger may somehow find it easier to access difficult emotions and, therefore, may more readily work through their emotional distress when they experience anger and then sadness, as opposed to any other sequences involving the two emotions.

In a more recent study, Choi, Pos, and Magnusson (2016) used videotaped data of psychotherapy to compare the sequential patterns of in-session emotional experiences in five good outcome vs. four poor outcome cases of a 16- to 20-session experiential psychotherapy for depression. The cases were selected from the original sample of seventy-six clients (Goldman, Greenberg, & Angus, 2006) who expressed high levels of self-criticism at the beginning of psychotherapy. Among these, good outcome cases displayed the most symptom improvement, including reduction in self-criticism, while poor outcome cases displayed the least symptom improvement. Using THEME software to examine the temporal patterns in which the emotional states emerged, the investigators demonstrated that (a) good outcome cases, as opposed to poor outcome cases, more frequently experienced advanced emotional states (top of Figure 1; assertive anger and grief/hurt) after having experienced earlier states of distress (bottom of Figure 1; global distress, rejecting anger, and fear/shame). The investigators further demonstrated that (b) the most common sequence of emotional transformation in good outcome cases involved an initial activation of sadness followed by a subsequent activation of anger. In

the discussion of their findings, the investigators speculated that perhaps for individuals who struggle with depression and self-criticism, the sequence of sadness and then anger may be an optimal process that contributes to the resolution of their distress.

At first consideration, the findings from the two aforementioned studies (Choi et al., 2016; Rochman & Diamond, 2008) appear contradictory. In Rochman and Diamond (2008), subclinical adolescents who presented with unresolved anger presumably better engaged with their emotional distress when they experienced anger and then sadness. This highlights the sequential benefits of experiencing anger before sadness. Seemingly contradictorily, Choi, Pos, and Magnusson (2016) observed that individuals who presented with depression (i.e., sadness) were most often able to resolve their emotional distress when they experienced sadness and then anger, highlighting the sequential benefits of experiencing sadness before anger. This observed discrepancy may be explained by considering the role of the type of presenting emotional distress and further, the incongruence or incompatibility of the subsequent emotions experienced in the activation of that specific type of emotional distress. That is, Rochman and Diamond (2008) were studying *problem anger* while Choi and colleagues (2016) were studying *problem sadness* (depression). As suggested earlier, there is some evidence that an incompatible or incongruent emotion facilitates the “undoing” of a pre-existing emotion (e.g., Fredrickson, 2001; Fredrickson & Levenson, 1998). Sadness and anger are indeed incompatible in their action tendencies. The horizontal axis at the bottom of Figure 1 highlights this tension between approach and withdraw action tendencies. On the one hand, sadness organizes an organism to withdraw inwardly and conserve resources. On the other hand, anger organizes an organism to mobilize outward, asserting and advocating for oneself. In light of these considerations, the optimal sequences of emotional transformation may be speculated to depend, at least partially,

on the incongruence between the type of emotional distress and the subsequent emotional state that is experienced within the activation of that emotional distress.

### **Current Study**

Several studies in recent years have focused on exploring different sequences of emotions as they relate to distress resolution. The main goal of the current study was to contribute to this growing literature by directly comparing three distinct sequences of emotions within the particular distress context of shame. Borrowing from the theoretical framework of Pascual-Leone and Greenberg's sequential model of emotional processing (2007), the study was aimed to explore whether or not facilitating anger, sadness, or shame in individuals struggling to resolve their feelings of shame differentially promoted emotional recovery. Stated another way, the study was aimed to compare levels of emotional recovery in individuals who were guided to undergo three distinct 2-step emotional sequences: Attending to Shame (shame and then shame), Facilitating Anger (shame and then anger), and Facilitating Sadness (shame and then sadness) sequences. Although shameful experiences may encompass various contexts, in the current study, shame that is a reaction to one specific past interpersonal injury (e.g., being humiliated by a boss, romantic relationship breakup) was explored. To reiterate, maladaptive shame as described by Pascual-Leone and Greenberg's model (2007) is markedly enduring and chronic in that individuals feel "stuck" and unable to move forward/past this emotional pain. Shame as examined in this study was this type of (*maladaptive*) shame, as opposed to the fleeting, passing experiences of adaptive shame that do not generate prolonged, chronic emotional distress.

Studying how emotional sequences may influence the process of distress resolution is a relatively new research focus. In the two most relevant studies conducted to date, investigators independently demonstrated that (a) the unique sequence of anger and then sadness may better

resolve problem anger (Rochman & Diamond, 2008) and (b) the unique sequence of sadness and then anger may better resolve problem sadness (Choi et al., 2016). Meanwhile, Pascual-Leone (2018) has anchored findings like these in the broader context of the sequential model of emotional processing (Pascual-Leone & Greenberg, 2007) showing how sequences relate to productive sessions and ultimate symptom changes in psychotherapy. Inspired by these findings, the current design attempted to elucidate the link between the type of emotional distress and the subsequent emotional experience as these emotional sequences relate to distress resolution.

In the current study, three two-step emotional sequences all involving the activation of unresolved feelings of shame at the first step and then differing only in the emotions facilitated at the second step, were compared. The first aim was to explore whether facilitating a different emotion, either anger or sadness, would facilitate emotional recovery in individuals who were struggling with unresolved feelings of shame. These two sequences, Facilitating Anger and Facilitating Sadness conditions, were compared to what may be considered a “process as usual” sequence which involved continually attending to shame at the second step of the two-step emotional sequence (Attending to Shame condition). This third emotional sequence was conceptually modelled after the naturally-occurring ruminative process of shameful experiences, in which individuals perpetually attend to and brood over their shameful feelings (e.g., Greenberg & Watson, 2006; Orth, Berking, & Burkhardt, 2006).

The second aim was to compare emotional sequences that were, and were not, congruent in their action tendencies with the presenting type of emotional distress. The current design made use of the observation that shame and sadness share a similar action tendency to withdraw or close down, while shame and anger embed incongruent action tendencies in that anger mobilizes an individual outward (Greenberg & Paivio, 1997; Pascual-Leone et al., 2016; Pascual-Leone &



Kramer, 2017). On the basis of these observations, Facilitating Anger (after shame) and Facilitating Sadness (after shame) sequences were included as contrasting conditions. The current study was the first to experimentally manipulate and investigate different sequences of emotional experiences in the context of resolving shame.

**Other factors related to working through shame.** In exploring emotional recovery from shame, there is some rationale for examining the influence of individual differences in a number of psychosocial factors as described below.

*Defense styles.* According to Anna Freud, defense mechanisms or defense styles are “the ways and means by which the ego wards off unpleasure and anxiety, and exercises control over impulsive behaviour, affects, and instinctive urges” (1966, p. 5). Although the concept has been differentiated over subsequent works (e.g., Bond, Gardner, Christian, & Sigal, 1983; Cramer, 2006; Paulhus, Fridhandler, & Hayes, 1997), briefly put, defense mechanisms are (a) relatively automatic and involuntary mental processes that (b) mediate the way a person perceives or copes with a stressful event (c) to reduce psychological pain to a bearable state. A stressful event in this context may be either external (e.g., stressful life transition) or internal (e.g., feeling conflicted about two ideas). There is relative consensus in the literature that some defense styles are more *immature* or *mature* than others (e.g., American Psychological Association, 1986; Cramer, 2006; Freud, 1966). *Immature defense styles*, while largely unconscious to the person, distort the person’s perception of the reality when reality is too painful or overwhelming for the person. More reality distortion that occurs, more immature the defense styles. *Mature defenses* on the contrary allow a person to consciously and actively attend to the stressful situation and to cope flexibly with the psychologically-threatening event. Mature defenses are considered more adaptive than immature defenses in that they promote the resolving of psychological distress,

while immature defenses may exacerbate the distress over time (e.g., Petraglia, Bhatia, & Drapeau, 2017). Relevant to the current study, defense styles have been found to be related to psychotherapy engagement, including emotional engagement, and general psychological functioning (e.g., Freud, 1936; Hentschel, Smith, Draguns, & Ehlers, 2004; Perry & Hoglend, 1998; Perry, Presniak, & Olson, 2013; Vaillant, 1994). Furthermore, some studies have demonstrated that defense mechanisms play a role in a person's ability to recover from a past traumatic or upsetting event (e.g., Boerner, Joseph, Murphy, 2017). Albeit in a non-clinical sample, the current study used a protocol which somewhat paralleled psychotherapy intervention, such as the use of the empty chair enactment (Perls et al., 1965) in the service of emotion activation. Also, examining the process of emotional recovery from a past shameful event is a focus in the current study. Given these considerations, it was considered worthwhile to explore whether participants' defense styles were related to their experiences of emotional transformation in the current study.

***Depression.*** There is ample research demonstrating a relationship between depressive symptoms and psychotherapy process and outcome (e.g., Albon & Jones, 1999) and specifically with shame (e.g., Greenberg & Watson, 2006). Based on the same rationale as described for the defense styles that the current research design is designed to partially parallel the processes of psychotherapy, participants' depressive symptoms were examined in relation to participants' emotional experiences.

***Trust in the offender.*** Participants in this study were guided to express shame by recalling a particular past interpersonal injury involving a significant attachment figure (e.g., family member, long-term friend, romantic partner). Levels of interpersonal trust may have played an important role in participants' emotional reactions to the interpersonal injury. Perhaps

surprisingly, systematic research exploring the link between emotional recovery and levels of interpersonal trust in the injurer is scarce (e.g., Makinen & Johnson, 2006) and thus was an interest area of preliminary examination in the current study.

**Aggression.** One premise of the current study was that individuals may be better able to resolve their emotional distress when they engage with emotions that are incongruent, as opposed to congruent, in their action tendencies to the type of emotional distress at hand. In that aggression is often linked to anger experiences, it was speculated that participants' natural tendencies toward aggression may be related to their experiences of anger (i.e., congruent emotion) and sadness (i.e., incongruent emotion) in some way. The link between participants' aggression and emotional processing was therefore examined as a preliminary research interest in the current study.

**Rationale.** The following section outlines the rationale for the hypotheses and the method proposed in the current study.

*The sequential model of emotional processing was used as the theoretical and empirical framework to explore the sequential processing of emotions.* Research exploring trajectories of emotional resolution has consistently demonstrated that: (a) not all emotions are equally salubrious; and (b) various trajectories of emotional processing exist as individuals work through their distress toward resolution. The aim of the current study was to more closely examine this issue by addressing the question: Is shame more productively resolved through different emotional sequences? To this end, a theoretical framework that discriminates qualitatively different types of emotion was required. Pascual-Leone and Greenberg's sequential model of emotional processing (2007) served as an ideal theoretical framework because this

model of emotional transformation discriminates among shame, sadness, and anger and thus allowed the comparisons among distinct emotional sequences as described above.

*An experimental design was used to compare the emotional sequences of interest.* The main goal of the current study was to explore whether or not facilitating anger, sadness, or shame in individuals struggling to resolve their feelings of shame differed in their subsequent emotional recovery. Keeping in line with this goal, an experimental design was used to directly compare three emotional sequences that differed only in the second emotion promoted (i.e., Attending to Shame, Facilitating Anger vs. Facilitating Sadness).

Studying the moment-by-moment processes of emotion requires that the flow of emotional experiences be preserved, without truncating or entirely interrupting it (Pascual-Leone, Herpertz, & Kramer, 2016). For this reason, participants' emotional outcomes were assessed at one time only, as opposed to multiple time points throughout the flow of the emotion facilitation task. Random assignment of participants to the experimental conditions arguably contributed toward ensuring that participants' baseline levels of distress and relevant psychological functioning were comparable across conditions. Use of a randomized experimental design was particularly valuable in light of past research as well: while most studies to date have observed the sequences of emotion as they naturally occur, very few have used experimental manipulation. Taken together, the current study was designed to preserve the continuity of target emotional experiences by way of including single-point measurement with very brief verbal check-ins for ensuring emotional engagement with the target emotions.

*Participants' defense styles, levels of trust, aggression, and levels of depressed mood were examined in relation to participants' emotional experiences in an exploratory analysis.*

There was some rationale for examining individual differences in defense styles, levels of

depressive symptoms, levels of trust in the offender in the reported interpersonal injury, and levels of aggression, in relation to emotional transformation. No research to date has specifically explored these factors in relation to Pascual-Leone and Greenberg's (2007) sequential model of emotional processing and thus, the aim was to provide some preliminary findings.

### **Hypotheses.**

***Hypothesis 1: The adaptivity hypothesis.*** In line with the literature (e.g., Berthoud et al., 2015; Choi et al., 2016; Keogh et al., 2014; Pascual-Leone, 2009), it was hypothesized that facilitating anger or sadness, as compared to shame, in the activation of unresolved feelings of shame, will better promote emotional recovery in individuals struggling with unresolved feelings of shame. Stated another way, experiencing the emotional sequence of either shame-and-then-anger or shame-and-then-sadness, as opposed to shame-and-then-shame sequence, were hypothesized to promote emotional recovery to a greater extent.

***Hypothesis 2: The incongruency hypothesis.*** In light of the speculation that it is the incongruent nature of the second emotion in a sequence that facilitates emotional transformation (e.g., Fredrickson, 2001), it was hypothesized that facilitating anger as compared to sadness in the activation of unresolved feelings of shame will better promote emotional recovery. Emotion theories argue that action tendencies, or the ways in which emotions organize behaviours, are a salient aspect of congruence or incongruence of an emotional experience (e.g., Greenberg & Paivio, 1997). Based on this formulation, in the current study, the shame-and-then-anger sequence was considered an *incongruent* emotional sequence, due to the mobilizing tendency of anger which contradicts with the closing-down tendency of shame. Similarly, the shame-and-then-sadness sequence was considered a *congruent* emotional sequence due to the shared action tendencies of shame and sadness to close down and withdraw.

*Exploratory Hypotheses.* Participants' defense styles, depressive symptoms, levels of trust in the interpersonal offender, and levels of general aggression were subjected to a preliminary examination with the aim to explore how these sociopsychological factors may be related to emotional transformation.

## CHAPTER II

### Method

#### Participant

The sample consisted of 62 undergraduate students recruited through the Psychology Participant Pool at the University of Windsor. Students who positively endorsed *all three* of the following items were recruited: (a) “A significant person in your life (e.g., family member; romantic partner; long-term friend) made you feel worthless / inadequate / embarrassed / disappointed in yourself in some major way,” (b) “this event occurred more than one year ago,” and (c) “you currently continue to have unresolved bad feelings about this event or this person.” These inclusion criteria were established to recruit individuals who had experienced an interpersonal injury in which they were left feeling ashamed by a significant other to a point that these feelings had remained unresolved for a prolonged period of time. Further, the recruitment specified that in a one-on-one private session the participant would explore his or her thoughts and feelings about the upsetting event (for details, see Appendix Q). It may thus be argued that this was a sample presenting with sub-clinical concerns of the kind that are commonly addressed in counselling or psychotherapy.

**Sample size.** Although 64 participants attended the experimental session, two participants were omitted from the analysis owing to non-adherence to the standardized experimental protocol on account of participant factors<sup>1</sup>. The final sample included in the current

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<sup>1</sup> One participant had substantial difficulties with the English language and thus was not able to fully engage with the experimental protocol. The other participant experienced in-session difficulties related to his reported psychotic symptoms which interfered with his emotional engagement during the protocol. Both participants still received full debriefing, reported no lingering aversive experiences from participation, and reported improved mood compared to the beginning of the experiment per the Subjective Units of Distress Scale (SUDS; Wolpe, 1969) administered at the end of the session.

analysis was therefore 62 participants. The distribution across the three experimental conditions was:  $n = 20$  (Attending to Shame),  $n = 22$  (Facilitating Anger), and  $n = 20$  (Facilitating Sadness).

### **Sample Characteristics**

Sample characteristics, including demographic information, characteristics of the past interpersonal events, and participants' reactions to the past interpersonal events, are shown in Table 1. Past interpersonal events refer to the self-identified events in which the participants were left feeling ashamed by a significant person in their lives. Although these events were highly idiosyncratic, a set of categories or themes emerged based on participants' descriptions of the events, although the complexity of events mean the categories are *not* mutually exclusive (Table 1). The mean score on the Beck Depression Inventory II (BDI-II, Beck, Steer, & Brown, 1996) was 16.1, indicating mild symptoms of depression on average in this sample. Even so, one third of the participants (21 out of 62) reported symptoms of depression that were in the moderate to severe ranges (total scores of 20 to 28 = moderate, 29 to 63 = severe; Beck et al., 1996).



Table 1

Demographics and Identified Event Characteristics for N = 62 Participants

<u>Demographics</u>							
<u>Gender</u> (n)	Female 51			Male 11			
<u>Ethnicity</u> (n)	White 38	Arab/ Middle Eastern 9	South Asian 4	Black/ Canadian African 3	East Asian 2	Hispanic 1	Other 5
<u>Employment</u> (n)	Not employed 15		Part-time 44		Full-time 3		
<u>Age</u>	Mean 21.52	Standard Deviation 5.82		Minimum 18	Maximum 58		
<u>BDI II</u>	Mean 16.11	Standard Deviation 10.551		Minimum 0	Maximum 46		
<u>Reactions to the Past Event</u>							
<u>“How upsetting was the event?”</u> (n)	7 ( <i>extremely</i> ) 31	6 17	5 13	4 0	3 1	2 0	1 ( <i>not at all</i> ) 0
<u>“Currently think about the event per week?”</u> (n)	Daily or more 9	5-6 times 9	3-4 times 13	2 times 11	1 time 13	0 times 7 <sup>a</sup>	
<u>Event Themes (not mutually exclusive)</u>							
Lack of emotional support in times of stress							(n) 12
Sexual assault or sexual abuse							10
Dissolution of romantic relationship/marriage							9
Sexual infidelity by partner							8
Romantic partner emotionally abusive							8
Family member emotionally abusive							7
Romantic partner physically abusive/ domestic violence							4
Social Ostracism/ bullying as a group							3
Suffering Incest							2
Dissolution of friendship							2
Verbal and/or physical fight							2
Family member physically abusive							1

Other relationship injury or transgressions (e.g., ruining reputation, lying, criticizing, blaming) by a single person

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<u>Significant Person Involved</u>	<u>(n)</u>
Romantic ex-partner	20
Close or long-term friend	10
Father	10
“Best friend”	7
Mother	5
Relatives/grandparents	3
Brother or Sister	3
Long-term workplace co-worker/boss	2
Current romantic partner	2

*Note.* *N* = sample size. BDI-II = Beck Depression Inventory II. “How upsetting was the event?” and “Currently think about the event per week” items were included in the Interpersonal Event Questionnaire.

<sup>a</sup> Although it may be argued that participants who did not currently think about the event on a weekly basis ( $n = 7$ ) did not experience unresolved feelings about the event, these participants were still included in the analysis. This was in part due to other relevant data suggesting that participants were experiencing emotional reactions as they were guided to remember and describe the target events. For instance, six out of these seven participants rated at least 7 on a 10-point Likert scale on the Emotional Engagement Scale, which was administered at the end of each of the two emotion induction tasks with the aim to assess whether individuals were experiencing in-moment shame, anger, or sadness. The remaining one participant had an Emotional Engagement Scale rating of 1 (lowest) on all three emotion ratings across both of the two emotion induction tasks, which may indicate that he was not experiencing an emotional reaction at all. However, on the basis of his in-session account and behavioural observations, this case was not excluded. Shortly put, there was no clear-cut exclusion criterion on the basis of whether or not participants experienced unresolved feelings and thus all cases were retained.

## Measures

Two sets of written self-report measures were administered to all participants, one prior to and the other immediately following the emotion facilitation task. In addition, a verbal, 3-item Emotional Engagement Scale (see below) was administered at multiple time points during the experiment. Finally, a 1-item Subjective Units of Distress Scale (see below) was also verbally administered at the beginning and again at the end of the study to assess participants’ in-moment levels of distress.

***Emotional Engagement Scale.*** This 3-item verbal self-report measure asked: “On a scale of 1 to 10, with 1 being the least and 10 being the most, how intensely do you feel [shame / anger /sadness] in this moment?” These items have been used in prior research utilizing similar designs (Narkiss-Guez, Zichor, Guez & Diamond, 2015; Rochman & Diamond, 2008). The three items, each including one of the three target emotion words (i.e., shame, anger, and sadness), were administered in a counterbalanced fashion across and within individuals at the end of each of the two emotion facilitation steps. The purpose of these items was to ensure that participants were emotionally engaged throughout the experimental manipulations.

***Subjective Units of Distress Scale (SUDS; Wolpe, 1969).*** The SUDS is a 1-item verbal self-report measure designed to assess in-moment distress. Participants were asked: “On a scale of 1 to 10, where 1 is not distressed at all and 10 is the most distressed you have ever been, how distressed are you in this moment?” The measure was included to assess participants’ emotional distress at the beginning and at the end of the experimental session. This served as part of an ethical procedure to ensure that no participant exited the experiment with increased levels of distress. The SUDS has demonstrated moderate to high convergent validity with self-report measures of anxiety including State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1983) at  $r = .69$  (Kaplan, Smith, & Coons, 1995), and at *Spearman rho* = .31,  $p < .05$  (Kim, Bae, & Park, 2008).

***Outcome measures.*** With the aim to assess participants’ emotional recovery from the past interpersonal injury, four outcome measures were administered immediately after the experimental manipulation involving the different two-step emotional sequences.

***State Shame and Guilt Scale (SSGS; Marschall, Sanfter, & Tangney, 1994).*** The SSGS is a self-report measure which includes three subscales designed to assess an individual’s in-the-

moment feelings of shame, guilt, and pride. Five items are included in each subscale. Participants rate the extent to which each of the fifteen items describe their current feelings on a 5-point scale, ranging from 1 (*not feeling this way at all*) to 5 (*feeling this way very strongly*). Statements include: “I feel small” (shame subscale), “I feel remorse, regret” (guilt subscale), and “I feel proud” (pride subscale). The measure has demonstrated high levels of internal consistency with Cronbach’s  $\alpha$  ranging from .79 to .89 for each subscale (Ghatavi, Nicolson, MacDonalad, Osher, & Levitt, 2002; Marschall et al., 1994; Tangney & Dearing, 2003; Tilghman-Osborne, Cole, Felton, & Ciesla, 2008). In the current study, the internal consistency was found to be high at Cronbach’s  $\alpha = 0.84$  (shame),  $\alpha = 0.83$  (guilt), and  $\alpha = 0.89$  (pride).

***The Resolution Scale (RS; Singh, 1994)***. The Resolution Scale is a self-report measure designed to assess participants’ subjective sense of resolution about a past interpersonal injury. Participants rate the extent to which they agree with each of the twelve statements on a 6-point scale, ranging from 1 (*not at all*) to 6 (*very much*). Items include: “I feel frustrated about not having my needs met regarding this person” and “I feel unable to let go of my unresolved feelings regarding this person.” Some items are reverse scored, and higher scores indicate higher degrees of resolution of negative feelings toward the person. The internal consistency coefficients for the original RS was found to be  $\alpha = .82$  (Paivio et al., 2001). In the current study, the measure demonstrated a high internal reliability at Cronbach’s  $\alpha = 0.83$ .

***Self-Assessment Manikin, dominance subscale (SAM; Lang, 1980)***. The SAM is a pictorial self-report measure consisting of three items that reflect in-the-moment feelings of pleasure, arousal, and dominance. Only the dominance item was used in the current study. Participants were asked: “How small and submissive or strong and in control do you feel?” and rated on a 9-point scale along a line of five figures with varying sizes. The figure sizes are

ordered from the smallest, described as “small, weak, not in control,” to the biggest, described as “big, strong, and in control.” Bigger sized figures reflect higher levels of feelings of dominance and control. The SAM has been used to capture emotional responses during various experimental tasks involving affective stimuli (e.g., Greenwalk, Cook, & Lang, 1989; Bradley & Lang, 1994; Kramer & Pascual-Leone, 2015).

*Useful Processes Questionnaire (UP-Q; Pascual-Leone & Sawashima, 2018, unpublished measure).* The symptom outcome measures that are typically used in psychotherapy are not ideal for measuring the impact of a single psychotherapy analogue session such as the one used in the current study. For instance, it may not be reasonable to expect that an individual will reach personal resolution for an enduring personal difficulty within a single session intervention. The UP-Q was therefore developed and included as an outcome measure of the current study. This measure is designed to assess the degree to which a given experimental task or session was perceived as productive or useful by participants, even if symptoms themselves have not been directly impacted. In developing this measure, items were compiled from a range of established self-report measures that themselves were specifically designed to assess various aspects of individuals’ in-session experiences in psychotherapy. Although items from a wide range of measures were considered as possible sources, selected items were taken from: the Session Evaluation Questionnaire (Stiles, 1980); the Revised Session Reaction Scale (RSRS; Elliott, 1993); and the Bern Post-Session Report for Patients Short Form (BPSR-P; Flückiger, Regli, Zwahlen, Hostettler, & Caspar, 2010). Additional items were developed by the authors with the aim of assessing participants’ perception of their psychological gains or what they experienced as being a potentially useful way of working with their concerns. The measure development was theory driven, informed by research experience in the field (Dr. A. Pascual-

Leone), and based on preliminary consultations with an esteemed expert in the field of process research (Dr. R. Elliott). In the current study, the exploratory, seventeen-item version of the measure was administered to participants. The items were then examined for their underlying structure using an exploratory factor analysis (Appendix F) and a twelve-item self-report was established (Appendix E).

The final 12 item UP-Q contains two subscales, *sense of direction* (7 items) and *self-awareness* (5 items). The sense of direction subscale assesses participants' own perceptions of productive or useful in-session experiences and a sense of direction for resolving emotional distress. The self-awareness subscale assesses participants' awareness and understanding of their own personal struggles, including the understanding of the source and impact of their distress. Thus, these two subscales measure two facets of emotional experiences that are also conceptually and empirically linked to personal growth and treatment outcome (emotional recovery) in psychotherapy (e.g., Elliott, James, Reimschuessel, Cislo, & Sack, 1985; Flückiger, Holtforth, Znoj, Caspar, & Wampold, 2013; Greenberg, 2010; Timulak & Keogh, 2017; Whelton & Greenberg, 2005). Participants rate the extent to which they agree with each of the twelve items on a 5-point scale, which ranges from 1 (*not at all*) to 5 (*very much*). Statements include: "I have a sense that working this way or with this intervention is a promising direction for me" (sense of direction) and "I am more aware of what I want now" (self-awareness). In the current data set, the measure demonstrated moderate to high levels of internal consistency with Cronbach's  $\alpha$  for the total score ( $\alpha = .84$ ), sense of direction subscale ( $\alpha = .83$ ); and self-awareness subscale ( $\alpha = .72$ ) (Pascual-Leone & Sawashima, 2018, unpublished data).

**Control/exploratory measures.** Four self-report measures were included with the aim to assess psychosocial factors that conceivably were linked to participants' emotional experiences

within the current study. In addition, a demographic questionnaire and the Interpersonal Event Questionnaire were administered.

***Demographic Questionnaire.*** The aim of this questionnaire was to collect descriptive demographic information. Participants indicated their gender, age, cultural background, year in school, marital status, and employment status.

***Interpersonal Event Questionnaire.*** The aim of this questionnaire was to collect information on participants' emotional reactions to their identified past interpersonal injury. Items included a 7-point scale rating of the question, "How upsetting was this event", and indicating *yes* or *no* to the question, "Have you ever received any type of therapy or counseling to help you deal with this issue?" For the whole set of questions, see Appendix B.

***Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996).*** The BDI is a 21-item self-report measure designed to assess experiences of depressive symptoms within the previous two weeks. Participants rate the extent to which they experience each symptom by choosing one response from a pre-determined set of responses representing a 4-point Likert scale, ranging from 0 (symptom not present) to 3 (symptom very intense). Statements include: "I don't have enough energy to do anything" (loss of energy) and "I am disappointed in myself" (self-dislike). Higher scores indicate more levels of depressive symptoms. The measure is one of the most widely used measures of depression, has high internal consistency of  $\alpha=0.91$  and one-week test-retest reliability of  $r = 0.93$  (Beck et al., 1996). In the current study, the internal consistency of the BDI was found to be high at Cronbach's  $\alpha=0.91$ .

***Defense Styles Questionnaire (BDSQ-40; Andrews, Singh, & Bond, 1993).*** The BDSQ-40 is a self-report measure designed to assess 20 different types of defense styles. Three subcategories of defense styles, immature, neurotic, and mature, are included as subscales.

Participants rate the extent to which they agree with each of the 40 items on a 9-point scale, ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). Statements include: “I’m able to keep a problem out of my mind until I have time to deal with it” (mature subscale); “I ignore danger as if I were Superman” (immature subscale); and “I often find myself being very nice to people who by all rights I should be angry at” (neurotic subscale). Internal consistency for the subscales have been found to be in the moderate to high range, with Cronbach’s  $\alpha$  ranging from .78 to .83 (immature), .62, to .70 (mature), and .58, to .61 (neurotic; Andrews et al., 1993; Ruuttu, et al., 2006; Yilmaz, Gençöz, & Ak, 2007). In the current study, the three subscales yielded low to high internal consistency at Cronbach’s  $\alpha = 0.68$  (mature),  $\alpha = 0.53$  (neurotic), and  $\alpha = 0.80$  (immature).

***Mishra Trust Survey-modified (MTS-m; Mishra, 1993).*** The MTS is a self-report measure designed to assess levels of trust in a company employee. The measure includes four subscales of trust including: (a) openness; (b) concern; (c) reliability; and (d) competence. With the aim to assess participants’ levels of trust in the offending party at the time of the interpersonal incident, the wordings were slightly altered such that the phrase “employees” was replaced by “this person” and the phrase “organization” was replaced by “relationship”. Further, one item “[this employee] can help our organization survive through the 1990s” was omitted because it was not relevant to the current study. Participants rated the extent to which they agreed with each of the 15 items per a 7-point Likert scale, ranging from 1 (*disagree*) to 7 (*agree*). Statements included: “[this person] is completely honest with me” (openness); “[this person] cares about the future of our relationship” (concern); “[this person] will keep the promises that he/she makes” (reliability); and “[this person] can help solve important problems in our relationship” (competence). In the original study, the measure demonstrated high internal



reliability for the total score of trust at Cronbach's  $\alpha = 0.93$ . In the current study, the total score was found to have high internal consistency at  $\alpha = 0.94$  ( $N = 50$ ).

**Aggression Questionnaire (Buss & Perry, 1992).** The Aggression Questionnaire is a self-report measure designed to assess four dimensions of tendency for aggression. These four subscales are: (a) Physical aggression; (b) verbal aggression; (c) anger; and (d) hostility. Participants rate the extent to which they experience each of the 19 statements on a 4-point scale, ranging from 1 (*extremely uncharacteristic of me*) to 7 (*extremely characteristic of me*). Statements include: "There are people who pushed me so far that we came to blows", and "I can't help getting into arguments when people disagree with me". Higher scores indicate greater tendency for aggression. Internal consistency has been found to be in the moderate to high range, from  $\alpha = 0.72$  (verbal aggression subscale),  $\alpha = 0.77$  (hostility subscale),  $\alpha = 0.83$  (anger),  $\alpha = 0.85$  (physical aggression), and  $\alpha = 0.89$  (total score; Buss & Perry, 1992). In the current study, the total score was used and was found to have high internal consistency at  $\alpha = 0.84$ .

### **Emotion Facilitation Task**

All participants completed two rounds of emotion facilitation in one of the three experimental conditions: (a) Shame followed by Shame, (b) Shame followed by Anger, and (c) Shame followed by Sadness. In each round, a writing exercise and a verbal exercise were administered as a set to facilitate the experiencing of the target emotions (i.e., shame, anger, sadness).

**Writing exercise for priming target emotions.** The Sentence Completion Task for Priming Emotions (Pascual-Leone, 2010) is a written exercise modeled after Pascual-Leone and Greenberg's sequential model of emotional processing (2007). The task has been successfully used to prime target emotions in an experimental design involving undergraduate students

(Rhode, et al., 2015). Participants completed five to six incomplete sentence stems that are heavily primed in their wording to facilitate the experiencing of specific target emotions (i.e., shame, anger, sadness). Example statements include: “I am embarrassed or ashamed of...” (shame); “I deserved...” (assertive anger); and “What I miss is...” (grief/hurt).

**Verbal exercise for experiencing target emotions.** The verbal component of the emotion facilitation task for shame involved a guided dialogue in which participants expressed and elaborated on their shameful feelings to the researcher. The verbal component of the emotion facilitation task for anger and sadness involved an empty chair task. Developed as part of emotion focused therapy (Greenberg, 2010) and gestalt therapy (Greenberg, Rice, Elliott, 1993; Perls et al., 1965), empty chair task is essentially an enactment task in which the client imagines a significant other sitting across from him or her and expresses his or her unresolved feelings and thoughts directly to the significant other. The task has been elaborated and researched within the context of emotion-focused therapy and is used as an intervention to facilitate in-session emotional transformation for unresolved interpersonal problems (Greenberg & Paivio, 1997; Paivio & Pascual-Leone, 2010). Several studies have demonstrated that the empty-chair task is an effective way to activate emotions and facilitate continual engagement with emotional experiences (Greenberg & Malcolm, 2002; Paivio & Greenberg, 1995; Paivio, Hall, Holowaty, Jellis & Tran, 2001; Paivio, Jarry, Chagigiorgis, Hall, & Ralston, 2010; Paivio & Nieuwenhuis, 2001; Watson, Goldman, & Greenberg, 2007). Based on this literature, the researcher used an empty chair enactment and asked participants to imagine the significant other from the interpersonal event, sitting in a chair across from them, and to express their feelings of anger or sadness directly to that person.

*Empty chair vs. empathic exploration.* In emotion-focused therapy, use of the empty chair is considered one primary method for exploring traumatic experiences (e.g., Elliott, Greenberg, Watson, Timulak, & Freire, 2013; Paivio, & Neiuwenhuis, 2001). However, in light of observed difficulties with emotional engagement in some clients, an alternative method, empathic exploration, was developed by Paivio and colleagues (2010). Empathic exploration uses the therapist's evocative empathy techniques to guide the client to express his or her thoughts and feelings toward the significant other in a dialogue with the therapist, as opposed to guiding the client to directly speak to the significant other in the empty chair. The empathic exploration is considered to be a "gentler" and less stressful alternative version of the empty chair task. A study that directly compared the psychological impact of the empty chair and empathic exploration in trauma therapy found generally equal effectiveness for both techniques, while noting that the empty chair was indeed linked to more instances of clinically significant improvement (Paivio et al., 2010). The investigators concluded: "it seems that differences between the two versions [of intervention] in this sample, if they exist at all, are small" (p. 364). The dropout rate from therapy was higher in empty chair than in the empathic exploration condition, which, as the investigators speculated, may reflect that the empty chair is a more powerfully evocative (and possibly more stressful) technique than is the empathic exploration version.

In the current study, empathic exploration was used for six out of the sixty-two participants on the basis of clinical and ethical considerations. Specifically, following Paivio and Pascual-Leone's (2010) recommendations, it was considered counterproductive to express vulnerable feelings of sadness (i.e., hurt/grief) directly to a significant other who was a predatory and hostile perpetrator and who would generate considerable levels of terror and/or disgust in the

participant (e.g., perpetrator of sexual assault). In the current study, five participants in the Facilitating Sadness condition presented with this profile ( $N = 2$  involving sexual assault perpetrator;  $N = 3$  involving highly hostile and emotionally/physically abusive other). The potential risk of arousing high distress by instructing these participants to share their vulnerable feelings of sadness while confronting these predatory types of perpetrators was considered unethical, and thus empathic exploration was used instead of the empty chair in these cases. One additional case underwent empathic exploration instead of the empty chair technique: although this participant was assigned to express assertive anger, instead of vulnerable feelings of hurt, her task was switched to empathic exploration owing to high levels of terror at the onset of the empty chair when she imagined the perpetrator of a severe and prolonged physical bullying in the other chair. In total, five participants in the Facilitating Sadness condition underwent empathic exploration instead of empty chair, and one participant in the Facilitating Anger condition underwent empathic exploration (Appendix M). It is possible that the one participant in the Facilitating Anger condition represented a unique case; however, this was considered to be a legitimate case and was retained in the analyses.

Use of empathic exploration in place of empty chair was not considered to significantly interfere with the validity of the research design. That is, the goal of the emotion facilitation task in the current study was *not* to evaluate the effect of the empty chair technique per se, but rather, the goal was to facilitate specific emotional sequences in participants. Based on past research (e.g., Paivio et al., 2010), use of empathic exploration was considered a suitable tool toward this end to effectively engage individuals with their assigned emotional sequences.

## **Procedure for Data Collection**

The experiment took place in a laboratory room, in a single, one-on-one, face-to-face session with this researcher. The total length of the session was approximately 1.5 to 2 hours. The entire mood induction protocol, which included two rounds of writing and verbalizing of target emotions, took 40 to 50 minutes. See Figure 2 for an overview of the research design and procedures.

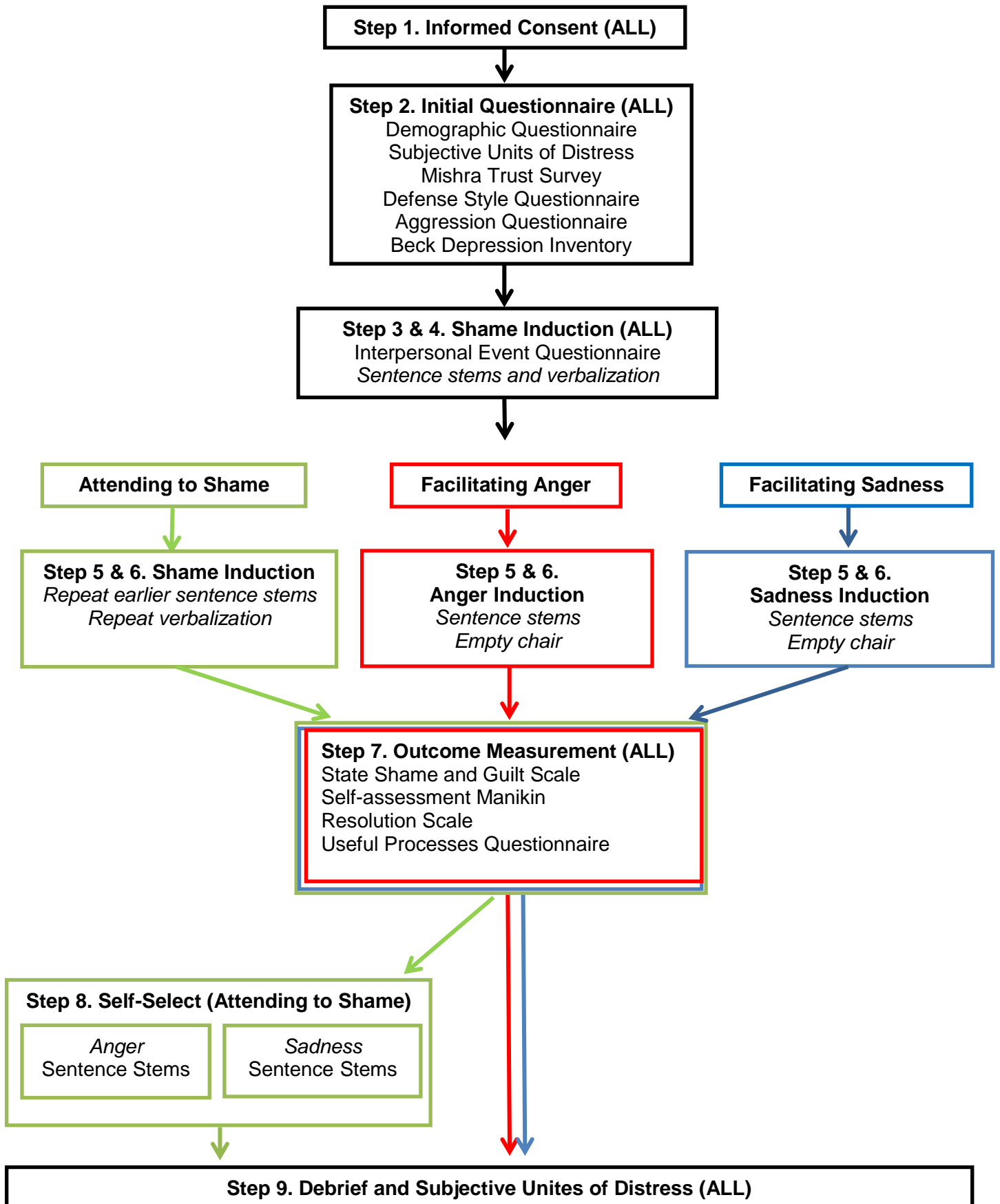


Figure 2. The procedural overview of the experiment.

**Random assignment.** Participants were randomly assigned to one of the three experimental conditions prior to the start of the experimental session. Every condition involved activating unresolved feelings of shame in the first step, but then conditions differed in the second step: (a) Attending to Shame, which involved activating the shame experience and then continuing to explore and express that; (b) Facilitating Anger, which involved activating the shame experience and then subsequently facilitating the experience and expression of anger; and (c) Facilitating Sadness, which involved activating shame and then subsequently facilitating the experience and expression of sadness. As a procedure for random assignment of participants, the random sequence generator (<https://www.random.org/sequences/>), which allows for the random distribution of digits up to the anticipated total number of participants into three columns, was used. The three columns represented the three conditions. Each digit represented each participant's sequential position in the order they attended the study. This way, participants were randomly assigned to the conditions prior to the onset of the experiment.

It was possible that the knowledge of participant's group membership would impact the way the researcher conducted the experimental sessions (i.e., experimenter bias; Sackett, 1979). In order to minimize this possible confound, the researcher did not view the table of random assignment until step 5 of the session, when participants for the first time received differential experimental manipulation based on their group membership. This procedure was also in keeping and modelled after the implementation of randomization in the study by Paivio and colleagues (2010).

***Step 1. Introduction and informed consent.*** Participants were greeted upon their arrival by this researcher. They were provided with a consent form. Details of the consent form were verbally discussed. Participants were then asked to read over the consent form and, should they

agree to participate, to provide their signature. Once participants' consent was obtained, they moved on to complete the following experimental steps.

**Step 2. Initial questionnaires.** Participants were administered the following: the Subjective Units of Distress Scale (SUDS; Wolpe, 1969), the demographics questionnaire, the Mishra Trust Survey-modified (MTS-m; Mishra, 1993), the Beck Depression Inventory II (BDI-II; Beck et al., 1996), the Aggression Questionnaire (Buss & Perry, 1992), and the Defense Styles Questionnaire (BDSQ-40; Andrews et al., 1993). The SUDS was always administered first, followed by the demographics questionnaire. The other four questionnaires were systematically counterbalanced in their order of administration. These four questionnaires were administered at the beginning of the session to avoid the possible impact of the experimental procedures on individuals' reporting on these measures.

**Step 3. Written exercise for shame.** Participants were reminded that when they signed up for the study they had reported, through their responses to the eligibility questions, having unresolved feelings in reaction to a past interpersonal event in which they were left feeling ashamed by a significant individual in their lives. Participants were then asked to complete the interpersonal event questionnaire, on which they indicated, among other items, whether they currently continued to experience unresolved distress with respect to the event. Participants were asked to complete the incomplete sentence stems for shame from the Sentence Completion Task for Priming Emotions (see Appendix H; Pascual-Leone, 2010). To introduce this step, the following verbal prompt was provided:

“Everyone has times in their lives when things don't work out for them. When you signed up for this study, we asked if somebody made you feel down, or made you feel worthless/inadequate/disappointed in yourself, in some major way. Do you remember? I



would like you to first answer these questions about your experience [provide the interpersonal event questionnaire]. Please let me know when you are done.”

Once participants completed the interpersonal event questionnaire, the following verbal prompt was provided:

“Now, I would like you to describe the event at the top of this questionnaire [provide the incomplete sentence stems]. Then, I would like you to follow the instructions to complete these sentence stems. When you are done with the questionnaire, we will talk a bit more about your experiences. Do you have any questions? Go ahead, and please let me know when you are done.”

**Step 4. Verbal exercise for shame.** In a seamless continuation from Step 3, participants were asked to verbalize their shame reactions to the interpersonal injury, after the prompt below:

“Now, I would like us to focus a bit more on this difficult experience you had. Could you tell me about it now, in your own words, what the situation was like and what happened with the other person? How did it all make you feel?”

In order to assist participants to verbalize their feelings of shame, the researcher offered limited verbal facilitation in the forms of empathic reflections and clarifying questions. Example statements and questions included: “That sounds like a difficult situation. No wonder you felt [emotion that the participant identified in his or her speech]. Can you say more about that?” and “What was your experience in all of this?” When offering these supportive prompts, the participant’s own language was used as much as possible. For instance, if the participant explicitly verbalized that he or she *felt so small* in the interpersonal event, the researcher may have clarified by asking, “What was it about the situation that made you *feel so small*?” For the list of example verbal prompts used at this step, refer to Appendix K.

At the end of the verbal exercise, participants were administered the three items of the Emotional Engagement Scale (Used in Narkiss-Guez et al., 2015; Rochman & Diamond, 2008). Participants were verbally asked: “On a scale of 1 to 10, with 1 being the least and 10 being the most, how intensely do you feel [target emotion] in this moment?”, where the target emotion corresponded to shame, anger, and sadness. The order of the three items were systematically counterbalanced across participants. The aim of administering the EES at this stage was to (a) check whether the target emotion (shame) was facilitated, and (b) use these scores as the pre-scores on participants’ in-moment feelings prior to the second emotion induction step.

***Step 5. Written exercise for shame, anger, and sadness (second round of the emotion facilitation).*** At this point, through the a priori random assignment described above, participants underwent an emotion facilitation task designed to facilitate the experiencing of either shame, anger, or sadness. To reiterate, participants in the Attending to Shame condition were guided to continue attending to their unresolved feelings of shame throughout the experimental session. In contrast, participants in the Facilitating Anger condition were now guided to experience anger, while participants in the Facilitating Sadness condition were now guided to experience sadness, through Step 5 and Step 6.

***Step 5a: Attending to Shame.*** Participants in the Attending to Shame condition were asked to read over the previous set of incomplete sentence stems which they already had completed at Step 3. Then, participants were asked to flip the paper face down and to write down, as much as they could, the content of the incomplete sentence stems. If they could not recall the content, they were instructed to simply take a look back at their responses to complete this task. They were explicitly told that this task was not intended to test their memory. The following verbal prompt was provided:

“We have been talking about [paraphrase the person’s interpersonal injury and emotional reactions]. And it continues to upset you when you talk about it. I would like to ask you to read over the sentences that you completed earlier [hand them the incomplete sentence stems for shame (Appendix H) which they had completed at Step 3]. Please let me know when you are done.”

Once participants finished reading their responses to the incomplete sentence stems, another verbal prompt was provided as follows:

“Now I would like you to flip the paper face down on the table. I would like you to try to remember the content of the exercise and write it verbatim, at the back of the paper. If you cannot remember something, please feel free to take a look back. This is not a task to test your memory. Simply write out what you already wrote during the previous task. Take your time, and please let me know when you are finished.”

**Step 5b: Facilitating Anger.** Upon completion of Step 4 (verbal exercise for shame), participants in the Facilitating Anger condition were asked to complete a set of incomplete sentence stems for anger from the Sentence Completion Task for Priming Emotions (see Appendix I; Pascual-Leone, 2010). The following verbal prompt was provided:

“We have been talking about [paraphrase the person’s interpersonal injury and emotional reactions]. And it continues to upset you when you talk about it. I wonder if a part of you also feels *angry* about what happened, maybe toward this person or this event. I would like you to explore this a little bit by completing this questionnaire [provide the incomplete sentence stems for assertive anger, Appendix I]. Please follow the instructions and complete these sentence stems.”

**Step 5c: Facilitating Sadness.** In the Facilitating Sadness condition, participants were asked to complete the incomplete sentence stems specifically designed to prime feelings of sadness (see Appendix J). They were provided with the verbal prompt:

“We have been talking about [paraphrase the person’s interpersonal injury and emotional reactions]. And it continues to upset you when you talk about it. I wonder if a part of you also feels *sad* about what happened, maybe toward this person or the event. I would like you explore this a little bit by completing this questionnaire [provide the incomplete sentence stems for grief/hurt, Appendix J]. Please follow the instructions and complete these sentence stems.”

**Step 6. Verbal exercise for shame and empty chair task for anger or sadness.** In an uninterrupted sequence from step 5, all participants were guided to verbalize their target feelings.

**Step 6a: Attending to Shame.** Participants in the Attending to Shame condition were asked to verbalize their feelings of shame in a guided dialogue analogous to that in step 4. Participants were provided with the following verbal prompt:

“Now, just like the last time, I would like us to talk a bit more about these difficult feelings you have about the incident. Could you tell me about it again, in your own words, what happened and what it made you feel?”

**Step 6b: Facilitating Anger.** Participants in the Facilitating Anger condition and in the Facilitating Sadness condition were asked to verbalize the target emotion (i.e., anger or sadness, respectively) through empty chair enactment.

Participants in the Facilitating Anger condition were provided with the following instructions:

“Now, I would like us to engage in an exercise that will guide you to explore these feelings a little more. I would like you to imagine [the name of the significant other who was involved in the interpersonal injury], sitting in the chair, across from you. And I would like you to express these feelings of *anger* directly at him/her. This might be new for you, but I will help guide you through it. Let’s give it a try. Can you imagine him/her sitting there? Take a minute [pause]. What happens on the inside? What kind of feelings come up?”

***Step 6c: Facilitating Sadness.*** Alternatively, participants in the Facilitating Sadness condition were provided with the following instruction:

“Now, I would like us to engage in an exercise that will guide you to explore these feelings a little more. I would like you to imagine [the name of the significant other who was involved in the interpersonal injury], sitting in the chair, across from you. And I would like you to express these feelings of *sadness* directly to him/her. This might be new for you, but I will help guide you through it. Let’s give it a try. Can you imagine him/her sitting there? Take a minute [pause]. What happens on the inside? What kind of feelings come up?”

Initially, the researcher used empathic reflection to succinctly validate whatever experience the participant described. Next, the researcher focused on the target emotion relevant to the condition (i.e., anger or sadness) and used empathic reflection to explore the target emotion more, and then ask the participant to “say more....” An example of this kind of reflection and redirections included: “Yes, I can see how you might feel *jealous*. That makes sense, ....and at the same time, deeper down, I wonder if there are also feelings of [sadness/anger]. Can you get in touch with that? Say more....” If participants appeared to

struggle with articulating the target emotion, the researcher made an empathic conjecture to guide the participant to access and express the target emotion. For example, a participant in the Facilitating Anger condition would be offered the prompt: “Sometimes when things like that happen, people feel *frustrated or angry* too. Can you get in touch with that? Say more....” The words *frustrated or angry* would be substituted with *hurt or disappointed in the other person* for a participant in the Facilitating Sadness condition. For a list of example verbal supports, see Appendix K.

At the end of this step (6), all participants were again administered the three items of the Emotional Engagement Scale (Used in Narkiss-Guez et al., 2015; Rochman & Diamond, 2008). Participants were verbally asked: “On a scale of 1 to 10, with 1 being the least and 10 being the most, how intensely do you feel [target emotion] in this moment?”, where the target emotion corresponded to shame, anger, and sadness. Ordering of the three items were systematically counterbalanced across participants.

**Step 7. Outcome measures.** All participants were administered: the Self-Assessment Manikin (Lang, 1980); the State Shame and Guilt Scale (SSGS; Marschall et al., 1994); the Resolution Scale (RS; Singh, 1994); and the Useful Process Questionnaire (UP-Q; Pascual-Leone & Sawashima, 2018, unpublished measure).

Upon completing these self-report measures, only participants in the Attending to Shame condition proceeded to step 8. Participants in the other two conditions skipped step 8 and proceeded directly to step 9.

**Step 8. Follow-up writing exercise using different emotions.** This additional step was included only for participants in the Attending to Shame condition such that these participants, like their counterparts in the other two conditions, received an emotion facilitation task that was

hypothesized to reduce emotional distress prior to the session termination. This step was included in service of ethical considerations and was designed to ensure that no participant left the session more distressed than they had come in. Participants in the other two conditions already underwent the two emotional sequences that were hypothesized to reduce emotional distress as a part of their experimental manipulation. As such, only participants in the Attending to Shame condition completed this step.

Here, participants were asked to recall the interpersonal injury and were presented with two separate packages containing either anger or sadness incomplete sentence stems (Pascual-Leone, 2010). Participants were provided with a description of these exercises, asked to read through the two packages themselves, and then asked to complete either one of the two packages (i.e., assertive anger or grief/hurt incomplete sentence stems). They were instructed to choose the set that they perceived may be the most helpful in resolving their difficult feelings. The following verbal prompt was provided:

“Before you did those questionnaires, we were talking about [paraphrase the person’s interpersonal injury and emotional reactions]. And it continues to upset you when you talk about it. I wonder if you could explore your reactions a bit more by completing one of these questionnaires [Present two packages – one that includes the assertive anger sentence stems (Appendix I), and one that includes the grief/hurt sentence stems (Appendix J)]. These sentence stems are intended for people to work through their difficulties. They come in two kinds. Some people find it useful to talk about healthy anger or assertiveness, while other people find it useful to talk about healthy sadness or caring for yourself and your hurt feelings. They are two pages each. You could look through both of these two packages and pick the one that you think will be the most

useful for you right now. There is no right or wrong answer - it just depends on the person. So, just pick the one that you think would be useful to you”.

The order in which the two packages were described was counter-balanced in the verbal prompt. When participants were observed to have difficulties with making a choice, the following verbal prompt was given to clarify and to further encourage them toward decision-making:

“Yes, at first it is hard to tell which one might be more helpful. But sometimes, when you start to elaborate and put words to your feelings, it helps you get things off your chest and it helps you work through your difficulties. So, I would like you to choose just one of these. Which one do you guess might be helpful, at least to get you started?”

In sum, out of the  $n = 20$  participants in the Attending to Shame condition, thirteen participants self-selected to complete the sentence stems for sadness, while seven participants self-selected to complete the sentence stems for anger<sup>2</sup>.

***Step 9. Debriefing and SUDS.*** All participants completed this step. Participants were provided with a letter of information, which contained the same information as their consent form, and a debriefing form, which outlined the purpose and the hypotheses of the study. They were provided an opportunity to ask any questions. In order to actively involve participants in this debriefing, they were asked to brainstorm and write down their answers to the question, “Do you think any part of what we did today was helpful for you in getting over your difficult relationship event? Or any part that was unhelpful for you?” Participants were administered the Subjective Units of Distress Scale (SUDS; Wolpe, 1969) one last time, in order to ascertain that

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<sup>2</sup> A Chi-square test was performed to evaluate whether there was statistically significant difference in the observed and expected (10 each) frequencies of participants who self-selected to complete the sadness vs. anger sentence stems. The result was non-significant.



their level of distress was no more than the level at which they entered the study. Of note, all participants had completed some form of exercise that were hypothesized to reduce emotional distress, in the steps immediately preceding the debriefing. Participants in the Facilitating Anger and Facilitating Sadness conditions had completed the writing exercise and the empty chair task for anger or sadness, while their counterparts in the Attending to Shame group had completed the writing exercise for anger or sadness. All participants reported less or equal levels of distress on the SUDS at the end of the study compared to the beginning of the study. However, if a participant was continuing to express some levels of emotional arousal, debriefing lasted longer and included strategies to provide stress relief and further resources as needed. This type of debriefing included: (a) empathically addressing participants' concerns; (b) a relaxation exercise involving breathing and visualization; and (c) provision of a list of community and campus resources for psychological services, should the participant be interested. All participants were compensated with two and a half undergraduate course points for their participation in this study within twenty-four hours of their participation.

### **Protocol Validity**

**Validity of emotional engagement scales.** Participants reported their in-moment feelings of shame, sadness, and anger at the end of each of the two emotion facilitation tasks using the Emotional Engagement Scale (Narkiss-Guez et al., 2015; Rochman & Diamond, 2008). This verbal self-report measure asked, "On a scale of 1 to 10, with 1 being the least and 10 being the most, how intensely do you feel [angry, sad, ashamed] in this moment?" As shown in Appendix L, Participants generally reported at least some levels of emotional reactions on this measure. There were difficulties with this measure, however, which likely interfered with the validity of the measure and influenced the interpretability of this data. First, the one-sentence item for each

emotion on the EES may have been interpreted in idiosyncratic ways. For instance, one participant, who rated low on feelings of shame, stated, “No, I don’t feel shamed by you”, reporting his or her feelings toward the researcher’s presence or actions, as opposed to reporting his or her emotional reactions to the experimental task as intended. Second, some participants appeared to have difficulties with discriminating amongst the three emotions, especially between feelings of “shame” and “sadness.” Finally, some participants who underwent the Facilitating Anger and Facilitating Sadness conditions reported feeling a sense of relief and a reduction in all of the three in-moment emotions by the time the EES was administered, possibly resulting in under-reporting of their emotional engagement *during* the emotion facilitation tasks. In short, the semantics of this measure and the timing at which this measure was administered may have interfered with the reporting of these subjective experiences. Despite these limitations, and although no baseline measure of emotions were obtained and thus it was not possible to establish a true manipulation check, it was observed that participants experienced target emotions during the two emotion facilitation tasks (Appendix L).

### **Approach to Data Analysis**

**Hypothesis testing.** To summarize, there were two main hypotheses and one exploratory hypothesis. The adaptivity hypothesis (main hypothesis 1) posited that facilitating anger or sadness, as compared to shame, in the activation of unresolved feelings of shame, would promote better emotional recovery in individuals struggling with unresolved feelings of shame. The incongruency hypothesis (main hypothesis 2) posited that facilitating anger, compared to facilitating sadness, in the activation of unresolved feelings of shame, would promote better emotional recovery. Finally, the exploratory hypothesis posited that participants’ defense styles, levels of trust in the offender, depressed mood, and aggression would interfere with participants’

engagement with the two-step emotional facilitation tasks (assigned experimental conditions) and subsequent emotional outcome.

To test the three hypotheses, bootstrapped multiple regression analyses (MRAs) were conducted for each outcome variable. The outcome variables, which served as the indexes of emotional recovery from unresolved shame, were: the three subscales (shame, guilt, pride) of the State Shame and Guilt Scale (SSGS; Marschall et al., 1994), the Self-Assessment Manikin dominant subscale (SAM; Lang, 1980), the two subscales (sense of direction, self-awareness) of the Useful Processes Questionnaire (Pascual-Leone & Sawashima, 2018, unpublished measure), and the Resolution Scale (RS, Singh, 1994). Predictor variables included participants' assigned conditions (Facilitating Anger, Facilitating Sadness, and Attending to Shame), participants' scores on the exploratory variables which included the Beck Depression Inventory II (BDI-II; Beck et al., 1996), the immature, mature, and neurotic subscales of the Defense Styles Questionnaire (BDSQ-40; Andrews et al., 1993), the Aggression Questionnaire (AQ; Buss & Perry, 1992), and the Mishra Trust Survey -modified (MTS-m; Mishra, 1996), and the interaction terms between participants' assigned conditions and each of the exploratory variables<sup>3</sup>.

**Rationale for using the bootstrapped multiple regression analyses.** Multiple linear regression (MRA) models were considered suited for the purpose of testing hypotheses about how emotional sequences related to outcome, while also serving to examine how exploratory variables may interact with the emotional sequences. Detailed examination of how exploratory variables may have related to outcome was not the focus of this study. MRAs allowed the testing

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<sup>3</sup> The interaction terms may therefore be denoted as: BDI\*Condition, Immature Defense styles\*Condition, Mature Defense styles\*Condition, Neurotic Defense styles\*Condition, Aggression\*Condition, and Trust\*Condition.

of the simple effects of the assigned experimental condition (Facilitating Anger, Facilitating Sadness, and Attending to Shame) on emotional recovery, alongside the testing of the interaction effects of the assigned experimental condition and each of the exploratory variables (i.e., defense styles, trust, aggression, and depressed mood) on emotional recovery.

It should be noted that the purpose of running the MRAs was not to evaluate the extent to which all of the predictors combined may explain the variance in outcome variables. Rather, it was to analyze the simple effects of assigned experimental condition and the interaction effects of the assigned experimental condition and each of the exploratory variables. As such, even though the statistical significance of the overall MRA models will be reported, and so would the significance of the simple effects of the exploratory variables, the focus of report is on the effects of the assigned conditions and the interaction terms.

There was missing data on Mishra Trust-Survey-modified which resulted in an uneven sample size ( $N = 50$ ) compared to the rest of the data, as will be described below. This rendered the variable unfit to be analyzed in conjunction with the other exploratory variables. As such, a separate set of MRAs were conducted to explore data from the Mishra Trust Survey-modified (MTS-m) which used the three predictors of assigned condition, MTS-m scores, and the interaction term (Condition\*MTS-m). In the interest of clarity, all MRAs that analyzed all variables with the exception of data from the MTS-m were named Combined MRAs ( $N = 61$  raw data) while MRAs that analyzed data from the MTS-m were named Trust MRAs ( $N = 50$  raw data).

Finally, the sample sizes ( $N = 61$  for the Combined MRAs and  $N = 50$  for the Trust MRAs) were not adequate for running multiple regression analysis (requiring  $N = 124$  for the Combined MRAs and  $N = 76$  for Trust MRAs; Stevens, 2009). Bootstrapping was used to

address this issue. Bootstrapping allows for approximating standard errors of variables, and thus may be used to adjust for biases that may be especially problematic in small samples (Efron & Tibshirani, 1997). Bootstrapping is commonly used when fundamental assumptions, such as sample size, are violated, and has been shown to successfully apply to small sample sizes.

In sum, bootstrapped multiple regression analyses (MRAs) were conducted for each of the outcome variables, namely, the guilt, shame, and pride subscales of the State Shame and Guilt Scale (SSGS; Marschall et al., 1994), the sense of direction and self-awareness subscales of the Useful Processes Questionnaire (UP-Q; Pascual-Leone & Sawashima, 2018, unpublished measure), the Self Assessment Manikin dominance subscale (SAM; Lang, 1980), and the Resolution Scale (RS, Singh, 1994). Predictors included: participants' assigned conditions (Attending to Shame, Facilitating Sadness, or Facilitating Anger), participants' use of immature defense styles, participants' use of mature defense styles, participants' use of neurotic defense styles, participants' aggression, participants' depressed mood, participants' levels of trust in the offender, and the interaction terms of assigned condition and each of the exploratory variables. A separate set of MRAs was conducted to analyze data from the MTS-m due to uneven sample size, as will be described below. MRAs that used the five exploratory variables in conjunction were named Combined MRAs while MRAs that used data from the Mishra Trust Survey-modified (MTS-m) were named Trust MRAs.

Finally, a 0.05 probability ( $p$ ) criterion of statistical significance was used for all analyses. Given the exploratory nature of the analyses, family-wise error was not corrected in favor of having the ability to explore a broad range of relationships among variables, even if the effects may be small. These results are preliminary and should be interpreted with caution.

## CHAPTER III

### Results

#### Preliminary Analysis

There was no missing data with the exception of participants' scores on the Mishra Trust Survey modified (MTS-m; Mishra, 1993). Some participants were expected to have reported their current levels of trust in the offending party of the interpersonal event, as opposed to reporting their levels of trust *at the time* the interpersonal event occurred, as the instructions specified. This difficulty with verifying some participants' adherence to instructions was considered to interfere with establishing the validity of their responses. As such, only participants for whom adherence to instruction was verified were included ( $N = 50$ ).

Outlier analysis using Stem-and-Leaf graph (Hoaglin & Iglewicz, 1987), the Outlier Labelling Rule (Hoaglin & Iglewicz, 1987), and the Mahalanobis distance revealed one univariate outlier ( $z$ -score = 2.59) on the guilt subscale of the State Shame and Guilt Scale (SSGS) and another univariate outlier ( $z$ -score = -4.19) on the self-awareness subscale of the Useful Processes Questionnaire (UP-Q), both within the Facilitating Anger condition. Because the univariate outlier on the UP-Q was also a multivariate outlier, this case was removed from all analyses. This resulted in  $N = 61$  sample size for the Combined MRAs and  $N = 50$  sample size (i.e., no change) for the Trust MRAs. In analyses that used data from the SSGS guilt subscale, the sample size of  $N = 60$ , upon removing the univariate outlier on this subscale, was included. The different sample sizes are indicated in the analyses accordingly. The mean, standard deviation, minimum, and maximum of all outcome variables by assigned condition are shown in Table 2. Bivariate correlation matrix of all outcome variables are included in Table 3.

The mean, standard deviation, minimum, and maximum of all exploratory variables are shown in Table 4.

Table 2

*Means, Standard Deviations, and Ranges for Outcome Variables by Experimental Condition*

Variables	Mean			Standard Deviation			Minimum			Maximum		
	<u>shame</u>	<u>sad</u>	<u>anger</u>	<u>shame</u>	<u>sad</u>	<u>anger</u>	<u>shame</u>	<u>sad</u>	<u>anger</u>	<u>shame</u>	<u>sad</u>	<u>anger</u>
SAM	4.20	5.45	4.90	0.45	0.43	0.43	1	1	1	9	8	8
SSGS	13.60	10.85	10.52	1.18	1.00	1.00	5	5	5	25	23	20
shame												
SSGS guilt	12.70	10.90	10.71	1.177	1.14	1.20	5	5	5	24	25	24
SSGS	13.45	14.10	15.52	1.13	1.17	1.10	6	6	6	23	24	24
pride												
Resolution	34.65	39.50	38.38	2.12	3.011	1.96	17	12	25	49	71	56
UP-Q D.	26.20	26.65	29.57	0.93	0.91	0.79	20	19	24	34	34	35
UP-Q A.	18.00	20.00	20.86	0.44	0.59	0.60	14	15	13	21	24	23

*Note.*  $N$  (shame) = 20.  $N$  (sad) = 20.  $N$  (anger) = 20 on SSGS guilt and UP-Q A.  $N$  (anger) = 21

otherwise. Shame = Attending to Shame condition. Sad = Facilitating sadness condition. Anger =

Facilitating Anger condition. SAM = Self-Assessment Manikin, dominance subscale. SSGS guilt =

the State Shame and Guilt Scale, guilt subscale. SSGS shame = the State Shame and Guilt Scale,

shame subscale. SSGS pride = the State Shame and Guilt Scale, pride subscale. Resolution =

Resolution Scale. UP-Q D. = Useful Processes Questionnaire, sense of direction subscale. UP-Q A. =

Useful Processes Questionnaire, self-awareness subscale.



Table 3

*Bivariate Correlations of Outcome Measures*

	SAM	SSGS shame	SSGS guilt	SSGS pride	Resolution	UP-Q D.	UP-Q A.
SAM	-						
SSGS shame	-.721**	-					
SSGS guilt	-.426**	.669**	-				
SSGS pride	.780**	-.670**	-.478**	-			
Resolution	.524**	-.455**	-.303*	.489**	-		
UP-Q D.	.140	-.193	-.112	.341**	.106	-	
UP-Q A.	.194	-.161	-.043	.340**	.284*	.381**	-

*Note.*  $N = 60$  for SSGS guilt.  $N = 61$  otherwise. SAM = Self-Assessment Manikin, dominance subscale. SSGS guilt = the State Shame and Guilt Scale, guilt subscale. SSGS shame = the State Shame and Guilt Scale, shame subscale. SSGS pride = the State Shame and Guilt Scale, pride subscale. Resolution = Resolution Scale. UP-Q D. = Useful Processes Questionnaire, sense of direction subscale. UP-Q A. = Useful Processes Questionnaire, self-awareness subscale.

\* $p < 0.05$ , \*\* $p < 0.01$ .

Table 4

*Means, Standard Deviations, and Ranges for Exploratory Variables*

Variables	Mean	Standard Deviation	Minimum	Maximum
BDI total	16.30	10.54	0	46
Aggression total	79.48	20.71	38	128
Defense mature	5.55	1.18	3.1	8.3
Defense immature	4.06	1.01	1.5	6.1
Defense neurotic	5.47	1.17	3.0	8.6
Mishra Trust total	72.22	22.45	28	101

*Note.*  $N = 61$ , except for Mishra Trust total, where  $N = 50$ . BDI total = Beck Depression Inventory II total score. Aggression total = Aggression Questionnaire total score. Defense mature = Defense Styles Questionnaire mature subscale. Defense immature = Defense Styles Questionnaire immature subscale. Defense neurotic = Defense Styles Questionnaire neurotic subscale. Mishra Trust total = Mishra Trust Survey total score.

**Main Analysis: Bootstrapped Multiple Regression Analyses**

The total sample size was  $N = 61$  in the Combined MRAs, with the exception of  $N = 60$  in the Combined MRA using the guilt subscale of the State Shame and Guilt Scale as the outcome variable. The sample size was  $N = 50$  in the Trust MRAs. Prior to conducting the bootstrapped multiple regression analyses, experimental condition was computed into a set of two dummy variables with the Attending to Shame sequence as the reference group (Cohen, Cohen, West & Aiken, 2003; Hardy, 1993). In order to compare the predictive strengths between

all pair-wise combinations of the three conditions, Facilitating Sadness sequence was further examined as the reference group (Cohen et al., 2003). Unstandardized regression coefficients (Beta's) were used for interpretation as the analyses included dummy variables (Cohen et al., 2003). The six continuous predictor variables (Beck Depression Inventory-II, immature, mature, and neurotic subscales of the Defense Styles Questionnaire-40, Aggression Questionnaire, and Mishra Trust Survey-modified) were centered to provide a meaningful intercept. The interaction terms were then calculated based on the centered variables and the two dummy coded variables of the experimental conditions (Cohen et al., 2003).

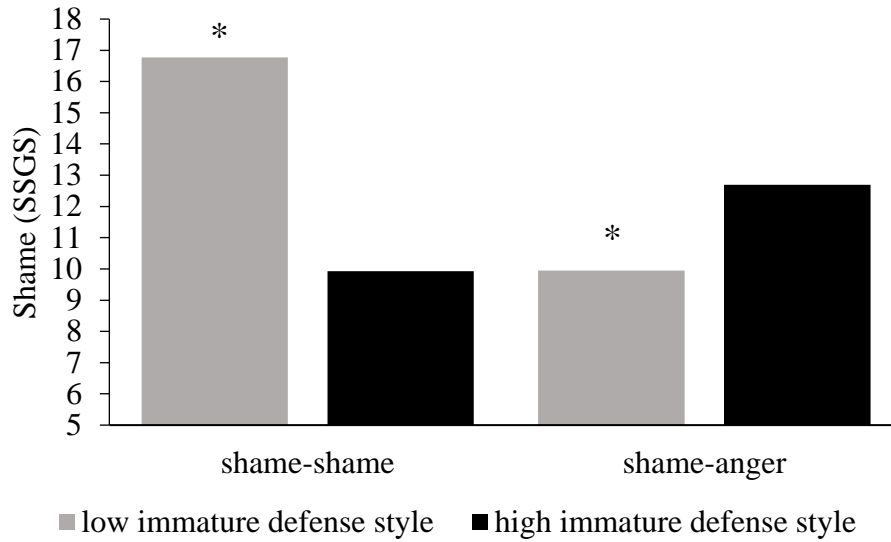
**Assumption testing.** Although analyses using bootstrapping do not require the same set of assumptions (e.g., assumptions of normality) all assumptions for MRA were tested to provide the description of the data patterns.

Shapiro-Wilk's tests ( $p > 0.05$ ; Shapiro & Wilk, 1965), visual inspections of the histograms, normal Q-Q plots, box plots, and the z-scores of skewness and kurtosis (Cramer, 1998) showed that the majority of the outcome scores were approximately normally distributed within each of the three conditions. Within the Facilitating Sadness condition, the shame subscale and the guilt subscale of the SSGS violated the normality assumption, with a skewness of 1.183 (SE = 0.564) and a kurtosis of 1.204 (SE = 1.091) at  $p = 0.022$ , and with a skewness of 1.561 (SE = 0.512) and a kurtosis of 2.287 (SE = 0.992) at  $p = 0.003$ , respectively (Shapiro & Wilk, 1965). Within the Facilitating Anger condition, the guilt subscale of the SSGS and the self-awareness subscale of the UP-Q violated the normality assumption, with a skewness of 0.886 (SE = 0.491) and a kurtosis of 0.139 (SE = 0.953) at  $p = 0.035$ , and with a skewness of -2.216 (SE = 0.491) and a kurtosis of 5.824 (SE = 0.953) at  $p < 0.001$ , respectively. The test for multicollinearity revealed that the predictors were not significantly correlated with one another,

as indicated by the tolerance values above 0.1 (Cohen et al., 2003). Exploring the scatterplot of the residuals vs. the predicted dependent variable scores revealed that: (a) there was a linear relationship between each of the independent variables used in the analyses and the dependent variable across all MRA models, satisfying the assumption of linearity, and (b) the error variance, or the variance of residuals in the dependent variable, was approximately consistent across the range of the predicted values of the dependent variable, satisfying the assumption of homoscedasticity of errors. Durbin-Watson test revealed that the errors associated with one observation were not correlated with the errors of other observations (i.e., all Durbin-Watson values within 1 to 3; Field, 2009). Independence of observation was assumed to the extent that participants were run one at a time in a private room.

**Bootstrapped multiple linear regression analyses.** Separate multiple linear regression models with bootstrapping (1000 replicate as sufficient for bootstrapped confidence intervals; Efron & Tibshirani, 1993; Fox, 2016, chapter 21) were conducted to predict participants' feelings of shame, feelings of guilt, feelings of pride, sense of personal resolution, sense of dominance and control, self-awareness into their own personal difficulties, and sense of direction for resolving distress. Results revealed that participants' assigned experimental conditions and some of the interaction terms between the assigned conditions and the exploratory variables significantly predicted participants' shameful feelings, self-awareness into their own personal difficulties, and sense of direction for resolving distress. Participants' assignment to experimental conditions and the interaction terms between their assigned conditions and the exploratory variables did not predict the other outcome variables (i.e., sense of personal resolution, feelings of guilt, feelings of pride, or a sense of dominance and control).

**Testing predictors for shame.** The Combined MRA model for predicting shameful feelings was significant and accounted for 50.0% of the variance in participants' feelings of shame,  $R^2 = 0.50$ , adjusted  $R^2 = 0.30$ ,  $SE (bootstrapped) = 0.29$ ,  $F(17, 43) = 2.53$ ,  $p = 0.007$ . For every unit increase in Beck Depression Inventory-II scores, participants' scores on the shame subscale of the State Shame and Guilt Scale were predicted to gain a point increase of 0.37,  $B = 0.37$ ,  $SE (bootstrapped) = 0.23$ ,  $p = 0.029$ ,  $CI(bootstrapped) (0.04, 0.77)$ . Participants' immature defense styles influenced the relationship between participants' Facilitating Anger vs. Attending to Shame group status and participants' feelings of shame,  $B = 4.79$ ,  $SE (bootstrap corrected) = 2.83$ ,  $p = 0.035$ ,  $CI(bootstrapped) (0.77, 10.18)$ . Simple slopes for the relationship between Facilitating Anger vs. Attending to Shame group status and participants' feelings of shame were tested for low (-1 SD below the mean) and high (+1 SD above the mean) levels of immature defense styles. As shown in Figure 3, participants tended to experience reduced shame in the Facilitating Anger condition as opposed to the Attending to Shame condition only when they had low use of immature defense styles ( $B = -6.82$ ,  $p = 0.014$ ). The beneficial effect of being assigned to the Facilitating Anger sequence, as opposed to the Attending to Shame sequence, was not observed and albeit nonsignificant, there was a tendency to report more shame in the Facilitating Anger as opposed to Attending to Shame sequence, when participants had high use of immature defense styles ( $B = 2.76$ ,  $p = 0.306$ ). The non-significant Betas are still reported here because whether or not the slope is significant at one value (i.e., +/- 1 SD of the mean) of the moderator is not as important as perceiving the overall changes in the slope (Aguinis, Beaty, Boik, & Pierce, 2005; Aiken & West, 1991). The Trust MRA model and bootstrapped  $B$  coefficients were found to be nonsignificant. No other predictors predicted participants' reported feelings of shame, as shown in Appendix N.



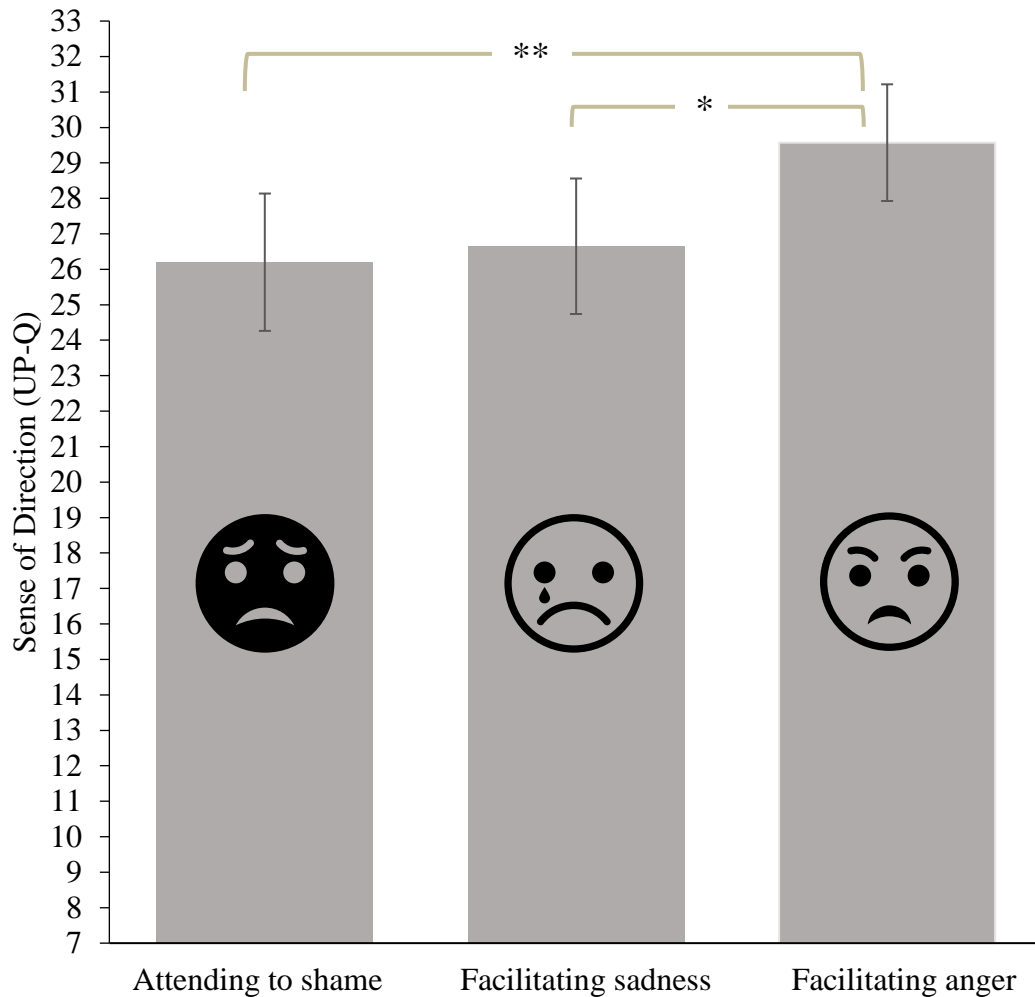
*Figure 3.* Interaction between assigned condition and immature defense styles predicted shameful feelings. Participants’ predicted levels of shame are reduced by being in the Facilitating Anger condition as opposed to the Attending to Shame condition, but only among individuals who have less use of immature defense styles.

*Note.* Low and high immature defense styles = 1 standard deviation below and above the mean, respectively, on the immature factor of the Defense Styles Questionnaire. Minimum possible value on the shame subscale of the State Shame and Guilt Scale (SSGS) = 5. Maximum possible value = 25.

\* $p < 0.05$  simple slope.

**Testing predictors for sense of direction of UP-Q.** The Combined MRA model for predicting participants’ sense of direction for resolving distress was significant and accounted for 46.1% of the variance in participants’ sense of direction subscale scores,  $R^2 = 0.46$ , adjusted  $R^2 = 0.25$ ,  $SE(\text{bootstrapped}) = 0.26$ ,  $F(17, 43) = 2.17$ ,  $p = 0.021$ . Participants who were assigned to the Facilitating Anger condition, as opposed to the Attending to Shame condition, on average

scored 4.50 higher on the sense of direction subscale, while other predictors were held constant,  $B = 4.50$ ,  $SE (bootstrapped) = 1.28$ ,  $p = 0.003$ ,  $CI(bootstrapped) (2.28, 6.31)$ , as shown in Figure 4. Further, participants who were assigned to the Facilitating Anger condition, as opposed to the Facilitating Sadness condition, on average scored 3.78 higher on the sense of direction subscale, while other predictors were held constant,  $B = 3.78$ ,  $SE (bootstrapped) = 1.49$ ,  $p = 0.014$ ,  $CI(bootstrapped) (1.06, 6.43)$ , as shown in Figure 4. In addition, for every unit increase in participants' mature defense styles scores, participants' scores on the sense of direction subscale were predicted to gain a point increase of 1.59 ( $B = 1.589$ ,  $SE (bootstrapped) = 0.95$ ,  $p = 0.028$ ,  $CI(bootstrapped) (-1.22, 4.87)$ ). The Trust MRA model was found to be nonsignificant but examining the Beta coefficients confirmed the results of the Combined MRA models on the significantly higher levels of sense of direction in the Facilitating Anger as opposed to the Attending to Shame condition and in the Facilitating Anger as opposed to the Facilitating Sadness condition. Further, participants' levels of trust influenced the relationship between participants' Facilitating Anger vs. Facilitating Sadness group status and participants' sense of direction ( $b = 0.11$ ,  $SE (bootstrap corrected) = 0.06$ ,  $p = 0.045$ ,  $CI(bootstrapped) (-0.01, 0.22)$ ). Using simple slopes analysis, there did not appear to be a meaningful difference between participants who had high and lower levels of trust on the regression slopes, although participants with high levels of trust (+1 SD above mean) tended to benefit slightly more on reported sense of direction from being assigned to the Facilitating Anger as opposed to Facilitating Sadness group ( $b = 2.90$ ,  $p = 0.025$ ) than their counterparts who had low levels of trust (-1 SD below mean) ( $b = 2.69$ ,  $p = 0.036$ ). No other predictors predicted participants' reported feelings of sense of direction, as shown in Appendix O.



*Figure 4.* Participants' experimental conditions predicted sense of direction for resolving distress. Participants in the Facilitating Anger condition compared to their counterparts in the Facilitating Sadness and Attending to Shame conditions reported more perceived usefulness of the experience and a stronger sense of direction for resolving their distress, as reported on the Useful Processes Questionnaire (UP-Q) sense of direction subscale.

*Note.* Minimum possible value on this subscale = 7, maximum possible value = 35. Confidence intervals are provided for means.

\* $p < 0.05$  differences between the means.

\*\* $p < 0.01$  differences between the means.

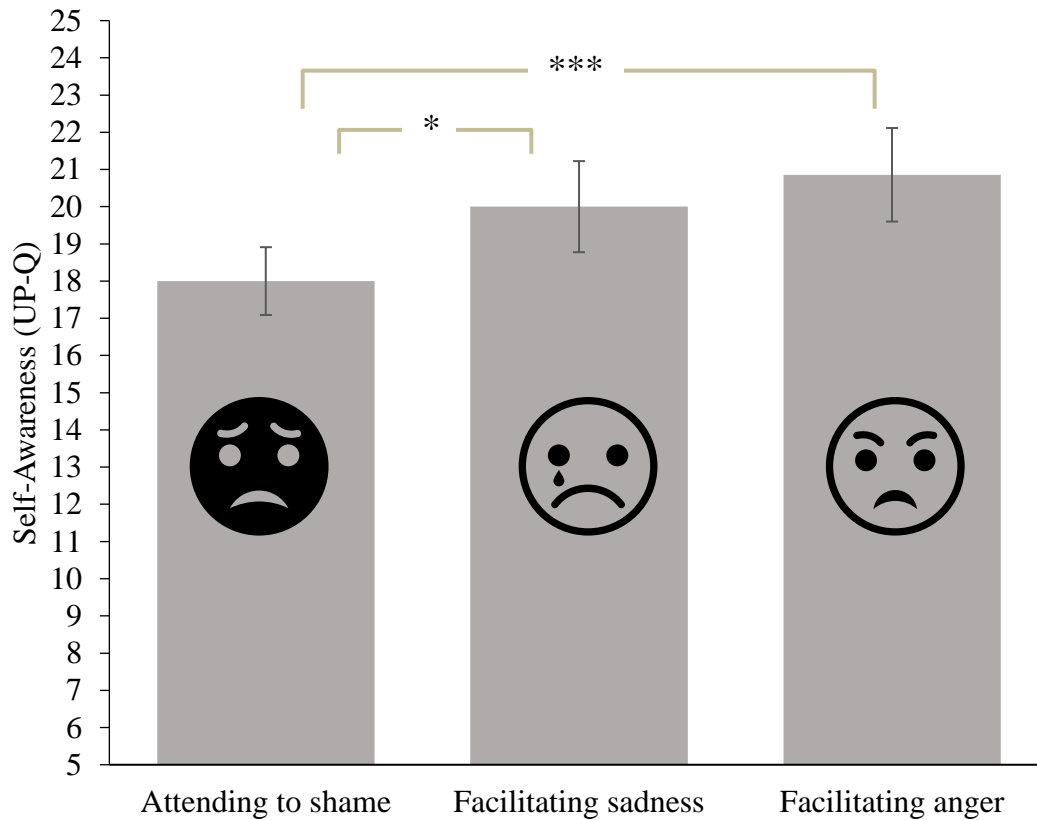


*Testing predictors for self-awareness of UP-Q.* The Combined MRA model for predicting self-awareness into one's own personal struggles was significant and accounted for 45.4% of the variance in participants' self-awareness,  $R^2 = 0.45$ , adjusted  $R^2 = 0.24$ ,  $SE$  (*bootstrapped*) = 0.29,  $F(17, 43) = 2.11$ ,  $p = 0.025$ . Participants who were assigned to the Facilitating Anger condition, as opposed to the Attending to Shame condition, on average scored 2.95 higher on self-awareness, while other predictors were held constant,  $B = 2.95$ ,  $SE$  (*bootstrapped*) = 1.03,  $p = 0.007$ ,  $CI$  (*bootstrapped*) (0.95, 4.51), as shown in Figure 5.

Participants who were assigned to the Facilitating Sadness condition, as opposed to the Attending to Shame condition, on average scored 1.67 higher on self-awareness while other predictors were held constant  $B = 1.67$ ,  $SE$  (*bootstrapped*) = 0.92,  $p = 0.042$ ,  $CI$  (*bootstrapped*) (-0.79, 3.74) (Figure 5). Further, for every unit increase in participants' immature defense styles scores, participants' scores on self-awareness were predicted to gain a point increase of 1.61 ( $B = 1.61$ ,  $SE$  (*bootstrapped*) = 0.89,  $p = 0.009$ ,  $CI$  (*bootstrapped*) (-0.28, 3.27). For every unit increase in participants' scores on the BDI, participants' scores on self-awareness were predicted to experience a point decrease of 0.11 ( $B = -0.11$ ,  $SE$  (*bootstrapped*) = 0.08,  $p = 0.044$ ,  $CI$  (*bootstrapped*) (-0.24, 0.07). Participants' scores of immature defense styles ( $B = -2.73$ ),  $SE$  (*bootstrap corrected*) = 1.48,  $p = 0.035$ ,  $CI$  (*bootstrapped*) (-6.02, 1.75) and participants' scores on the BDI-II ( $B = 0.21$ ,  $SE$  (*bootstrap corrected*) = 0.10,  $p = 0.014$ ,  $CI$  (*bootstrapped*) (-0.03, 0.35) separately influenced the relationships between participants' Facilitating Sadness vs. Attending to Shame group status and participants' scores on self-awareness. Using simple slopes analysis, participants who had low use of immature defense styles (-1 SD below the mean) reported more self-awareness by being assigned to the Facilitating Sadness sequence as opposed to the Attending to Shame sequence ( $B = 4.39$ ,  $p = 0.011$ ) while participants who had high use of

immature defense styles (+1 SD above the mean) reported no benefit and, albeit nonsignificant, a tendency to report less self-awareness by being assigned to the Facilitating Sadness compared to the Attending to Shame condition ( $B = 1.06, p = 0.484$ ). Participants who had high levels of depressive symptoms (+1 SD above mean) reported more self-awareness when assigned to the Facilitating Sadness compared to the Attending to Shame sequence ( $B = 1.87, p = 0.030$ ). Participants who had low levels of depressive symptoms (-1 SD below the mean) reported nonsignificant, small tendency to report more self-awareness when assigned to the Facilitating Sadness as opposed to the Attending to Shame condition ( $B = 1.46, p = 0.087$ ).

The Trust MRA was found to explain 27.4% of variances in participants' experiences of the self-awareness subscale of the Useful Processes Questionnaire,  $R^2 = 0.27$ , adjusted  $R^2 = 0.19$ ,  $SE(\text{bootstrapped}) = 0.26$ ,  $F(5, 44) = 3.32, p = 0.012$ . Examining the Beta coefficients confirmed the results of the Combined MRA models on the significantly higher levels of self-awareness in the Facilitating Anger as opposed to the Attending to Shame condition and in the Facilitating Sadness as opposed to the Attending to Shame condition. No other predictors significantly predicted self-awareness, as shown in Appendix P.



*Figure 5.* Participants' experimental conditions predicted self-awareness into one's own difficulties. Participants in the Facilitating Sadness and Facilitating Anger conditions reported more sense of self-awareness into their own personal struggles, compared to their counterparts in the Attending to Shame condition, as reported on the Useful Processes Questionnaire (UP-Q) self-awareness subscale.

*Note.* Minimum possible value on this subscale = 5. Maximum possible value on this subscale = 25. Confidence intervals are provided for means.

\* $p < 0.05$  differences between the means.

\*\* $p < 0.01$  differences between the means.

**Summary of Main Findings.** An overview of the main findings from the Combined and Trust MRAs are organized vis-à-vis the testing of the three hypotheses in Table 5a and 5b. The results will be discussed in the next section and elaborated for their implications, limitations, and future research directions.

Table 5a  
*Summary of Main Findings*

Hypothesis	Analysis	Results	Interpretation
<b>1. Adaptivity Hypothesis:</b> Facilitating anger or sadness, as compared to further attending to shame, in the activation of unresolved feelings of shame, will better promote emotional recovery in individuals struggling with unresolved feelings of shame.	bootstrapped MRA Appendix P	<b>Hypothesis partially supported:</b> Significant increase in <i>self-awareness</i> after being assigned to the Facilitating Anger condition or to the Facilitating Sadness condition as opposed to the Attending to Shame. No change in other outcomes.	Facilitating anger or facilitating sadness promotes <i>self-awareness</i> into one's own personal struggles more than attending to shame.
<b>2. Incongruency Hypothesis:</b> Facilitating anger will better promote emotional recovery, as compared to sadness, in the activation of unresolved feelings of shame.	bootstrapped MRA Appendix O	<b>Hypothesis partially supported:</b> Significant increase in <i>sense of direction</i> after being assigned to the Facilitating Anger condition as opposed to either the Facilitating Sadness or to the Attending to Shame conditions.	Facilitating anger promotes <i>sense of direction</i> for resolving distress more than facilitating sadness (or attending to shame)

Table 5b  
*Summary of Main Findings*

<p><b>3. Exploratory Hypothesis:</b>          Participants' defense styles, depressive symptoms, trust in the offender, and aggression may be related to emotional experiences and outcome</p>	<p>bootstrapped MRA          Appendix N          Appendix P</p>	<p><b>Hypothesis partially supported:</b>          Significant interaction effect between experimental condition (Facilitating Anger vs. Attending to Shame) and immature defense styles for predicting <i>shameful feelings</i>.</p> <p>Significant interaction effect between experimental condition (Facilitating Sadness vs. Attending to Shame) and immature defense styles for predicting <i>self-awareness</i>.</p> <p>Significant interaction effect between experimental condition (Facilitating Sadness vs. Attending to Shame) and depressive symptoms for predicting <i>self-awareness</i>.</p>	<p>Facilitating anger reduces shameful feelings more than attending to shame, but only in individuals who use less immature defenses.</p> <p>Facilitating sadness increases self-awareness into one's own personal struggles more than attending to shame, but only in individuals who use less immature defenses.</p> <p>Facilitating sadness increases self-awareness more than attending to shame, but only in individuals who have more depressive symptoms.</p>
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## CHAPTER IV

### Discussion

The primary goal of the current study was to explore whether facilitating anger, sadness, or shame in the context of shame activation would be associated with different levels of emotional recovery. Situated within the literature on emotional processing (e.g., Greenberg, 2010), the study aimed to contribute to a growing area of research demonstrating that not only emotions themselves, but also the sequences in which emotions emerge, plays a key role in resolving distress (e.g., Greenberg & Watson, 2006; Lifshitz et al., 2015; Pascual-Leone & Greenberg, 2007; Wong & Pos, 2014). The current study used Pascual-Leone and Greenberg's sequential model of emotional processing (2007) as the theoretical and empirical framework to identify and facilitate three distinct emotional sequences in individuals struggling to resolve their feelings of shame. This study was the first to experimentally compare the effects of emotional sequences in resolving shame.

The study included two main hypotheses. Guided by literature that demonstrates that experiencing different emotions, even negative emotions, leads to emotional recovery (e.g., Keogh et al., 2014; Kramer & Pascual-Leone, 2016), the first hypothesis posited that facilitating anger or sadness, as opposed to shame, in the context of shame activation, would better facilitate emotional recovery (i.e., the adaptivity hypothesis, in reference to certain emotions as being more adaptive than others). Next, inspired by an emerging line of research highlighting the salubrious effect of experiencing an incongruent emotion in the context of emotional distress (Choi et al., 2016; Rochman & Diamond, 2008), the second hypothesis posited that experiencing anger, as opposed to sadness, in the context of shame activation would better facilitate emotional recovery (i.e., incongruency hypothesis, in reference to the congruence, or not, of the second

emotions in a two-step sequence). In sum, three distinct sequences of emotions, Attending to Shame, Facilitating Anger, and Facilitating Sadness sequences, were compared for their effect on subsequent emotional recovery from unresolved shame. These hypotheses were tested by recruiting individuals who had experienced a past interpersonal event in which they were left feeling ashamed by a significant person in their lives to such a point that they continued to experience unresolved feelings from the event at the time of the study. In an exploratory analysis, participants' depressive symptoms, aggression, defense styles, and levels of trust in the offender in the interpersonal injury were examined to offer some preliminary insight into the ways in which these individual differences may influence participants' experiences of the three emotional sequences and their subsequent emotional recovery (exploratory hypothesis).

### **Summary of Findings**

First, findings are presented briefly to address the two main hypotheses. Then, the significance of these findings is further discussed with a focus on the role of anger and sadness in facilitating emotional recovery from shame, also referencing the observed interplay between individual characteristics and the emotion facilitation tasks.

**Facilitating anger or sadness promotes self-awareness, partially confirming the adaptivity hypothesis.** Facilitating anger in the context of shame activation, as opposed to staying with the exploration of shame, was associated with higher levels of self-awareness of one's personal difficulties. Facilitating sadness had an equivalent effect. No difference was found in participants' levels of self-awareness between the Facilitating Anger and Facilitating Sadness conditions. In view of these findings, the adaptivity hypothesis, which posited that facilitating anger or sadness, as opposed to shame, promotes emotional recovery in individuals struggling to resolve their feelings of shame, was partially supported.

Self-awareness of one's own personal struggles is consistently found to be linked to progress in symptom recovery in psychotherapy (for reviews, see Lane & Garfield, 2005; Timulak & Keogh, 2017). Specifically, self-awareness as measured by the Useful Processes Questionnaire is thought to reflect a person's insight into his or her own thoughts, feelings, and behaviours as reactions to the source of emotional distress. This self-awareness also includes a recognition of the range of emotional impact that the stressing event has had on the person. Further, this self-awareness includes a recognition of what the individual wants or needs in relation to the source of distress. In addition to the literature demonstrating the benefits of self-awareness in moving toward resolving distress as cited above, examining Pascual-Leone and Greenberg's sequential model of emotional processing (2007) may provide further insight. For instance, the model posits that consciously acknowledging and reflecting upon one's existential need is a pivotal step in emotional transformation for resolving distress. So, reflecting on one's own thoughts, feelings, and actions, may provide a foundation for an alternative, healthier view of the self and the world. These two steps--the recognition of an unmet need and a positive evaluation of the self--are included in the model as crucial steps, at which individuals may come to change an existing, stagnant, distressing emotion with a newly emerging, alternative, productive emotion (Figure 1; middle to bottom of figure). Altogether, self-awareness and understanding of one's own personal difficulties is considered to be a productive step in emotional recovery. It may thus be argued that increased self-awareness that resulted from facilitating anger or sadness in the current study reflects a progress in the resolution of shame. This finding lends support to the notion that facilitating an emotion, even a negative emotion, that is different from the specific type of presenting distress will aid progress in emotional



recovery and further, promoting self-awareness promises to be one mechanism by which this salubrious effect occurs.

**Facilitating anger uniquely promotes aspects of recovery from shame, partially confirming the incongruency hypothesis.** In the current study, facilitating anger (a) reduced shame although only in individuals who reported less use of immature defense styles, (b) promoted a sense of direction in resolving distress and perceived usefulness of experience, and (c) also promoted self-awareness into one's own personal difficulties. Referencing the first finding, less vs. more use of immature defense styles were defined and analyzed at one standard deviation below and above the mean immature defense styles score on the Defense Styles Questionnaire (BDSQ-40; Andrews et al., 1993). Facilitating sadness shared the same effect as facilitating anger in promoting self-awareness as discussed above but did not promote a sense of direction nor changed the overall shameful feelings. In view of these findings, the incongruency hypothesis, which posited that facilitating anger (as opposed to sadness) promotes better emotional recovery from shame, was partially supported. In the sections that follow, these findings will be further elaborated in the context of anger's role in resolving shame and more generally, the emotional benefits of promoting an incongruent emotion during emotional distress.

**Facilitating anger promotes a sense of direction for resolving distress in individuals struggling with unresolved shame.** When comparing all three emotional sequences, the Facilitating Anger sequence uniquely promoted participants' perceived usefulness of experience and a sense of direction in resolving distress. In psychotherapy, a client's sense of direction and empowerment is found to be an indicator of good in-session experience that is also related to good outcome (e.g., McElvaney & Timulak, 2013). That is, increased sense of direction reflects clients' own perceptions of productive psychotherapy experiences and is also related to the

overall progress in emotional recovery. Having a sense of direction for resolving distress is also a characteristic marker of emotions that occur in the more advanced stages of emotional recovery (bottom half of Figure 1; Pascual-Leone and Greenberg, 2007). Here, individuals are thought to be more aware of their own existential needs and to have a direction for how to meet these needs. Arguably, then, a sense of direction reflects a productive step in emotional recovery.

Furthermore, it may be argued that facilitating anger may promote emotional recovery from shame to a greater extent than facilitating sadness, at least partially by uniquely increasing one's sense of direction in resolving distress. Meanwhile, facilitating anger and facilitating sadness share the common effect of increasing one's sense of self-awareness as discussed earlier. This observation lends support to the notion that experiencing an emotion that is incongruent, as opposed to congruent, to the type of presenting emotional distress promotes better emotional recovery.

It is noted that facilitating anger as opposed to sadness increased a sense of direction more profoundly in individuals who trusted the offending party. However, this interaction effect, albeit statistically significant, did not seem meaningful in practical terms, as evident by the very small differences in the regression slopes between participants who had high vs. low trust (i.e., at 1 standard deviation above and below the mean trust score). In sum, levels of trust may play a role in emotional recovery from shameful events, but this effect may have been undermined in the current study in which the sample presumably presented with at least some levels of trust in the offender, per the recruitment criterion. There is also emerging theoretical and empirical literature demonstrating that trust and distrust are distinct attitudes that exist on two separate continuums (e.g., Guha, et al., 2004; Lewicki, Roy, Mcallister, Daniel, Biles, & Robert, 1998). In light of this, perhaps in the current study, distrust, which measures negative expectations toward

the offending party, may have been a more conceptually relevant variable than trust, which measures positive expectations.

**Facilitating anger helps reduce shame but only in individuals with less use of immature defense styles.** In addition to increasing self-awareness and a sense of direction, facilitating anger was found to uniquely reduce shameful feelings but only in individuals who used less immature defenses. Facilitating anger in individuals who used more immature defenses did not reduce their shameful feelings. A similar interaction effect was observed when comparing self-awareness among individuals who were guided to experience the Facilitating Sadness condition as opposed to the Attending to Shame condition. That is, facilitating sadness increased self-awareness but only in individuals who used less, as opposed to more, immature defenses. Although not the primary focus of the current study, these negative influences of immature defense styles on emotional recovery warrant further thought.

*Immature defense styles tend to curtail productive emotional experiences.* To reiterate from Chapter I, immature defense styles are largely unconscious and automatic mental processes that aid a person in reducing psychological pain by distorting a reality that may otherwise be felt as too painful or overwhelming for the person (Cramer, 2006; Freud, 1966; Vaillant, 1994). The more reality distortion that occurs, the more immature one's defense styles are. Although defense mechanisms are a person's unconscious efforts to mitigate distress, the compromises or distortions of reality that can accompany their use may exacerbate psychological dysfunctions. Indeed, there is ample literature demonstrating that immature defense styles are linked to emotional difficulties such as anxiety and depression (Andrews et al., 1993; Cramer, 2000). Further, some studies have demonstrated that more use of immature defense styles is associated with slower reduction of emotional distress and psychopathological symptoms in psychotherapy

(e.g., Laaksonen, Sirkia, Knekt, & Lindfors, 2014). Finally, a body of research has demonstrated that immature defense styles in both clinical and subclinical samples appear to limit post traumatic growth, or emotional recovery, from a past upsetting event (e.g., Boerner et al., 2017; Nickel & Egle, 2005). Although used with a non-clinical sample, the experimental paradigm in the current study included components that were modeled after interventions used in a psychotherapy session, such as the use of the empty chair in service of emotion activation. Further, the research design was aimed to examine emotional recovery from a past upsetting (shameful) event. In view of these similarities, the current findings on the negative effects of immature defense styles on emotional processing and outcome may be in line and understood in the context of this literature on psychotherapy.

The emotion facilitation tasks in the current study were intrinsically distressing in that participants were instructed to recall a past painful event where they were left feeling ashamed. Engaging with anger, sadness, or shame – all negative emotions –in itself generated some level of psychological discomfort. Arguably, within this context, individuals who had more use of immature defense styles tended to distort reality in a way that made it difficult for them to fully engage with the prescribed emotional sequences, even when those sequences were intended to be productive. For instance, denial, measured as a type of immature defense style, may have made it difficult for a participant using this defense to acknowledge his or her own in-moment emotions (e.g., Andrews et al., 1993; Freud, 1966). Projection, another immature defense style measured in this study, may have prevented participants from taking ownership of their own emotions and instead made them perceive that the significant person was the one experiencing these emotions. These reality distortions of one’s own subjective experiences would have curtailed an individual’s ability to fully engage with the Facilitating Anger sequence, for instance,

subsequently experiencing less emotional benefits (e.g., reduced shame) that were otherwise observed among individuals who used less immature defenses. Similarly, more use of immature defense styles in the Facilitating Sadness condition likely limited gains in the form of increased self-awareness that were otherwise observed.

Regarding the link between immature defense styles and promoting anger, it is also noteworthy that immature defense styles are associated with problematic forms of anger, such as aggression and also explosive anger in Intermittent Explosive Disorder (Khalilzadeh, Tarkhan, & Khoshravesh, 2014; Puhalla, McCloskey, Brickman, Fauber, & Coccaro, 2016). Although no research to date has explored the link between defense styles and engagement with emotions in Pascual-Leone and Greenberg's sequential model of emotional processing (2007), a closer examination of the model may shed further insight. For instance, the model discriminates between *rejecting anger* and *assertive anger* as two forms of anger, with only the latter's being shown to relate directly to emotional recovery in psychotherapy (for a review, see Pascual-Leone, 2018). Further, difficulties with experiencing this salubrious kind of anger, assertive anger, have been observed in a subclinical sample who presented with psychological difficulties such as proneness to anger (Kramer & Pascual-Leone, 2016). Perhaps, although all participants in the Facilitating Anger condition underwent the same experimental protocol, those who had more use of immature defense styles may have more often experienced rejecting anger as opposed to assertive anger at the second step of the Facilitating Anger sequence. This, according to Pascual-Leone and Greenberg's model, would have limited the emotional gains made.

A similar observation can be made when discussing the current finding that facilitating sadness increased self-awareness, as a function of less immature defense styles. Pascual-Leone and Greenberg's sequential model of emotional processing (2007) discriminates among three

types of sadness, namely, global distress, fear/shame, and grief/hurt – only the last of which has been shown to relate to emotional recovery in psychotherapy. Perhaps, individuals who displayed more use of immature defense styles experienced difficulties with accessing grief, the more productive form of sadness, and instead may have ruminated in the two less productive forms of sadness, which are usually more reflective of symptoms than processing per se. Taken together, the moderation of sadness by the use of immature defense styles may suggest that there was probably variation in the *kind* of sadness people experienced during the emotion facilitation tasks.

Taken together, it is argued that more use of immature defense styles in the current study curtailed participants' progress in emotional recovery for at least two possible reasons. First, use of immature defense styles likely compromised participants' ability to perceive and engage with the reality of their subjective experiences, such as becoming aware of and taking ownership of their own emotions. Second, individuals who had more use of immature defense styles may have been more likely to access rejecting anger as opposed to assertive anger, or global distress as opposed to adaptive grief, thereby getting less benefit from the emotional processing exercise as designed.

**Facilitating an incongruent emotion appears to promote useful processes.** In the current study, anger, in its action tendency to mobilize outward, was considered to be incongruent with shame, which embodies an action tendency of closing down and withdrawing inward. In contrast, sadness was considered to be congruent with shame in its shared action tendency to withdraw inward. The current findings on the unique benefits of facilitating anger in the context of shame activation thus support the notion that facilitating an incongruent, as

opposed to congruent, emotion from the presenting type of emotional distress tends to better promote emotional recovery (i.e., upholding the incongruency hypothesis).

*Incongruent emotion promotes emotional recovery.* When considering the question of promoting incongruent vs. congruent emotion, the exact mechanism via which facilitating an incongruent emotion may lead to progress in emotional recovery warrants further thought. Some studies in psychotherapy have found that increasing the range of emotions that an individual is able to readily access may be related to treatment outcome and emotional recovery (for a review, see Pascual-Leone, 2018). In these studies, clients were observed to experience therapeutic progress and outcome not because they reduced the expressions of distressing emotion per se, but because they became increasingly more able to access new, alternative forms of emotions that are adaptive. One cannot feel two incongruent emotions at the same time (Wolpe, 1968). As such, perhaps, an incongruent emotion more readily guides an individual to activate alternative ways of engaging with one's concern, thereby increasing an individual's emotional range and paving a pathway for emotional transformation. Facilitating anger in the context of shameful feelings may therefore release individuals from their unresolved, stagnant states and make room for the emergence of alternative, healthier emotional experiences. This is in line with emotion-focused and some psychodynamic theories on the step-wise emergence of emotions to promote recovery (Davanloo, 1992, 2005; Fosha, 2003, 2009; Greenberg, 2002; Greenberg & Safran, 1989; Pascual-Leone & Greenberg, 2007). The interpretation that the incongruence, or congruence, of emotional sequences as critical in resolving distress helps reconcile the seemingly contradictory findings from the two relevant studies which independently demonstrated that promoting anger in the context of problem sadness (Choi et al., 2016) and promoting sadness in

the context of problem anger (Rochman & Diamond, 2008) were each associated with emotional recovery.

**Is promoting *any* kind of anger productive in resolving *all* kinds of shame?** In discussing the role of anger in resolving shame, it is important to underscore that there are different kinds of shame. The current findings apply only to the maladaptive shame, in the context of interpersonal difficulties. Based on Pascual-Leone and Greenberg's model (2007), maladaptive form of shame is chronic and ruminative in nature and characteristically embeds a negative self-evaluation and a lack of awareness of one's existential need. This was precisely the form of shame the current study sought to explore. Further, this study recruited individuals who were left feeling ashamed by a significant person in their lives. This contrasts with shameful feelings that might, for example, arise from one's own transgression of ethical standards. That is, a person who steals and feels ashamed for committing this offence (i.e., shame from self's ethical transgression), may arguably recover from his or her shameful feelings in quite a different manner from the emotional processes observed in the current study. Indeed, this type of ethical shame, or adaptive shame, is distinguished from maladaptive shame in that it characteristically embeds an awareness for one's own existential need and a tendency for flexibly organizing the individual to meet his or her unmet need, thereby resolving distress. Promoting anger in the context of adaptive shame may not facilitate emotional recovery, as that was not the target concern of the current study.

Another important qualification regarding the role of anger in alleviating shame, is that the current study focused on facilitating healthy or adaptive form of anger (i.e., assertive anger; bottom of Figure 1). In the meantime, depending on the *type* of anger, anger can also have an unhealthy relationship with shame.



Since the seminal case study by Lewis (1971), a tradition of research has consistently demonstrated that shame has the potency to beget unhealthy anger in what is termed a “shame-  
rage spiral” (Retzinger, 1987; Scheff, 1987, 1995). When individuals caught in the “shame-  
rage spiral” experience a stressor, such as a criticism from a romantic partner, feelings of shame and  
their core negative self-evaluations become activated, and they react to this psychological pain  
by directing anger and externalizing the blame onto the other person in an attempt to alleviate the  
emotional pain (for a review, see Tangney, Stuewig, & Mashek, 2007). Empirical literature has  
consistently demonstrated that proneness to shame is linked to this type of reactive anger and  
inevitably has a range of negative intrapersonal and interpersonal consequences, such as  
contributing to the perpetrating mechanism for domestic violence (e.g., Dutton, Van Ginkel,  
Starzomski, 1995; Scheff & Retzinger, 2001). In view of this, one can speculate that rejecting  
anger as defined in Pascual-Leone and Greenberg’s model may parallel the kind of anger  
observed in the ‘shame-  
rage spiral.’ Indeed, theorists have posited that the reactive anger  
observed in the ‘shame-  
rage spiral’ tends to be externalizing and lacks the self-reflection on  
one’s unmet need (Scheff, 1987; Tangley, et al., 2007). Further, the bi-directional link between  
shame and rejecting anger is also observed in studies that used Pascual-Leone and Greenberg’s  
model to explore the process of resolving distress, including problem anger (Pascual-Leone,  
2018; Pascual-Leone, Gilles, Singh, Andreescu, 2013). In consideration of this distinction  
between assertive anger and rejecting anger, then, it is argued that specifically facilitating  
*assertive anger* in individuals with unresolved feelings of shame promotes emotional recovery.  
This is in line with existing literature demonstrating that assertive anger, as opposed to rejecting  
anger, is associated with positive psychotherapy outcome (for a review, see Pascual-Leone,  
2018; Kramer et al., 2015).

**Depression and maturity of defense styles predict progress in emotional recovery.**

Although not the primary focus of the current study, individual differences in depression and maturity of defense styles were also associated with emotional outcomes. First, as one might expect, depressive symptoms predicted higher feelings of shame and lower levels of self-awareness and understanding of one's personal struggles, although the effect on self-awareness was small. These findings are consistent with the existing literature indicating that depressive symptoms are often associated with emotional difficulties, including feelings of shame, in both clinical (for a review, see Tangney & Fischer, 1995) and subclinical populations (Andrews, Qian, & Valentine, 2002; Tangney, Burggraf, & Wagner, 1995). However, albeit a small effect, facilitating sadness *increased* self-awareness, as compared to attending to shame, more profoundly among individuals who had moderate, as opposed to minimal, levels of depressive symptoms (Beck et al., 1996; analyzed at one standard deviation below and above the mean score on the Beck Depression Inventory II). Initially, this seems counterintuitive. Perhaps, depressive realism hypothesis (Alloy & Abramson, 1988) may shed partial insight. The hypothesis posits that individuals with depression are indeed more accurate in their self-reflections, or awareness, of themselves compared to their counterparts without depression, partly due to the lower levels of positive and self-enhancing illusions they experience about themselves compared to their non-depressed counterparts. Although the empirical findings are mixed for this theory (e.g., Moore & Fresco, 2012), it might be related to what led individuals specifically with depressive symptoms to more readily make gains in self-awareness when guided through the Facilitating Sadness sequence.

Second, more use of immature defense styles was associated with *increased* self-awareness and insight into one's personal struggles, while, as argued earlier, more use of

immature defense styles curtailed participants' gains in self-awareness when being assigned to the Facilitating Sadness as opposed to the Attending to Shame sequence. The first finding seems counterintuitive, in light of past literature demonstrating the negative effects of immature defense styles on psychological wellbeing and recovery (Andrews et al., 1993; Boerner et al., 2017; Cramer, 2000; Laaksonen et al., 2014; Nickel & Egle, 2005). Perhaps, biases in self-evaluation, such as unrealistic fantasy, that accompany the use of immature defense styles may interact with one's insight into their own feelings of shame, and this may represent further research opportunity.

Third, mature defense styles were associated with increased reporting of perceived usefulness of experience and sense of direction in resolving emotional distress, albeit with a small effect. This seems to be in line with the literature demonstrating that mature defense styles are associated with realistic optimism, psychological wellbeing, and post-traumatic emotional recovery (e.g., Boerner et al., 2017; Perry & Høglend, 1998). Participants who have more use of mature defense styles may have had the advantage of being able to readily access an optimistic framework of working through their personal difficulties and thereby reported more sense of direction in the current study.

**Null findings.** Despite the significant findings noted above, the current study also yielded a number of null findings. There were no differences in participants' reported sense of personal resolution, dominance and control, pride, and guilt across the Attending to Shame, Facilitating Anger, and Facilitating Sadness conditions. Although it is difficult to interpret null findings, it is possible that one single session of emotional facilitation was simply not powerful enough to have an impact on these emotional outcomes. A sense of personal resolution with respect to a past interpersonal trauma, for instance, is often assessed as a psychotherapy outcome variable after

clients have participated in multiple sessions of treatment (Greenberg & Malcolm, 2002; Paivio et al., 2010). Emotional recovery as measured by a sense of personal resolution might not have occurred within the single session of psychotherapy-like experience in the current study. Indeed, inclusion of the Useful Processes Questionnaire (UP-Q) in the current study was based on this rationale. The UP-Q specifically is designed to assess useful or productive processes or *progress* that occur during a session or a task, even if psychological symptoms themselves are not impacted. Putting the current findings in perspective, then, increased self-awareness and sense of direction may be better conceptualized to reflect a ‘good progress’ toward personal resolution, as opposed to already being at the stage of distress resolution per se. Individuals may differ in these developmental stages of progress toward full recovery, and these were arguably captured in the comparison of the three emotional sequences in the current study.

### **Limitations and Future Research Directions**

The current study had some limitations that contextualize the findings and offer future research directions. First, the current study relied on a limited sample size ( $N = 62$ ) with approximately equal distribution across the three conditions. It is therefore crucial that findings be replicated in future studies, ideally with an experimental design that allows for manipulation and direct comparisons of emotional sequences across independent samples.

Second, the recruitment criteria used in the current study did not specify the type of interpersonal injury participants had suffered. This allowed for a broad range of interpersonal experiences to be studied. However, this also increased heterogeneity and may have decreased the interpretability of data. A participant struggling to resolve their feelings from an argument with a friend, as opposed to another participant struggling to resolve feelings from a sexual assault, may not have each responded in the same way to the experimental protocol. Indeed, the

study sample consisted of some participants whose psychological functioning and/or report of the interpersonal injury could have made them appropriate candidates for counselling. For instance, a third (34%) of the participants reported moderate to severe depressive symptoms on the Beck Depression Inventory II (Beck et al., 1996). Moreover, over 15% of participants identified sexual assault or sexual abuse, including incest, as their identified interpersonal injury, and about 15% participants (non-exclusively) reported some form of domestic abuse or familial abuse, including emotional and physical abuse. On the one hand, these sample characteristics offer some level of confidence when considering the generalizability of the current findings to populations in counselling or psychotherapy or at least to the serious nature of concerns being worked with. On the other hand, the range in the sample characteristics observed in the current study inevitably introduces potential confounding variables, which may interfere with the validity of the conclusions drawn. In light of this, to more confidently establish the link between the experimental manipulation and outcome, future studies will benefit from using a more defined criterion for recruitment.

Relatedly, an alternative future direction is to study the target interpersonal event as an individual-difference variable, instead of controlling for it. Indeed, other individual differences in psychosocial factors were found to be related to how individuals engaged with emotions and developed emotionally in the current study. For instance, participants' defense styles yielded both simple and interaction effects with the assigned emotional sequences and emotional recovery. In the interest of furthering the research inquiry into the sequential processing of emotions, it would be beneficial to elucidate processes by which these individual differences influence emotional processing involved in resolving distress.

Fourth, the study did not use a manipulation check to ensure that the target emotions were indeed activated by the two rounds of the emotion facilitation tasks. Although the Emotional Engagement Scale (EES) was administered at the end of each of the two emotion facilitation rounds, in an effort to ascertain the activation of the target emotions, there was no baseline measure of participants' in-moment feelings of shame, sadness, and anger. As such, participants' report on the EES only reflected whether they felt ashamed, sad, and angry at the end of each of the two-step emotional sequence, as opposed to assessing whether the target emotions *increased* by engaging with the emotional sequences. Furthermore, some concerns emerged with the validity of the EES, largely owing to its format and semantics. Use of the one-item verbal report during data collection was observed to leave room for much idiosyncratic interpretations by the responders. In view of these limitations, it is recommended that future studies use a videotape or an audiotape such that the recorded data may be later examined to identify whether target emotions are indeed facilitated as intended. In the current study, Pascual-Leone and Greenberg's sequential model of emotional processing (2007) was used to define and operationalize target emotions. This model has a corresponding observational measure, the Classification of Affective-Meaning States (CAMS; 2007), which has been used successfully to identify the emotions depicted in the model in both clinical and subclinical populations (Pascual-Leone, 2018). In the current study, videotape was not used because it seemed to pose potential obstacles to maximizing recruitment from the available undergraduate population. Further concerns around possibly eliciting performance anxiety by use of videotaping were noted, especially because the experimental protocol relied on the participants to be open and willing to explore personally vulnerable material with the researcher within a single session. Despite these concerns, in light of the successful use of videotape in a single-session psychotherapy analogue studies with

undergraduate samples in the past (e.g., Kramer & Pascual-Leone, 2015), it is recommended that some form of recording may be used in the future in service of a manipulation check.

Fifth, the Useful Processes Questionnaire (UP-Q) in the current study was a newly developed measure that warrants further research focus. Although many of the items were compiled from established measures of psychotherapy in-session processes, replication studies and studies that explore the link between individuals' performance on the UP-Q and psychotherapy outcome or emotional recovery would provide further insight into the psychometric properties of the measure. Findings from the current study may offer a preliminary foundation upon which to argue the utility of this measure in assessing the productivity or usefulness of emotional processes that occur in a single psychological exercise, task, or a single psychotherapy or counselling session.

Sixth, although the emotion facilitation tasks in the current study were highly standardized and manualized, there was a single researcher who conducted the sessions. This limits the generalizability of the current findings and the clinical implications that can be argued. Indeed, there is ample literature demonstrating the effect of therapist's individual characteristics on psychotherapy outcome (Goldberg, Hoyt, Nissen-Lie, Nielsen, & Wampold, 2018; Johnson & Caldwell, 2011; Jones & Zoppel, 1982; Wampold & Imel, 2015). To the extent that the current experimental protocol mimicked some aspects of psychotherapy (e.g., use of empty chair; use of guided dialogue to explore vulnerable emotions), the literature suggests that the individual characteristics of the single researcher likely compounded the emotional outcome in the participants in the current study. A female participant, for instance, who presents with unresolved feelings of shame from a sexual assault may be more comfortable and open to explore her emotions with a therapist/researcher who is female, as opposed to male. In sum, future research

should use a standardized experimental protocol for facilitating emotional sequences across multiple researchers with a range of characteristics to augment the generalizability of the current findings with respect to the impact of interventions.

Seventh, the current study used an experimental design to directly compare the effects of facilitating incongruent (anger) and congruent (sadness) emotions on emotional recovery from shame. One viable research direction is to recruit individuals who are struggling with two different types of emotional distress and then compare the effects of facilitating either a congruent or incongruent emotional experience in these individuals. For instance, individuals who are struggling to resolve either anger or sadness, may be recruited to represent two different naturally-occurring groups. Then, these individuals could be guided to undergo a two-step emotional sequence that includes exploring emotions that are either congruent or incongruent with their presenting emotional concern. Using this type of experimental design would further elucidate the differential benefits of processing incongruent vs. congruent emotion.

### **Implications**

This study was the first to experimentally manipulate various sequences of emotion to study the process of resolving shame. In discussing clinical implications, one key aspect of the experimental protocol was that it contained components, such as the empty chair enactment, that essentially mimicked interventions used in psychotherapy or counselling. Although the sample was composed of undergraduate students, approximately one third reported moderate to severe symptoms of depression and, to the extent of the recruitment criteria, reported unresolved, long-standing emotional difficulties that continued to generate distress for at least one year. Therefore, it is argued that the findings from the current study may have some implications for clinical or counselling theory and practice, and for healthy emotional processing in particular.



The finding that facilitating anger or sadness in the context of unresolved shameful experiences promotes self-awareness points to the potential benefit of facilitating an emotion that is different from the type of emotional distress presented. In psychotherapy or counselling, these observations might translate somewhat to the distinction between Rogerian person-centered psychotherapy and more process-directive psychotherapy. First established by Rogers (1942), person-centered psychotherapy has as its primary focus a non-directive therapist stance. Instead of directing the client to attend to specific emotional experiences, the therapist focuses on providing a supportive, safe environment in which the client naturally explores and re-connects with his or her intrinsic inner strength and ability for growth. In the current study, the experimental protocol in the Attending to Shame sequence had an intrinsically built-in stance to offer a supportive, validating interpersonal environment. That is, individuals shared with this researcher their vulnerable feelings of shame in an interpersonally accepting environment, without a direction for facilitating another emotion. The Attending to Shame condition in the current study, therefore, may be argued to somewhat parallel processes in the person-centered psychotherapy. Moreover, it may be argued that all three emotional sequences in the current study shared this underlying process. This could have promoted psychological wellbeing in all three conditions – at least to the extent that providing a supportive environment in which to share one’s personal vulnerabilities is linked to emotional recovery. However, the other two emotional sequences, Facilitating Anger and Facilitating Sadness sequences, had an added component of deliberately facilitating a different emotional experience from what the participant was naturally expressing (unresolved shame). These two emotional sequences, therefore, may resemble more process-directive psychotherapy approaches.

Since its inception, person-centered therapy has received empirical support and has contributed substantially to the development of alternative psychotherapy schools, including emotion-focused psychotherapy. Some of these schools have diverted from the pure person-centered approach to being more directive in guiding client process. Emotion-focused therapy (Greenberg, 2002) specifically focuses on the moment-by-moment emergence of emotions and using these emotions as “process markers” to direct the therapeutic experiences. That is, in addition to providing a supportive therapeutic environment, the therapist may direct the client to attend to specific types of emotion in service of promoting adaptive emotional experiences. In the current study, Pascual-Leone and Greenberg’s sequential model of emotional processing (2007) was used to identify and facilitate distinct emotions of anger and sadness at the second steps of the emotional sequences in the Facilitating Anger and Facilitating Sadness conditions, respectively. Therefore, the Facilitating Anger and Facilitating Sadness sequences arguably shared some of the supportive and process-directive components observed in emotion-focused therapy. It follows that the unique benefits of increased self-awareness observed in these two sequences, as opposed to the Attending to Shame sequence, may translate to the added benefit of guiding clients to experience anger or sadness among clients struggling to resolve their shame. More broadly, promoting a different emotion than the type of presenting emotional distress may more readily promote a sense of awareness and aid in emotional recovery or positive psychotherapy outcome.

Further, the Facilitating Anger sequence was uniquely predictive of increased sense of direction in resolving distress and perceived usefulness of experience. Facilitating anger also led to shame reduction among individuals who used less immature defense styles. These findings point to the possibility that when practicing a more process directive approach, facilitating anger

as opposed to sadness in individuals struggling to resolve shame may have added benefits for emotional recovery. More broadly, facilitating an emotion that is incongruent, as opposed to congruent, to the type of emotional distress seems to more readily promote a sense of direction in service of emotional recovery or psychotherapy outcome.

In the final step of the experimental protocol within Attending to Shame, participants were instructed to independently select and complete either the anger or sadness sentence stems, with the aim to provide emotionally productive experiences prior to the end of the session. Interestingly, given the forced choice, more participants opted to complete the sadness sentence stems ( $n = 13$ ) over the anger sentence stems ( $n = 7$ ). Although those differences were statistically non-significant in the current study, the observation may offer an interesting direction for future research. Individuals struggling to resolve feelings of shame might have a natural tendency to engage more with sadness than anger. One possible reason for this, if this effect indeed exists, is that individuals may more readily engage with emotions that are congruent, as opposed to incongruent, in their action tendencies. Individuals struggling to resolve feelings of shame, therefore, may find it more natural or easier to access sadness, a congruent emotion, as opposed to anger, an incongruent emotion. It is also possible that individuals in the current study were more inclined to engage with sadness as opposed to anger for reasons related to social desirability (Edwards, 1967). Generally, it is considered culturally and socially more appropriate to express sadness than anger, and this bias may have prompted participants to more readily select the expression of sadness, as opposed to anger. In addition to representing a possible area for further research, these considerations may also offer important implications for psychotherapy practice. Shortly put, therapists may have to ‘work harder’ or be more directive in facilitating anger, than sadness, when working with individuals struggling to resolve feelings of

shame. This observation seems meaningful especially because promoting anger, as opposed to sadness, seems to better facilitate emotional recovery.

Finally, the current findings contribute to the body of research demonstrating the validity of Pascual-Leone and Greenberg's emotional processing model in predicting psychological outcome based on its component emotions (Figure 1; bottom of figure). In addition, although preliminary findings, observing significant contributions of individual characteristics, especially defense styles, on individuals' emotional processing and outcome in the current study may contribute further support to the empirical literature on the role of client characteristics in psychotherapy and counselling (Lambert, Barley, & Dean, 2001; Stiles, Honos-Webb, Surko, 1998). The findings also offer preliminary insight into the ways in which defense styles may influence an individual's engagement with the productive emotions as identified in Pascual-Leone and Greenberg's model (2007). More broadly, the observation that defense styles not only predict outcome but moderate the effects of facilitating certain emotions may offer important implications for considering this aspect of client characteristics when working with individuals struggling with shame.

## **Conclusion**

In summary of key findings, the current study demonstrated that facilitating sadness or anger, as opposed to continually attending to shame, promoted self-awareness of one's own personal difficulties in individuals struggling to resolve shame from an interpersonal injury. Further, facilitating anger in this context was found to uniquely promote the perceived usefulness of the intervention experience and participants' sense of direction in resolving distress. Finally, facilitating anger was observed to uniquely help reduce shame but only in individuals who had less use of immature defense styles. These findings lend further support to the body of literature

demonstrating that (a) facilitating an emotion, even a negative emotion, that is different from the presenting type of emotional distress is a useful process in emotional recovery (e.g., Davanloo, 1992, 2005; Fosha, 2003, 2009; Greenberg, 2002; Greenberg & Safran, 1989; Pascual-Leone & Greenberg, 2007). The findings also demonstrate that (b) the benefit is more pronounced when facilitating an emotion that is *incongruent*, on the basis of action tendencies, with the type of presenting emotional distress as observed in other studies (Choi et al., 2016; Rochman & Diamond, 2008). Finally, although preliminary, exploratory findings also imply that (c) individual differences in defense styles are key considerations when understanding and promoting the optimal emotional processing toward recovery, such that the more mature one's defense styles, the more likely one may benefit from the exploration of meaning-laden emotion (Andrews et al., 1993; Boerner et al., 2017; Cramer, 2000; Nickel & Egle, 2005).

In both clinical and empirical literature of psychotherapy and counselling, one key consideration is the question of *how* people come to feel better. The current study used experimental manipulation to directly facilitate and compare emotional sequences, with the ultimate aim of contributing toward that line of inquiry. Continued efforts into studying the sequential processing of emotion as it relates to emotional outcome seems to hold promise. Even though many emotions that emerge during recovery may feel painful, not all painful emotional experiences would be equally productive. It would therefore be useful to identify which of these painful emotional experiences promote healing and in what presenting context of experience. This key knowledge could then be used to effectively aid a person in resolving his or her distress and make progress in emotional growth.

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## Appendices

### Appendix A

#### Demographics Questionnaire

Please select or provide the responses that best describe you.

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Culture/Ethnicity \_\_\_\_\_

You could also place a check-mark next to your self-identified racial/ethnic background:

- White/Caucasian
- Black/African Canadian
- Arab/Middle Eastern
- Hispanic/Latino
- Aboriginal/Native Canadian
- South Asian (e.g., Indian, Pakistani)
- East Asian (e.g., Chinese, Japanese)
- Other (please specify): \_\_\_\_\_

Marital Status (select one):

- Single
- Never married
- Common-law
- Married
- Separated
- Divorced
- Widowed

Employment status (select one):

- Employed full-time
- Employed part-time
- Unemployed

Year in school

- 1
- 2
- 3
- 4
- Other

## Appendix B

### Interpersonal Event Questionnaire

1. When did you experience the upsetting interpersonal event?

2. How upsetting was this event?

1-----2-----3-----4-----5-----6-----7  
Not at all Extremely

3. On average, how many times per week do you think about this issue?

0      1      2      3-4 times      5-6 times      daily or more

4. Have you spoken to anyone about this issue?

Yes                      No

5. On average, how many times per week do you speak to someone else about the issue?

0      1      2      3-4 times      5-6 times      daily or more

6. Have you ever received any type of therapy or counselling to help you deal with this issue?

No                      Yes

If yes, long ago from now? (if currently in progress write "0")

Months\_\_\_\_\_ Year\_\_\_\_\_

7. Have you ever been prescribed psychiatric medication, antidepressants, or others, to help deal with this issue?

No                      Yes

If yes, long ago from now? (if currently in progress write "0")

Months\_\_\_\_\_ Year\_\_\_\_\_

8. Have you received any type of therapy or counselling for other emotional difficulties?

Yes                      No

## **Appendix C**

### **Subjective Units of Distress Scale**

**(SUDS; Wolpe, 1969; verbal self-report)**

How distressed are you, on a scale of 1 to 10, where 1 is not distressed at all and 10 is the most distressed you've ever been?

## Appendix D

### Emotional Engagement Scale

(e.g., Narkiss-Guez, Zichor, Guez & Diamond, 2015; Rochman & Diamond, 2008)

On a scale of 1 to 10, with 1 being the least and 10 being the most, how intensely do you feel angry at this moment? \_\_\_\_\_

On a scale of 1 to 10, with 1 being the least and 10 being the most, how intensely do you feel sad at this moment? \_\_\_\_\_

On a scale of 1 to 10, with 1 being the least and 10 being the most, how intensely do you feel ashamed at this moment? \_\_\_\_\_

## Appendix E

### Useful Processes Questionnaire

(UP-Q; Pascual-Leone & Sawashima, 2018; unpublished measure, University of Windsor)

*Instructions:* Rate how true the following items are for you or your perspective right now, particularly as a result of the session/ exercise/ process you just participated in.....

#### Sense of Direction

1. Do you feel this (session, exercise, etc.) was productive?

1                      2                      3                      4                      5

Not at all

Very Much

2. Even if you did not resolve the issue today, do you think doing more of what we did would be helpful?

1                      2                      3                      4                      5

Not at all

Very Much

3. If someone like you was in counselling for this issue, do you think doing this kind of exercise would be useful?

1                      2                      3                      4                      5

Not at all

Very Much

4. In this session something shifted for me. I saw something differently or experienced something freshly.

1                      2                      3                      4                      5

Not at all

Very Much

5. The exercise or work I have been doing gives me new ways of looking at my problem.

1                      2                      3                      4                      5

Not at all

Very Much

6. I feel that I understand my problems better.

1                      2                      3                      4                      5

Not at all

Very Much

7. I have a sense that working this way or with this intervention is a promising direction for me.

1                      2                      3                      4                      5

Not at all

Very Much

### **Self-Awareness**

8. Today I was very involved emotionally.

1                      2                      3                      4                      5

Not at all

Very Much

9. I am more aware of what I want now.

1                      2                      3                      4                      5

Not at all

Very Much

10. Today it became clearer to me why I react in a certain way and not differently towards certain people.

1                      2                      3                      4                      5

Not at all

Very Much

11. I have come to understand myself, my feelings, or my actions better.

1                      2                      3                      4                      5

Not at all

Very Much

12. I have become more aware of things about other people or my situation; or of another person's responsibility for things that have happened.

1                      2                      3                      4                      5

Not at all

Very Much



## Appendix F

*Factor loadings based on an exploratory factor analysis with promax rotation for the 17 items from the Useful Processes Questionnaire exploratory version (N = 62)*

<u>Items</u>	<u>Sense of Direction</u>	<u>Self- Awareness</u>	<u>Communalities</u>
5. The exercise or work I have been doing gives me new ways of looking at my problem	0.802		0.611
1. Do you feel this (session, exercise, etc.) was productive?	0.744		0.584
7. I have a sense that working this way or with this intervention is a promising direction for me.	0.734		0.478
6. I feel that I understand my problems better.	0.669		0.483
4. In this session something shifted for me. I saw something differently or experienced something freshly.	0.528		0.501
3. If someone like you was in counselling for this issue, do you think doing this kind of exercise would be useful?	0.489		0.202
2. Even if you did not resolve the issue today, do you think doing more of what we did would be helpful?	0.474		0.189

10. I have realized or clarified more of what I need to work on, or what my problems or goals are.		0.146
15. The themes discussed touched me and are relevant to me.		0.092
16. What I said and felt was generally representative of the thoughts, feelings, and reactions I have in everyday life when it comes to this issue.		0.025
8. I am more aware of what I want now.	0.786	0.544
14. Today I was very involved emotionally.	0.672	0.365
12. Today it became clearer to me why I react in a certain way and not differently towards certain people.	0.655	0.338
13. I have become more aware of things about other people or my situation; or of another person's responsibility for things that have happened.	0.453	0.302
11. I have come to understand myself, my feelings, or my actions better.	0.439	0.292
9. I am now a bit clearer as to how I might be able to change.		0.244

17. I now feel less negative, depressed, guilty, 0.230  
anxious or hurt; emotionally, I feel more  
positive, relieved, unburdened, safe, relaxed,  
generally confident or encouraged.

---

*Note.* Factor loadings < .35 are suppressed.

With the aim to explore the newly developed Useful Processes Questionnaire (UP-Q), an exploratory factor analysis was performed on the total sample of  $N = 62$ . Univariate outlier was screened and there was none. The Kaiser-Meyer-Okin measure of sample adequacy (KMO) suggested that this sample was adequate at  $KMO = 0.705$  (Field, 2009). Despite this, the commonly held heuristic is that the sample size should be at least ten to fifteen participants per item, which for the exploratory 17-item UP-Q translates to at least one hundred seventy participants. As such, the results of the factor analysis should be interpreted with caution. The assumption of factorability of correlations was verified in that all seventeen items were correlated at the determinant of 0.001 (Field, 2005). Further, absence of multicollinearity and singularity was verified using the same correlation matrix at Bartlett's Test of Sphericity,  $\chi^2 = (136) = 355.438$ ,  $p < 0.001$ . Although there is no strictly endorsed assumption of normality, normality of data was assessed following the recommendations by Pituch and Stevens (2016). Shapiro-Wilk tests of normality for each item were significant at  $p < 0.001$  although a visual inspection of the Q-Q plot approximates a normal distribution. Taken together, the results of the factor analysis should be interpreted with caution.

An exploratory factor analysis (EFA) was conducted on the entire sample of  $N = 62$  to examine the underlying organizational structure of the UP-Q. To determine the number of factors for extraction, the following methods were used: scree plot visual speculation (Cattell, 1978;

Costello & Osborne, 2005), Velicer's Minimum Average Partial Test (MAP Test; 1976), and Horn's Parallel Analysis (1965). Speculation of the scree plot suggested the extraction of one or two factors. The MAP Test suggested a one-factor, while the parallel Analysis suggested a two-factor model. A closer examination of the pattern matrix further indicated a set of poor items on the basis of cross-loadings and a very small loading coefficient of less than 0.35 (Tabachnick and Fidell, 2001). In line with common practice (e.g, Costello &. Osborne, 2005), these problematic items were dropped one at a time and the factor analysis was re-run, resulting in the retention of 12 items for the measure. The scree plot suggested extracting two factors, while the MAP Test suggested a two-factor, and similarly the Parallel Analysis suggested a two-factor. In light of these results, the iterative principal axis method was run with a pre-determined number of factors at 2 (Pituch & Stevens, 2016). Promax rotation, an oblique rotation which is typically used when factors are suspect to correlate as in this case (Field, 2009; Tabachnik & Fidell, 2001; Rietveld & Van Hout, 1993), was used with the aim to improve interpretability. The two-factor model of the 12-item final UP-Q is presented in the table above along with the factor loadings and communalities. The factor structure consists of two factors, in the order of variance explained: Sense of Direction, which explained 26.13 % of the total variance, and Self-awareness, which explained an additional 6.97 % of the total variance.

**Reliability of the UP-Q.** Cronbach's alpha was calculated for the entire UP-Q and for the two subscales derived from the two-factors extracted: Total at  $\alpha = .84$ ; Sense of Direction at  $\alpha = .83$ ; and Self-awareness at  $\alpha = .72$ . The UP-Q appears to have satisfactory internal consistency as suggested by Nunnally and Bernstein (1994) that .70 may be an acceptable minimum for a scale that is newly developed.

## Appendix G

### Useful Processes Questionnaire Exploratory (2016) Version

(UP-Q; Pascual-Leone & Sawashima, 2016; unpublished measure, University of Windsor)

*Items that are dropped from the final version (2018) are denoted by \*.*

*Instructions:* Rate how true the following items are for you or your perspective right now, particularly as a result of the session/ exercise/ process you just participated in.....

1. Do you feel this (session, exercise, etc.) was productive?

1                      2                      3                      4                      5

Not at all

Very Much

2. Even if you did not resolve the issue today, do you think doing more of what we did would be helpful?

1                      2                      3                      4                      5

Not at all

Very Much

3. If someone like you was in counselling for this issue, do you think doing this kind of exercise would be useful?

1                      2                      3                      4                      5

Not at all

Very Much

4. In this session something shifted for me. I saw something differently or experienced something freshly.

1                      2                      3                      4                      5

Not at all

Very Much

5. The exercise or work I have been doing gives me new ways of looking at my problem.

1                      2                      3                      4                      5

Not at all

Very Much

6. I feel that I understand my problems better.

1                      2                      3                      4                      5

Not at all

Very Much

7. I have a sense that working this way or with this intervention is a promising direction for me.

1                      2                      3                      4                      5

Not at all

Very Much

8. I am more aware of what I want now.

1                      2                      3                      4                      5

Not at all

Very Much

9. I am now a bit clearer as to how I might be able to change. \*

1                      2                      3                      4                      5

Not at all

Very Much

10. I have realized or clarified more of what I need to work on, or what my problems or goals are. \*

1                      2                      3                      4                      5

Not at all

Very Much



17. I now feel less negative, depressed, guilty, anxious or hurt; emotionally, I feel more positive, relieved, unburdened, safe, relaxed, generally confident or encouraged. \*

1

2

3

4

5

Not at all

Very Much



## Appendix H

### Sentence Completion Task for Priming Emotions – Shame/Fear/Guilt (Pascual-Leone, 2010)

(Used to facilitate expressions of shame)

In one sentence please name the personal difficulty you have identified and are working on in this study:

---

---

Below are a series of incomplete sentence “stems” related to specific emotional themes. The purpose of these incomplete sentences is to help inspire you to express certain emotional themes as you think about the personal difficulty. Everything you write is strictly confidential.

Although some of the sentence stems might better express your personal and real feelings, try to complete all sentence stems as best as they apply to your personal difficulty.

#### **Shame/Fear/Guilt**

- I am embarrassed or ashamed of...

---

- I feel empty...

---

- I feel incompetent or worthless when...

---

- I feel lonely...

---

- It's my fault that...
-

## Appendix I

### Sentence Completion Task for Priming Emotions – Assertive Anger (Pascual-Leone, 2010)

(Used to facilitate expressions of anger)

In one sentence please name the personal difficulty you have identified and are working on in this study:

---

---

#### **PART 1: Identifying Needs**

As you think about what was most difficult for you, or painful, consider what you needed most (or still need) in relation to the personal difficulty. (If you are unsure, try thinking about what you needed with respect to the criticisms you identified in the previous section).

Select one or more of the needs on the list below that best fits what was missing for you.

- 1) \_\_\_\_\_ recognition/affirmation  
(admiration, praise, respect, have accomplishments recognized...)
- 2) \_\_\_\_\_ approval/acceptance  
(to be liked, to be believed in...)
- 3) \_\_\_\_\_ affiliation/affection  
(love, tenderness, warmth, intimacy, friendship, belonging, co-operate, socialize...)
- 4) \_\_\_\_\_ support  
(help, protection, emotional support...)
- 5) \_\_\_\_\_ nurturance  
(‘mothering,’ soothing, validation, sympathy...)
- 6) \_\_\_\_\_ autonomy  
(independence, freedom, avoid feeling confined or restrained, resist influence or coercion...)
- 7) \_\_\_\_\_ immunity from violation  
(to preserve one’s self respect, psychological distance, immunity from criticism...)
- 8) \_\_\_\_\_ joy, beauty, or playfulness in life

Please write 1 or 2 sentences to briefly explain or elaborate why you identified the above needs.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_

**PART 2 FORM A: Facilitating Assertion and Standing up for Oneself**

Below are a series of incomplete sentence “stems” related to specific emotional themes. The purpose of these incomplete sentences is to help inspire you to express certain emotional themes as you think about the personal difficulty. Everything you write is strictly confidential.

Although some of the sentence stems might better express your personal and real feelings, try to complete all sentence stems as best as they apply to your personal difficulty.

**Assertive Anger** (i.e., standing up for oneself)

- My anger is constructive because...

\_\_\_\_\_

- I have a right to be assertive because I...

\_\_\_\_\_

- I deserved...

\_\_\_\_\_

- What was most unfair was...

\_\_\_\_\_

- I will not allow...

\_\_\_\_\_

- I will fight for...

---

## Appendix J

### Sentence Completion Task for Priming Emotions – Grief/Hurt (Pascual-Leone, 2010)

(Used to facilitate expressions of healthy emotions)

In one sentence please name the personal difficulty you have identified and are working on in this study:

---

---

#### **PART 1: Identifying Needs**

As you think about what was most difficult for you, or painful, consider what you needed most (or still need) in relation to the personal difficulty. (If you are unsure, try thinking about what you needed with respect to the criticisms you identified in the previous section).

Select one or more of the needs on the list below that best fits what was missing for you.

- 9) \_\_\_\_\_ recognition/affirmation  
(admiration, praise, respect, have accomplishments recognized...)
- 10) \_\_\_\_\_ approval/acceptance  
(to be liked, to be believed in...)
- 11) \_\_\_\_\_ affiliation/affection  
(love, tenderness, warmth, intimacy, friendship, belonging, co-operate, socialize...)
- 12) \_\_\_\_\_ support  
(help, protection, emotional support...)
- 13) \_\_\_\_\_ nurturance  
(‘mothering,’ soothing, validation, sympathy...)
- 14) \_\_\_\_\_ autonomy  
(independence, freedom, avoid feeling confined or restrained, resist influence or coercion...)
- 15) \_\_\_\_\_ immunity from violation  
(to preserve one’s self respect, psychological distance, immunity from criticism...)
- 16) \_\_\_\_\_ joy, beauty, or playfulness in life

Please write 1 or 2 sentences to briefly explain or elaborate why you identified the above needs.

3. \_\_\_\_\_

\_\_\_\_\_

4. \_\_\_\_\_

\_\_\_\_\_

## **PART 2 FORM B: Facilitating Grieving and Acknowledgement of Loss**

Below are a series of incomplete sentence “stems” related to specific emotional themes. The purpose of these incomplete sentences is to help inspire you to express certain emotional themes as you think about the personal difficulty. Everything you write is strictly confidential.

Although some of the sentence stems might better express your personal and real feelings, try to complete all sentence stems as best as they apply to your personal difficulty.

### **Grieving a loss**

- What I miss is...

\_\_\_\_\_

- I’m sad about losing...

\_\_\_\_\_

- I felt hurt or wounded...

\_\_\_\_\_

- I would have liked...

\_\_\_\_\_

- I’m starting to be able to “let go” of...

\_\_\_\_\_

- I try and make sense of what I have lost by...
-



## Appendix K

### Example Verbal Prompts Used for the Emotion Facilitation Tasks

#### **Facilitating emotional engagement and expression generally for all participants**

(steps 4 and 6 of the protocol)

- That sounds like a difficult situation. No wonder you felt [emotion that the participant identifies in his or her speech]
- Tell me more
- Say more
- Yeah, [paraphrase the participant's narrative]. That must have felt so [emotion implied or identified]".
- That must have been so [emotion implied or identified]
- What was your experience in all of this?
- What was your reaction to that?
- It sounds like you felt [emotion that the participant implied]...?
- What was it about the situation that made you feel so [emotion that the participant identifies in his or her speech]

#### **Facilitating engagement with *shame***

(step 4, for all participants; step 6, attending to shame condition)

- That sounds like a difficult situation, and I wonder if a part of you felt [small/ashamed/condemned/undermined/devalued/embarrassed/inadequate, - shame experience that aligns with participant's narrative]
- Say more from this place of [shame word that is identified]

- Can you say more about this feeling of [shame word that is identified]
- I can see that this is difficult...This is the part that hurts...but if we could stay with this feeling for a bit more, if you may...
- Try to really feel that [shame word that is identified] now... What you felt back then...
- I am not sure, but it sounds like something blocks you from getting in touch with and talking about this feeling... because it makes you feel so [shame word]...?
- So there's lots of emotions... I wonder if you could speak from that part of yourself that feels [shame word]
- I wonder if we could focus on that part that feels [shame word] and say more from that place
- What I hear you say is that a part of you may have felt [small/ashamed/condemned/undermined/devalued/embarrassed/inadequate, - shame experience that aligns with participant's narrative]...?
- So it sounds like you felt [shame experience that aligns with the client's narrative]...?
- Perhaps you could help me understand... all of this made you feel [shame experience that aligns with participant's narrative]...?
- Perhaps you could help me understand this feeling... could you say more about this [shame word that is identified]...?
- It sounds like a part of you feels [emotion that the client expresses or implies] and another part of you feels [small/ashamed/condemned/undermined/devalued/embarrassed/inadequate - shame experience that aligns with participant's narrative]. Could you say more from the place of [shame word]

### **Facilitating engagement with anger**

#### **(step 6, facilitating anger condition)**

- Sometimes when things like that happen, people feel frustration or anger too. Can you get in touch with that? Say more....
- Take a moment. Try connecting with that part of you that feels anger/the injustice/the unfairness of the situation. Speak from that place
- I am angry at you for...
- I am angry that...
- Tell him/her more
- Say more. Make him/her understand
- Tell him/her about your anger
- Tell him/her in what ways he/she robbed you
- Tell him/her what he/she made you so angry
- Tell him/her what you deserved
- Tell him/her what you wanted
- Say it again. (when participant articulates an unmet need or components of assertive anger to bring attention to and heighten this experience)
- What goes on on the inside as you say this?

### **Facilitating engagement with sadness**

#### **(at step 6, facilitating sadness condition)**

- Sometimes when things like that happen, people feel hurt/disappointment too. Can you get in touch with that? Say more....

- Take a moment. Try connecting with that part of you that feels hurt/wounded/sad. Speak from that place
- I am hurt about what happened (because)...
- It hurt me (when you)...
- Tell him/her more.
- Say more. This is important.
- Tell him/her in what ways it scarred you...
- Tell him/her what you needed
- Tell him/her what you wanted
- All I wanted was...
- I missed...
- Tell him/her what you didn't get from him/her. It's like you missed...?
- Say it again (when participant articulates an unmet need or components of grief/hurt to bring attention to and heighten this experience)
- What goes on on the inside as you say this?

Appendix L

*Participants' Ratings on the Emotional Engagement Scale at the End of Each of the*

*Two Emotion Facilitation Tasks.*

Conditions	ID	<u>1st Emotion Facilitation Task</u>			<u>2nd Emotion Facilitation Task</u>		
Attending to							
Shame		Ashamed	Sad	Angry	Ashamed	Sad	Angry
	154	3	3	5	3	3	5
	155	7	8	8	10	8	9
	156	4	8	6	3	6	2
	157	6	7	4	6	7	4
	159	10	5	7	3	2	6
	160	3	3	3	3	3	3
	162	5	5	6	4	5	6
	170	7	5	10	10	9	10
	173	6	6	5	6	5	6
	176	5	10	10	4	10	8
	181	4	7	6	9	9	8
	184	3	4	4	3	4	4
	189	10	10	10	10	8	8
	198	7	5	3	5	3	3
	200	4	5	4	4	6	1
	202	10	10	8	10	10	10
	204	4	7	5	3	6	2

207	7	10	10	7	10	10
212	7	6	6	9	8	8
225	7	9	4	8	8	4

Facilitating

Sadness

151	8	8	3	7	6	7
164	7	5	4	2	5	1
166	5	6	4	3	4	2
169	3	7	8	1	9	6
171	1	4	4	1	4	5
174	9	10	9	7	7	5
178	7	7	8	3	5	6
179	4	6	7	8	8	7
180	1	1	1	1	1	1
183	6	6	6	5	6	7
186	3	3	4	3	6	6
193	9	8	1	4	6	5
201	5	8	4	1	5	2
210	2	4	5	2	4	5
212	5	6	3	7	4	1
215	1	1	1	2	4	4
222	5	6	8	2	6	5
226	3	5	7	1	8	5

	229	8	7	7	3	2	2
	230	6	3	7	3	2	2
Facilitating							
Anger							
	150	8	8	2	1	4	5
	152	2	7	6	1	1	8
	158	4	8	7	2	4	3
	161	2	2	1	1	2	6
	167	5	6	6	2	2	3
	175	8	10	9	3	8	5
	177	8	8	4	8	6	3
	182	5	5	1	2	2	1
	190	10	7	2	10	9	7
	191	5	1	5	2	1	5
	195	6	9	3	5	8	4
	196	4	4	6	6	8	4
	197	9	2	7	6	2	6
	199	10	9	1	3	3	4
	203	3	6	2	4	7	5
	206	4	6	2	4	6	2
	209	3	2	3	3	3	3
	211	2	1	7	1	2	6
	217	4	3	4	4	5	5

219	7	5	3	7	4	3
220	4	7	3	2	3	5
228	9	9	4	7	10	8

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*Note.*  $N = 62$ .



Appendix M

*Descriptives of Participants' Scores on the Outcome Measures by Condition (Facilitating Anger vs. Facilitating Sadness) and Protocol Type (Empty Chair vs. Empathic Exploration)*

	<u>Condition</u>	<u>Facilitating Sadness</u>		<u>Facilitating Anger</u>	
		Protocol	Empty Chair	Empathic E.	Empty Chair
	N	15	5	21	1
SAM	Mean	5.67	4.80	5.00	3
	SD	1.72	2.59	1.90	
	Minimum	2	1	1	
	Maximum	8	8	8	
SSGS guilt	Mean	11.47	9.20	10.48	18
	SD	5.60	2.78	5.28	
	Minimum	6	5	5	
	Maximum	25	12	24	
SSGS shame	Mean	11.00	10.40	9.90	20
	SD	4.74	4.10	4.07	
	Minimum	7	5	5	
	Maximum	23	15	19	
SSGS pride	Mean	14.80	12.00	16.19	9
	SD	4.96	6	5.05	

	Minimum	6	6	6	
	Maximum	24	21	24	
UP-Q D.	Mean	26.80	26.20	28.95	34
	SD	3.59	5.81	3.92	
	Minimum	21	19	21	
	Maximum	34	32	35	
UP-Q A.	Mean	20.40	18.80	20.05	23
	SD	2.35	3.27	4.21	
	Minimum	16	15	6	
	Maximum	24	22	23	
Resolution	Mean	40.27	37.20	39.76	29
	SD	10.65	21.34	9.65	
	Minimum	26	12	25	
	Maximum	63	71	58	

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*Note.* N = sample size. SD = standard deviation. Empathic E. = empathic exploration. SAM = Self-Assessment Manikin, dominance subscale. SSGS guilt = the State Shame and Guilt Scale, guilt subscale. SSGS shame = the State Shame and Guilt Scale, shame subscale. SSGS pride = the State Shame and Guilt Scale, pride subscale. UP-Q direction = Useful Processes Questionnaire, sense of direction subscale. UP-Q awareness = Useful Processes Questionnaire, self-awareness subscale. Resolution = Resolution Scale.

Appendix N

*Bootstrapped Multiple Regression Analyses Predicting Feelings of Shame from Assigned Experimental Condition, Exploratory Variables, and the Interactions*

Predictor	B	SE	CI <sub>s</sub>
<i>Model 1:</i>			
<i>Combined MRA, Attending to Shame as the reference group</i>			
Facilitating Anger (as opposed to Attending to Shame)	-2.03	2.19	-4.94, 2.19
Facilitating Sadness (as opposed to Attending to Shame)	-3.45	2.50	-6.52, -0.26
Depression	0.37*	0.23	0.04, 0.77
Aggression	0.09	0.09	-0.13, 0.25
Mature Defense Style	-1.85	1.59	-4.97, 2.80
Immature Defense Style	-3.42	2.51	-12.19, 4.44
Neurotic Defense Style	0.78	2.47	-2.94, 4.61
Facilitating Anger*Depression	-0.02	0.26	-0.70, 0.48
Facilitating Anger*Aggression	-0.04	0.11	-0.21, 0.16
Facilitating Anger*Mature Defense Style	2.78	1.80	-0.91, 5.77
Facilitating Anger*Immature Defense Style	4.79*	2.83	0.77, 10.18
Facilitating Anger*Neurotic Defense Style	-1.58	2.62	-7.75, 3.96
Facilitating Sadness*Depression	-0.20	0.26	-0.92, 0.37
Facilitating Sadness*Aggression	0.01	0.16	-0.22, 0.25
Facilitating Sadness*Mature Defense Style	3.19	2.63	-0.81, 6.62
Facilitating Sadness*Immature Defense Style	1.95	3.52	-2.64, 8.01
Facilitating Sadness*Neurotic Defense Style	-2.49	2.90	-11.27, 7.02
<i>Model 2:</i>			
<i>Combined MRA, Facilitating Sadness as the reference group</i>			
Facilitating Anger (as opposed to Facilitating Sadness)	1.42	1.60	-1.88, 5.92
Facilitating Anger*Depression	0.18	0.20	-0.16, 0.48
Facilitating Anger*Aggression	-0.05	0.12	-0.27, 0.14
Facilitating Anger*Mature Defense Style	-0.44	1.63	-4.05, 3.25
Facilitating Anger*Immature Defense Style	2.84	2.61	-4.00, 8.49
Facilitating Anger*Neurotic Defense Style	0.91	1.72	-1.89, 3.32
<i>Model 3:</i>			
<i>Trust MRA</i>			
<i>Attending to Shame as the reference group</i>			
Trust	-0.03	0.08	-0.19, 0.35
Facilitating Anger (as opposed to Attending to Shame)*Trust	0.00	0.09	-0.17, 0.11
Facilitating Sadness (as opposed to Attending to Shame)*Trust	0.13	0.10	-0.05, 0.25
<i>Model 4:</i>			
<i>Trust MRA</i>			
<i>Facilitating Sadness as the reference group</i>			

Facilitating Anger (as opposed to Facilitating Sadness)*Trust	-0.13	0.09	-0.283, 0.07
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*Note.* For the sake of parsimony, redundant information is omitted from subsequent models.  $N=61$  for the Combined MRAs.  $N = 50$  for Trust MRA.  $B$  = unstandardized beta weights.  $SE$  = bootstrapped standard error.  $CI$ s = bootstrapped confidence intervals.

Exploratory variables are centered around the mean.

Outcome variable is the shame subscale of the State Shame and Guilt Scale.

\* $p < .05$ .

Appendix O

*Bootstrapped Multiple Regression Analyses Predicting Sense of Direction from Assigned Experimental Condition, Exploratory Variables, and the Interaction Terms*

Predictor	<i>B</i>	<i>SE</i>	<i>CI</i> s
<i>Model 1:</i>			
<i>Combined MRA</i>			
<i>Attending to Shame group as the reference group</i>			
Facilitating Anger (as opposed to Attending to Shame)	4.50**	1.28	2.28, 6.31
Facilitating Sadness (as opposed to Attending to Shame)	0.72	2.18	-2.27, 3.25
Depression	0.04	0.17	-0.34, 0.69
Aggression	-0.01	0.07	-0.12, 0.20
Mature Defense Style	1.59*	0.95	-1.22, 4.87
Immature Defense Style	-2.20	1.79	-5.34, -0.60
Neurotic Defense Style	1.00	1.30	-1.03, 2.85
Facilitating Anger*Depression	0.04	0.21	-0.37, 0.33
Facilitating Anger*Aggression	-0.02	0.08	-0.17, 0.10
Facilitating Anger*Mature Defense Style	0.35	1.26	-2.07, 2.64
Facilitating Anger*Immature Defense Style	2.49	2.10	-1.44, 9.00
Facilitating Anger*Neurotic Defense Style	-0.43	1.67	-4.24, 3.62
Facilitating Sadness*Depression	0.11	0.21	-0.32, 0.41
Facilitating Sadness*Aggression	0.03	0.15	-0.17, 0.16
Facilitating Sadness*Mature Defense Style	-0.63	2.74	-4.44, 3.09
Facilitating Sadness*Immature Defense Style	1.18	3.19	-4.0, 11.07
Facilitating Sadness*Neurotic Defense Style	-0.24	4.16	-5.15, 4.02
<i>Model 2:</i>			
<i>Combined MRA</i>			
<i>Facilitating Sadness as the reference group</i>			
Facilitating Anger (as opposed to Facilitating Sadness)	3.78*	1.49	1.06, 6.43
Facilitating Anger*Depression	-0.07	0.16	-0.45, 0.29
Facilitating Anger*Aggression	-0.05	0.11	-0.29, 0.25
Facilitating Anger*Mature Defense Style	0.98	1.83	-2.94, 5.02
Facilitating Anger*Immature Defense Style	1.31	2.32	-3.28, 4.11
Facilitating Anger*Neurotic Defense Style	-0.20	1.63	-2.32, 2.43
<i>Model 3:</i>			
<i>Trust MRA</i>			
<i>Attending to Shame as the reference group</i>			
Trust	-0.00	0.05	-0.11, 0.09
Facilitating Anger (as opposed to Attending to Shame)*Trust	0.04	0.06	-0.07, 0.16
Facilitating Sadness (as opposed to Attending to Shame)*Trust	-0.06	0.07	-0.19, 0.07

*Model 4:*

*Trust MRA*

*Facilitating Sadness as the reference group*

Facilitating Anger (as opposed to Facilitating Sadness)*Trust	0.11*	0.06	-0.01, 0.22
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*Note.* For the sake of parsimony, redundant information is omitted from subsequent models.  $N=61$  for the Combined MRAs.  $N = 50$  for Trust MRA.  $B$  = unstandardized beta weights.  $SE$  = bootstrapped standard error.  $CI$ s = bootstrapped confidence intervals.

Exploratory variables are centered around the mean.

Outcome variable is the sense of direction subscale of the Useful Processes Questionnaire.

\* $p < 0.05$ .

\* $p < 0.01$ .

Appendix P

*Bootstrapped Multiple Regression Analyses Predicting Self-Awareness from Assigned Experimental Condition, Exploratory Variables, and the Interaction Terms*

Predictor	B	SE	CIs
<i>Model 1:</i>			
<i>Combined MRA</i>			
<i>Attending to Shame group as the reference group</i>			
Facilitating Anger (as opposed to Attending to Shame)	2.95**	1.03	0.95, 4.51
Facilitating Sadness (as opposed to Attending to Shame)	1.67*	0.92	-0.14, 3.41
Depression	-0.11*	0.08	-0.24, 0.07
Aggression	-0.01	0.03	-0.06, 0.03
Mature Defense Style	0.52	0.48	-0.40, 1.78
Immature Defense Style	1.61**	0.89	-0.28, 3.27
Neurotic Defense Style	-0.02	0.69	-1.29, 1.48
Facilitating Anger*Depression	0.10	0.14	-0.24, 0.34
Facilitating Anger*Aggression	-0.01	0.06	-0.13, 0.13
Facilitating Anger*Mature Defense Style	-0.01	0.85	-1.44, 1.90
Facilitating Anger*Immature Defense Style	-1.33	1.33	-3.60, 0.62
Facilitating Anger*Neurotic Defense Style	0.53	1.03	-1.49, 2.82
Facilitating Sadness*Depression	0.21*	0.10	0.03, 0.35
Facilitating Sadness*Aggression	0.00	0.06	-0.10, 0.08
Facilitating Sadness*Mature Defense Style	0.89	0.83	-0.85, 2.10
Facilitating Sadness*Immature Defense Style	-2.73*	1.48	-6.02, 1.75
Facilitating Sadness*Neurotic Defense Style	0.42	1.10	-2.71, 2.70
<i>Model 2:</i>			
<i>Combined MRA</i>			
<i>Facilitating Sadness as the Reference Group</i>			
Facilitating Anger (as opposed to Facilitating Sadness)	1.28	1.20	-0.75, 3.01
Facilitating Anger*Depression	-0.11	0.14	-0.46, 0.21
Facilitating Anger*Aggression	-0.01	0.08	-0.19, 0.19
Facilitating Anger*Mature Defense Style	-0.90	1.13	-2.57, 1.57
Facilitating Anger*Immature Defense Style	1.40	1.81	-1.56, 3.23
Facilitating Anger*Neurotic Defense Style	0.11	1.14	-1.82, 2.29
<i>Model 3:</i>			
<i>Trust MRA</i>			
<i>Attending to Shame as the reference group</i>			
Trust	0.02	0.02	-0.03, 0.05
Facilitating Anger (as opposed to Attending to Shame)*Trust	-0.01	0.03	-0.08, 0.06
Facilitating Sadness (as opposed to Attending to Shame)*Trust	-0.01	0.04	-0.09, 0.07

*Model 4:*

*Trust MRA*

*Facilitating Sadness as the reference group*

Facilitating Anger (as opposed to Facilitating Sadness)*Trust	0.68	0.79	-0.79, 2.39
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*Note.* For the sake of parsimony, redundant information is omitted from subsequent models.

*N*=61 for the Combined MRAs. *N* = 50 for Trust MRA. *B* = unstandardized beta weights. *SE* = bootstrapped standard error. *CI*s = bootstrapped confidence intervals.

Exploratory variables are centered around the mean.

Outcome variable is the self-awareness subscale of the Useful Processes Questionnaire.

\**p* < 0.05.

\**p* < 0.01.



## Appendix Q

### Participant Pool Advertisement

**Study Name:** What helps people get over difficult interpersonal events?

**Detailed Description:** This study is about how people react to difficult events in their day-to-day relationships with significant people in their lives and how they resolve these difficult feelings. If you participate, you will come for one session at a research lab on campus.

This study will take no more than 150 minutes of your time and is worth 3 bonus points if you are registered in the pool and you are registered in one or more eligible psychology courses. In recognition of the effort associated with participation in in-lab research, you will receive an additional 0.5 bonus credits. This means that the total number of points is 3, and this includes the 0.5 bonus credits. Participating in this study involves completing some questionnaires and doing some guided exercises, written and oral, where you explore your thoughts and feelings about one upsetting event that happened in your significant relationships. The session is done in private and is strictly confidential.

**Eligibility Criteria:**

1. You had an experience where a significant person in your life (e.g., family member; romantic partner; long-term friend) made you feel worthless/inadequate/embarrassed/disappointed in yourself in some major way

AND

2. This occurred more than one year ago

AND

3. You continue to have unresolved bad feelings about this event or this person to this day.

**Duration:** 150

**Points:** 3

## Appendix R

### Consent Form



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### CONSENT TO PARTICIPATE IN RESEARCH

**Title of Study: What helps people get over difficult relationship events?**

You are asked to participate in a research study conducted by Ms. Tsubasa Sawashima, Ph.D. Candidate, under the supervision of Dr. Antonio Pascual-Leone from the Department of Psychology at the University of Windsor. The results of this study will contribute to a dissertation research project.

If you have any questions or concerns about the research, please feel to contact Ms. Sawashima (sawashi@uwindsor.ca; daytime and night/emergency contact) or Dr. Pascual-Leone (519-253-3000 ext. 4702).

#### PURPOSE OF THE STUDY

The general aim of this study is to help us understand how people react to difficulties in interpersonal relationships and what type of emotional experiences may make it easier to work through these difficulties. The results from this study may have important implications for furthering our understanding of how people develop emotionally after such events.

#### PROCEDURES

The study will take place in a private interview room in our research lab. If you volunteer to participate in this study, you will be asked to: (a) complete a series of questionnaires and (b) express your thoughts and feelings in relation to a past upsetting event, with the direction and support of the investigator and with some writing tools. The entire session will take approximately 2.5 hours.

Step 1. Complete questionnaires about your mood and behaviour (15 min)

Step 2. Complete demographic information and questions about the past interpersonal event. Use written support tools to express some distressing feelings you have about the past relationship event (20-25 min)

Step 3. Express verbally your distressing thoughts and feelings about the relationship event (10-15 min)

Step 4. Use written support tools to help you express more thoughts and feelings about the event (10-15 min)

Step 5. Express verbally more thoughts and feelings about the event (10-15 min)

Step 6. Complete questionnaires about your thoughts and feelings about yourself, the event, and the session we just had (20-30 min)

(Step 7. May be omitted). Use written support tools to help you express more thoughts and feelings about the event (10-15 min)

Final Step. Debrief (10-15 min)

If you choose to participate, you will complete the study one-on-one with a researcher.

#### POTENTIAL RISKS AND DISCOMFORTS

It is possible that you might feel some emotional discomfort associated with the upsetting relationship event that you will be asked to describe. However, it is not likely that this discomfort will be more than what you might feel when thinking and talking about these issues in your daily life. The procedures are also designed to eventually help you handle emotional discomfort in a healthy way and, before leaving, you will also be provided with contact information for on-campus supports if you are interested.

## POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

Participating in this study may give you a better understanding of the way you handle relationship difficulties and cope with emotional distress in order to feel better. The study results will also provide valuable information on emotional well being, as well as on how people work with and resolve emotional difficulties.

## COMPENSATION FOR PARTICIPATION

This study will take no more than 150 minutes of your time and is worth 3 bonus points if you are registered in the pool and you are registered in one or more eligible psychology courses. In recognition of the effort associated with participation in in-lab research, you will receive an additional 0.5 bonus credits. This means that the total number of points is 3, and this includes the 0.5 bonus credits.

## CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. All data (including your identity and all written materials you fill out) is kept strictly confidential at all time. Nobody except the primary investigator has access to participants' names. A random code will be given to each participant, and only researchers on this specific project will be permitted to view the data. No information will be released to any other party and your information will be protected.

(There is only one exception to confidentiality: This is if you report an imminent risk for suicide, homicide, or child abuse. Under such a circumstance the researchers would have a duty to report the risk).

## PARTICIPATION AND WITHDRAWAL

You are allowed to withdraw at any time, without giving reasons. Following the session you will also have the right to change your mind and withdraw (in whole or in part) your participation in this study without any consequences. In case of your withdrawal during the study participation, you will be awarded psychology participant pool bonus points that are commensurate to the duration of your partial participation. You will no longer be able to withdraw your data after all the data has been collected and the analyses have begun (January 1, 2018). The investigator may withdraw you from this research if circumstances arise which warrant doing so.

## FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

A summary of research findings will be available upon request.

Web address: [www.uwindsor.ca/EmotionChangeLab](http://www.uwindsor.ca/EmotionChangeLab)

Date when results are available: Estimated September, 2018

## SUBSEQUENT USE OF DATA

These data may be used in subsequent studies, in publications, and in presentations. All guarantee of confidentiality remains unchanged. They will not be used for educational purposes.

## RIGHTS OF RESEARCH PARTICIPANTS

If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: [ethics@uwindsor.ca](mailto:ethics@uwindsor.ca)

## SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

I understand the information provided for the study **What helps people get over difficult relationship events?** as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

\_\_\_\_\_  
Name of Participant

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

### SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

\_\_\_\_\_(Ms. Tsubasa Sawashima)\_  
Signature of Investigator

\_\_\_\_\_  
Date

## Appendix S

### Letter of Information Form



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## LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: What helps people get over difficult relationship events?

You are asked to participate in a research study conducted by Ms. Tsubasa Sawashima under the supervision of Dr. Antonio Pascual-Leone from the Department of Psychology at the University of Windsor. The results of this study will contribute to a dissertation research project.

If you have any questions or concerns about the research, please feel to contact Ms. Sawashima (sawashi@uwindsor.ca; daytime and night/emergency contact), or Dr. Pascual-Leone (519-253-3000 ext. 4702).

### PURPOSE OF THE STUDY

The general aim of this study is to help us understand how people react to difficulties in interpersonal relationships and what type of emotional experiences may make it easier to work through these difficulties. The results from this study may have important implications for furthering our understanding of how people develop emotionally after such events.

### PROCEDURES

The study will take place in a private interview room in our research lab. If you volunteer to participate in this study, you will be asked to: (a) complete a series of questionnaires and (b) express your thoughts and feelings in relation to a past upsetting event, with the direction and support of the investigator and with some writing tools. The entire session will take approximately 2.5 hours.

Step 1. Complete questionnaires about your mood and behaviour (15 min)

Step 2. Complete demographic information and questions about the past interpersonal event. Use written support tools to express some distressing feelings you have about the past relationship event (20-25 min)

Step 3. Express verbally your distressing thoughts and feelings about the relationship event (10-15 min)

Step 4. Use written support tools to help you express more thoughts and feelings about the event (10-15 min)

Step 5. Express verbally more thoughts and feelings about the event (10-15 min)

Step 6. Complete questionnaires about your thoughts and feelings about yourself, the event, and the session we just had (20-30 min)

(Step 7. May be omitted). Use written support tools to help you express more thoughts and feelings about the event (10-15 min)

Final Step. Debrief (10-15 min)

If you choose to participate, you will complete the study one-on-one with a researcher.

## POTENTIAL RISKS AND DISCOMFORTS

It is possible that you might feel some emotional discomfort associated with the upsetting relationship event that you will be asked to describe. However, it is not likely that this discomfort will be more than what you might feel when thinking and talking about these issues in your daily life. The procedures are also designed to eventually help you handle emotional discomfort in a healthy way and, before leaving, you will also be provided with contact information for on-campus supports if you are interested.

## POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

Participating in this study may give you a better understanding of the way you handle relationship difficulties and cope with emotional distress in order to feel better. The study results will also provide valuable information on emotional well being, as well as on how people work with and resolve emotional difficulties.

## COMPENSATION FOR PARTICIPATION

This study will take no more than 150 minutes of your time, and is worth 3 bonus points if you are registered in the pool and you are registered in one or more eligible psychology courses. In recognition of the effort associated with participation in in-lab research, you will receive an additional 0.5 bonus credits. This means that the total number of points is 3, and this includes the 0.5 bonus credits. .

## CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. All data (including your identity and all written materials you fill out) is kept strictly confidential at all time. Nobody except the primary investigator has access to participants' names. A random code will be given to each participant, and only researchers on this specific project will be permitted to view the data . No information will be released to any other party and your information will be protected.

(There is only one exception to confidentiality: This is if you report an imminent risk for suicide, homicide, or child abuse. Under such a circumstance the researchers would have a duty to report the risk).

## PARTICIPATION AND WITHDRAWAL

You are allowed to withdraw at any time, without giving reasons. Following the session you will also have the right to change your mind and withdraw (in whole or in part) your participation in this study without any consequences. In case of your withdrawal during the study participation, you will be awarded psychology participant pool bonus points that are commensurate to the duration of your partial participation. You will no longer be able to withdraw your data after all the data has been collected and the analyses have begun (January 1, 2018). The investigator may withdraw you from this research if circumstances arise which warrant doing so.

## FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

A summary of research findings will be available upon request.

Web address: [www.uwindsor.ca/EmotionChangeLab](http://www.uwindsor.ca/EmotionChangeLab)

Date when results are available: Estimated September, 2018

## SUBSEQUENT USE OF DATA

These data may be used in subsequent studies, in publications, and in presentations. All guarantee of confidentiality remains unchanged. They will not be used for educational purposes.

## RIGHTS OF RESEARCH PARTICIPANTS

If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: [ethics@uwindsor.ca](mailto:ethics@uwindsor.ca)

## SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

\_\_\_\_\_(Ms. Tsubasa Sawashima)\_  
Signature of Investigator

Date \_\_\_\_\_

## **Vita Auctoris**

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