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Self-Criticism and Self-Warmth: An Imagery Study Exploring Their Relation to Depression

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When things go wrong for people, those who are self-critical, compared to those who self-reassure, are at increased risk of psychopathology. However, little is known of the internal processes involved in self-criticism and self-reassurance, such as the ease of eliciting critical imagery, and the power, emotion and vividness of self-criticalness and self-reassurance. This study used a self-imagery task to investigate trait self-criticism and trait self-reassurance in relation to the ease and clarity of generating self-critical and self-reassuring images, and the felt power and emotion of self-critical and self-reassuring imagery. We also explored these in relation to depressive symptoms in students. Results suggested that trait self-criticism is associated with ease and clarity in generating hostile and powerful self-critical images, while trait self-reassurance is associated with ease and clarity of generating warm and supportive images of the self. Data analysis using structural equation models also suggests that difficulties in generating self-reassurance and compassionate images about the self with self-directed warmth, may also contribute to depressive symptoms. Thus self-critics may not only suffer for elevated negative feelings about the self but may also struggle to be able to generate self-

supportive images and feelings for the self, and these difficulties could be a focus of therapeutic interventions.

Keywords: depression; imagery; self-critical; self-reassurance; soothing; warmth

Many approaches to psychopathology view early experiences with parents, siblings and peers as providing important learning experiences that influence the emergence of self-other schemas (Baldwin, 1992, 1997; Beck, 1967; Bowlby, 1969, 1973, 1980; Gilbert, 1989, 1993), and affect neurophysiological processes underpinning emotional maturation and regulation (Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Schore, 1994, 2000; Siegel, 2001). Early exposure to threats, in the form of abuse, neglect and unrealistic parental expectations are known to be associated with increased vulnerabilities to mental health difficulties and can be translated into forms of self-devaluation, self-condemnation and self-critical/attacking feelings and cognitions (Blatt & Zuroff, 1992; Gilbert, Clarke, Hempel, Miles, & Irons, 2004; Schore, 1994). In contrast, warmth, love and affection have long been associated with good mental health, and facilitate more self-accepting and self-nurturing abilities (Cacioppo, Berston, Sheridan, & McClintock, 2000; Schore, 1994). Thus, interpersonal theorists suggest that self-criticism and self-reassurance are linked to learnt interpersonal scripts—one learns to *relate* to oneself as others have related to self (Baldwin, 1992, 1997).

Although love and affection have such powerful effects on emotional maturation and emotional well-being, it is only comparatively recently that research has begun to explore in detail this social positive affect system and distinguish it from other positive affect systems. For example, research suggests that the positive emotions associated with affiliation and warmth differ from those associated with doing and achieving. In particular, the former are *soothing/calming* and may operate through opiate and oxytocin systems (Carter, 1998; Uväns-Morberg, 1998), whilst the later are *activating* and may operate through dopaminergic systems (Depue & Morrone-Strupinsky, 2005; Panskepp, 1998). Thus, for example, anticipating passing exams, or winning a competition creates a different type of positive affect than feeling supported and loved.

As for any other basic affect system, the way the "warm/affiliative" affect system becomes developed and choreographed into self-other schemas depends on how it is stimulated during maturation. Thus, it is via the warmth from a parent (from signals such as touch, holding, facial expressions and soft voice), that children have their warm/affiliative system activated in interpersonal interactions (Trevarthen & Aitken, 2001). This system may then be available, with various implicit memories, and implicit procedures for use in both positive relationships (e.g., forming affiliative bonds) and for self-regulation in stressful situations. As Brewin (1989) noted, the accessibility of schemas are key to the ease and degree of their activation in specific situations. Tugade and Fredrickson (2004) have shown that when resilient individuals engage in stressful events that generate negative affect, their ability to "bounce back" is linked to their abilities to generate positive emotions. Indeed the importance of having internal recall and beliefs of others as helpful and supportive was central to Bowlby's (1973, 1980) view of the soothing qualities of attachment.

If loved and cared for children can develop self-reassurance as a way to handle setbacks. The same is not true for children who are neglected, shamed or who are fearful of abuse or withdrawal of love/support. Such children may have two difficulties. First, various brain pathways that mediate threat and defense systems may have been overstimulated, leading to more easily triggered, intense and long-lasting negative affect and defensive behaviors (Perry et al., 1995). Second, there has been an *understimulation* of the soothing, warmth, positive affect system, with limited articulation of interpersonal schemas of self and other as helpful, soothing and reassuring.

There are a number of ways to conceptualize the internal organization of these processes. Gilbert (1992) focused on conditioning of emotions to self-other processing systems. Beck

(1996) suggested that various domains of functioning, such as cognition, emotion and their underpinning physiological elements can be linked in *modes.* Activation of modes, over time, influences the emergence of certain types of self-other schema as various cognitive competencies for self-other relating (e.g., self-awareness and theory of mind) unfold with maturity. A further element of self-other schemas relates to the evolution of innate and socially refined *role-forming systems.* Role-forming systems have been referred to as social mentalities (Gilbert, 1989, 2000, 2005a, 2005b). Social mentalities guide people to *seek to* create certain types of roles with others (e.g., a child seeks attachment to, and protection from a parent, adults seek out people to form friendships, alliances or sexual relationships with), guide them in their *interpretation* of the social roles others are trying/seeking to enact with the self (e.g., others are acting in caring, sexual, friendly or competitive ways toward self) and also guide their *affective and behavioral responses* (e.g., if other is friendly then approach and act in a friendly way, if hostile then attack or avoid). The way in which our experience and anticipation of other peoples' behaviors and feelings toward us, primes self-evaluation and feelings, and has been investigated in a number of studies by Baldwin and his colleagues. Baldwin and Holmes (1987) found that people who were momentarily primed with a highly evaluative relationship, and who then failed at a laboratory task, showed depressive-like responses of blaming themselves for their failure and drawing broad negative conclusions about their personality. Conversely, individuals who were instead primed with a warm supportive relationship were much less upset by the failure and attributed the negative outcome to situational factors rather than personal shortcomings. People can cope better with failures if they have access to a warm supportive schema of self and/or others. The degree to which people are able to access warm and supportive, or condemning and critical, other-to-self and self-to-self scripts and memories has a central bearing on emotional and social responses to events. Indeed, research by Baldwin and his colleagues (e.g., Baldwin, 1994; Baldwin & Holmes, 1987; Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Baldwin & Sinclair, 1996) has demonstrated that a key variable determining self-evaluative styles in certain contexts is the cognitive accessibility of other-to-self (others as critical or reassuring) and self-to-self (self-critical and self-reassuring) schemas and role relationships that are activated. In a study of the felt power of hostile voices in schizophrenia, Birchwood, Meaden, Trower, Gilbert, and Plaistow (2000) found that the powerfulness of the voice(s) and the sense of being subordinate and submissive to it (them) were related to how subordinate and submissive the person felt to others in general.

Social mentalities, however, can also be used in self-to-self relating. For example, people can become sexually aroused by their own internal images (they do not need an external source for arousal), can feel pleasure and pride from their own self-evaluations, or adopt submissive and appeasing orientations to their own self-attacks (Gilbert & Irons, 2005). Gilbert (1989, 2000, 2005a, 2005b) suggested that the internal systems humans use to respond to external social cues (e.g., feeling relaxed and supported to positive social cues, or fearful, inhibited and submissive to threat signals from powerful others) are linked to social mentalities and thus can also be the templates, with implicit procedures for processing and responding to *internal* cues. That is, we can (for example) become submissive and discouraged by our own self-attacks, using the same affect/responses systems to our own attacks as are used when others put us down. Hence, when we attack and criticize ourselves we are probably activating (some) similar brain pathways as if someone else was doing it. In fact, Greenberg, Elliott, and Foerster (1990) suggested that depression was more likely when individuals could not defend themselves against their own attacks, felt beaten down and defeated by them, and submissively accept their self-criticisms. Whelton and Greenberg (2005) found that people high in self-criticism often submitted to their own self-criticisms, expressed shamed and sad faces when reflecting on their self-criticisms, and felt weak and unable to counteract their own attacks. In a study of self-critical thoughts in depression, compared to hostile voices in schizophrenia, Gilbert et al. (2001) found that the degree to which

negative thoughts/voices were experienced as powerful, and the self as subordinate and dominated by them, was associated with depression.

The ability to develop *self*-soothing/reassurance was a focus for both Bowlby (1973) and Kohut (1977; see Gilbert, 1992, for review). More recently the concept of self-compassion was developed from a Buddhist perspective by Neff (2003a, 2003b). She developed a scale that included six components of self-directed compassion including self-kindness and self-judgment. She found that compassion for the self is linked to self-esteem and negatively related to depression and anxiety. In a study of bulimics, Lehman and Rodin (1989) found that bulimic and nonbulimic people did not differ in regard to using food for nurturing, but bulimics were significantly less able to self-nurture in nonfood ways. They note that their study highlights "the usefulness of the self-nurturance construct in understanding the eating disorders" (p. 121). Gilbert et al. (2004) developed a scale for self-reassurance as part of their studies of self-criticism. Trait self-reassurance was measured by asking people a series of questions such as the extent to which they "encourage themselves for the future" and "feel lovable and acceptable" when things go wrong for them. Trait self-reassurance was significantly inversely related to depressive symptoms in students.

This has major implications for how self-regulation is achieved (Bowlby, 1980), and in particular, the ability to develop a sense of warmth for the self. Baldwin (1992) argued that interpersonal schemas (the self *in relation* to other) form the basis for subsequent self-to-self evaluations and experiences. A child who is repeatedly criticized, shamed, or rejected, learns an interpersonal script or *relational* schema (Baldwin, 1992)—that is that others are powerful, hostile-dominant and he/she is in a subordinate role vulnerable to their attacks/rejections (Gilbert, 2005a; Gilbert & Irons, 2005). This role other-to-self relationship can then play out internally as Whelton and Greenberg (2005) has found (e.g., a person attacks themself and then feels depressed and beaten down by his/her own attacks). In addition, a child who is shown little love or affection may not have his/her innate capacities (and brain pathways) for feeling loved and supported stimulated, will not lay down emotional memories of supportive others to call on in times of stress, will have fewer implicit procedures for stimulating inner soothing when distressed, and thus may find it difficult to activate self-soothing. As for all human competencies, to be routinely used, self-soothing and self-reassuring need to be stimulated, practiced and elaborated; that is it may be difficult to develop self-soothing if one has not experienced others being soothing and compassionate to self.

The role of imagery in the process of activating positive and negative affect has recently become an important area of research (Hackmann & Holmes, 2004). Indeed, shifts of emotions in anxiety and depressive disorders are often associated with images. The role on frightening flashback imagery is well known in posttraumatic stress disorders. Reynolds and Brewin (1999) found that depressed people also often have intrusive images of others as rejecting or abusive. In a recent pilot study using daily diaries, Gilbert and Irons (2004) explored the ease by which self-critical, depressed people attending a self-help group could generate soothing and warmth images for the self in contrast to harsh critical ones. Most participants found generating soothing self-images difficult but critical ones relatively easy. This study also explored how teaching people to generate self-soothing, compassionate and warm images for the self could act as an antidote for critical and harsh ones. While some people found this immensely helpful, others found it difficult to do, with one person finding it distressing, for every time she tried to imagine a compassionate part of herself she had intrusive images of her abusive husband.

The ability to generate compassionate images and practice generating compassionate images has been used in Buddhist healing practices for hundreds of years (Mullen, 2001; Ringu Tilku, & Mullen, 2005). Gilbert (2000) and Gilbert and Irons (2005) suggested that practicing generating warm, compassionate images and using these in self-evaluative situations, might be one way to try to stimulate the warmth-soothing system and make it available for self-evaluation. When people try to generate alternative cognitions and appraisals to self-critical thoughts and

images, they need to *feel them to be supportive and helpful*, otherwise people suggest they can see the logic, but this has little emotional impact.

The above analysis suggests that affective state may be linked to both the ease of activation of self-critical/condemning, *and* the difficulty in accessing warm/supportive/reassuring images of, and feelings for, self. It may be the difficulty in accessing a reassuring and self-reassuring script or role relationship with the self that is as important as the accessibility of critical ones, in influencing affective state.

This Study

In this study we sought to combine an evolution-role and social mentalities-focused approach (Gilbert, 1989, 2000, 2005a, 2005b) with the social-cognitive interpersonal schema model of Baldwin (1992). A social mentalities approach suggests that people relate to themselves via processing systems that were originally evolved for other-to-self and self-to-other forms of relating. Thus just as we can be sexual, hostile, submissive or caring of others so we can enact these "relationships" in self-to-self relating, for example, one part of self is critical/attacking with thoughts of "you are stupid and worthless" and another part responds with feeling defeated and beaten down (Whelton & Greenberg, 2005). We reasoned that people's ability to imagine a self-critical or self-reassuring part of themselves, in the context of a setback (e.g., getting a lower grade on a term paper than anticipated), could be an indicator of the availability and accessibility of hostile or warm-nurturing self-schema. We thus asked participants to imagine such a setback and then to indicate their degree of self-criticism and self-reassurance to such an event. Moreover, to conceptualize self-criticism and self-reassurance in terms of an internal role relationship we asked people to imagine the part of themselves that was self-critical or self-reassuring *as if* it were a person and to describe the qualities it might have. We hypothesized that the self-critical aspect of the self would be personalized like a hostile dominate other with the typical qualities of a hostile dominant. We hypothesized that the self-reassuring aspect of the self would be personalized like a kind, reassuring other with the typical qualities of a reassuring other.

Based on previous research into the cognitive accessibility of relational knowledge structures (e.g., Baldwin et al., 1996), we examined people's ability to generate specific types of images. We hypothesized that the ease with which people were able to generate clear and vivid images of a critical part of self, and as powerful/angry, would be linked to trait-self criticism. Conversely, we hypothesized that the ease with which people were able to generate warm and supportive images of self would be linked to trait-self reassurances. We then tested the relative contribution of the capacities to generate hostile or reassuring images of the self to depressive symptoms using a structural equation model.

Method

Participants

Participants were 197 undergraduate students (26 men, 171 women) from McGill University in Montreal, Canada ($n = 50$) and the University of Derby, UK ($n = 147$). Ages ranged from 18 to 51 (mean = 23.39). Participants were either volunteers, or received extra credit in an introductory psychology course for their participation.

Procedure

Participants were run in groups in a classroom setting. They were given two envelopes marked "1" and "2" that contained various questionnaires and answer sheets. Participants were first

instructed to open the envelope marked "1" and complete the questionnaires inside. The questionnaires used in this study were:

Center for Epidemiologic Studies-Depression Scale (CES-D)

Depression symptomatology was measured with the CES-D, which was developed to measure depressive symptomatology in nonpsychiatric populations (Radloff, 1977). It is a 20-item scale that measures a range of symptoms (such as depressed mood, feelings of guilt, sleep disturbance) and respondents indicate on a 4-point scale (0–3) how often they have had the symptom in the past week. Scores range from 0 to 60, with higher scores indicating greater depressive symptoms. Radloff (1977) found internal consistency coefficients of greater than .84. This scale has been recommended for use in a general population (Gotlib & Hammen, 1992). The Cronbach alpha in this study was .93.

The Forms of Self-Criticizing/Attacking & Self-Reassuring Scale (FSCRS)

This scale was developed by Gilbert et al. (2004) to measure people's critical and reassuring self-evaluative responses to a setback or disappointment. The original scale contained 24 items, but two items were dropped due to poor psychometric properties, making a 22-item scale. Participants respond to a probe statement "when things go wrong for me. . . ." on a 5-point Likert scale (ranging from 0 = not at all like me, to 4 = extremely like me), to a series of questions designed to tap self-criticism and self-reassurance. Self-critical items include: "I am easily disappointed with myself; there is a part of me that puts me down; I have become so angry with myself that I want to hurt myself." Factor analysis suggested that the self-critical factor could be separated into two subfactors; one that focuses on feeling inadequate, defeated, and called "inadequate self" (9 items), while the other focuses more on a sense of disgust and anger with the self and called "hated self" (5 items). Gilbert et al. (2004) found that these scales were significantly correlated with the Levels of Self-Criticism Scale (Thompson & Zuroff, 2000). In this study we combined "inadequate self" and "hated self" subscales to give one score, and refer to it as trait self-criticalness. The Cronbach alpha for trait self-criticalness in this study was .91.

Self-reassurance is measured by response to the probe statement "when things go wrong for me. . . ." On a 5-point Likert scale (ranging from 0 = not at all like me, to 4 = extremely like me), participants rate a series of questions designed to measure self-reassurance that include "I am able to remind myself of positive things about myself; I encourage myself for the future." This is a one-factor, 8-item measure, and will be referred to in this study as trait self-reassurance. The Cronbach alpha for trait self-reassurance in this study was .87.

Social Comparison Scale

A person's sense of their relative rank in relationship to others can be derived from how people compare themselves to others. Allan and Gilbert (1995) developed the social comparison scale for this purpose. It has been used in a number of studies and has been found to be highly correlated with depression (Allan & Gilbert, 1997; Gilbert & Allan, 1998). Subjects make a global social comparison of themselves in relation to others on 11 bipolar constructs, rated 1 to 10. Hence, to the probe question "in relation to others I feel . . ." one domain is:

Inferior 1 2 3 4 5 6 7 8 9 10 Superior.

Thus, *low* scores indicate relative *inferiority* compared to others, while *high* scores indicate relative *superiority*. Negative correlations with depression thus indicate higher depression is associated with increasing inferiority (lower scores). There are 11 items measuring constructs of inferior-superior, attractive-unattractive, insider-outsider. The Cronbach alpha in this study was .91.

VISUALIZATION AND IMAGERY TASK

The study used imagery as a technique for accessing participants' evaluative tendencies. Image generation has powerful impacts on emotions and physiological states (Hackmann, 1998; Hackmann & Holmes, 2004), and has been used in a number of brain imaging studies to explore the impact of image-induced emotions on brain function (George et al., 1995; Pardo, Pardo, & Raichle, 1993).

After completing the self-report questionnaires, the researcher advised participants that the research would involve two visualization/imagery tasks followed by answering some self-report questions. Before beginning the visualization the researcher conducted a group relaxation task, where for 1 minute participants were asked to close or rest their eyes, and focus on and relax their breathing, and let their muscles go loose. At the end of this minute, the first visualization was "... imagine a course essay you have been working on and putting a lot of effort into. Imagine the grade you want to get and how you would feel if you achieve it. . . . close your eyes or look down and try to imagine this for 30 seconds." After 30 seconds, the key visualization was introduced. Participants were asked to ... "imagine that when your essay is marked and comes back to you, it is a grade lower than you wanted. How would that feel? What might you think about yourself and your efforts? Really focus on your feelings of how you'd feel if your grade is lower than the one you wanted." After 30 seconds, participants were then asked to open the second envelope and remove their scoring sheets.

Self-Critical Visualization

The researcher then read participants the series of questions they had in front of them and asked participants to give their answers on the answer sheet. The nonitalics indicate what actually appeared on the participants' answer sheet, and the italics are the questions the researcher asked:

Holding that feeling you have if the grade is lower than what you wanted:

1. How critical might you be with yourself?
   Not at all self-critical 1 2 3 4 5 6 7 8 9 10 Very self-critical
2. How irritated/annoyed with yourself might you be?
   Not at all irritated with self 1 2 3 4 5 6 7 8 9 10 Very irritated with self
3. How typical is it for you to be self-critical if you do not succeed in the way you would like?
   Not typical 1 2 3 4 5 6 7 8 9 10 Very typical

The researcher then gave the following instructions to personify their image:

> *Okay, so we have been thinking about our self-critical side. Now for a moment let's imagine that this self-critical part of you could be thought about* as a person. *If those self-critical thoughts took on the appearance of an actual person what might they be like? Maybe you could think about their facial expressions, if they are big or small, the tone of their voice. Just spend 30 seconds imagining this.*

After 30 seconds, the researcher then read participants the next set of questions written on the answer sheet:

4. How easy was it for you to imagine the self-critical part of yourself as a person?
   Easy to imagine 1 2 3 4 5 6 7 8 9 10 Not easy to imagine
   (the coding of this item was reversed for analysis)
5. How clear was your visualization?
   No clear image 1 2 3 4 5 6 7 8 9 10 Very clear image.
6. Trying to keep in mind your ideas about your self-critical part, how powerful or dominating do you feel this self-critical part is of you?
   Not powerful 1 2 3 4 5 6 7 8 9 10 Very powerful

7. How angry or hostile is your self-critical part?
   Not at all angry or hostile 1 2 3 4 5 6 7 8 9 10 Very angry or hostile
8. Now think about how beaten down or discouraged you would feel if you self-criticize yourself for the grade you actually got?
   Not discouraged 1 2 3 4 5 6 7 8 9 10 Very discouraged
9. How easy do you think it would be for you to dismiss your self-critical thoughts about your grade?
   Easy to dismiss them 1 2 3 4 5 6 7 8 9 10 Not easy to dismiss them
   (A number of other questions relating to feelings of the image being like self or not like self were asked but will not be reported here).

Participants then placed their completed score sheet in envelope 1 and the second set of visualizations commenced.

Self-Reassuring Visualization

Before commencing the second set of visualizations, a 1-minute relaxation task was worked through. This was to help clear the mind of the previous exercise. Following this, the researcher gave the following instructions: "Okay, now I would like you to imagine again that when your essay is marked and comes back to you, the grade is lower than you wanted. Remember how hard you worked on your essay. To remind you of how this may feel, at not getting the grade you wanted, we will spend 30 seconds imagining this event." After 30 seconds the researcher said, "okay holding that feeling you have, if your grade is lower than you wanted, our first question is":

1. How supporting of yourself might you be—i.e., that "you can do well another time?"
   Not self-supporting 1 2 3 4 5 6 7 8 9 10 Very self-supporting
2. How typical is it for you to be self-supportive if you do not succeed in the things you would like?
   Not typical 1 2 3 4 5 6 7 8 9 10 Very typical

The researcher then gave the following instructions to personify their image:

> *For a moment, let's imagine that this self-supporting, or compassionate part of yourself could be thought about as a person. If those self-supporting thoughts took on the appearance of an actual person what might they be like? Maybe you could think about their facial expressions, if they are big or small, the tone of their voice. Just spend 30 seconds imagining this.*

After 30 seconds, the researcher then read participants the next set of questions

3. How easy was it for you to imagine a self-supporting part of yourself as a person?
   Easy to imagine 1 2 3 4 5 6 7 8 9 10 Not easy to imagine
   (the coding of this item was reversed for analysis)
4. How clear was your visualization?
   No clear image 1 2 3 4 5 6 7 8 9 10 Very clear image
5. Trying to keep in mind your ideas about your self-supporting part, how powerful is this self-supporting part of you?
   Not powerful 1 2 3 4 5 6 7 8 9 10 Very powerful
6. Now let's think about how warm and kind this self-supporting part of you seems to be?
   Not at all warm 1 2 3 4 5 6 7 8 9 10 Very warm
7. Now think about how encouraged you feel if you think in self-supportive ways about yourself for the grade you actually got?
   Not encouraged 1 2 3 4 5 6 7 8 9 10 Very encouraged
8. How easy would it be for you to dismiss your self-supporting thoughts about your grade?
   Easy to dismiss 1 2 3 4 5 6 7 8 9 10 Not easy to dismiss them
   (A number of other questions relating to feeling of the image being like self or not like self were asked but will not be reported here).

At the end of the research participants were debriefed.

RESULTS

The visualization research sought information on essentially three types of process. First related to *degree* of criticalness and reassuring and how *typical* it is to be self-critical or self-reassuring. The second element related to visualizing a self-critical or self-reassuring part of the self *as if* it were a person. Here our interest was first on how powerful and how angry/warm these aspects of self were imagined/experienced as being. Third, we were interested in the ease of accessibility and elaboration of a self-critical or self-reassuring image, and how clear and vivid the image was.

Self-Criticalness/Attacking

Table 1 gives the Pearson product-moment correlations and means and standard deviations for the self-report scales. Trait self-criticism is correlated with depression, feeling inferior and low trait self-reassurance. Trait reassurance in contrast is correlated with lower depression and more favorable social comparisons.

Table 2 gives Pearson product-moment correlations for the imagery variables of the first (self-critical) visualization with the self-report scales. As one would expect, feeling self-critical, and this being typical of how a person responds to a setback on the imagery task, is associated with the trait FSCRS measure. In addition, these self-critical tendencies are associated with feeling inferior to others (negative social comparisons), and depressive symptomatology, and are inversely related to self-reassuring.

When asked to imagine a self-critical part of self *as if* it were a person, the felt power of the critical image and anger in the image were highly related to tendencies to feel inferior and report higher depressive symptomatology. Further, the difficulty people have in dismissing these self-critical images, and the degree of discouragement that flows from them, are highly related to trait self-criticalness as measured by the FSCRS, and to depressive symptomatology. In general then, self-criticalness can be seen as having various properties such as frequency (typicality), felt power, anger, ease of dismissing and degree of discouragement that comes with these responses to setbacks.

Self-Reassuring

The findings for the self-reassuring visualization task are almost the mirror image of those for self-criticalness and are given in Table 3. The ability to be self-supportive, and this being typical of how one responds to a setback, is highly associated with trait self-reassurance, with *not* feeling inferior to others and with low depressive symptomatology. Moreover, when asked to imagine a self-reassuring part of self *as if* it were a person, the felt power of the reassuringness of the image, the warmth that could be generated in the image, and the encouragement that could be taken from the image, were all highly inversely related to depressive symptomatology.

TABLE 1. CORRELATIONS AND MEANS AND STANDARD DEVIATIONS OF TRAIT VARIABLES, SOCIAL COMPARISONS, AND DEPRESSION

	Trait Self-Criticism	Trait Self-Reassurance	Social Comparison	Depression
Trait self-criticism		−.58*	−.45*	.63*
Trait self-reassurance			.54*	−.56*
Social comparison				−.49*
Mean	20.20	21.00	61.61	18.00
Standard deviation	11.20	5.91	15.66	11.59

TABLE 2. CORRELATION COEFFICIENTS BETWEEN SELF-REPORT QUESTIONNAIRES AND SELF-ATTACKING/CRITICAL VISUALIZATIONS

	CRIT	IRR	TYP	IMIN	IMA	POW	ANG	DISC	DISM
Trait self-criticalness	.46***	.45***	.55***	.23***	.27***	.53***	.51***	.45***	.59***
Trait self-reassurance	−.30**	−.31**	−.38**	−.04	−.11	−.33**	−.33**	−.37**	−.41**
Social comparison	−.30**	−.23**	−.25**	−.09	−.10	−.22**	−.21**	−.17*	−.30**
Depression symptomology	.36**	.34**	.40**	.10	.17*	.35**	.36**	.40**	.41**

Note. CRIT = How critical might you be with yourself; IRR = How irritated/annoyed with yourself might you be; TYP = How typical is it for you to be self-critical in you do not succeed; IMIN = How easy was it to imagine the self-critical image of yourself as a person; IMA = How clear was your visualization; POW = How powerful or dominating is your self-critical part; ANG = How angry or hostile is your self-critical part; DISC = how discouraged would you feel if you self-criticize; DISM = How easy do you think it would be for you to dismiss your self-critical thoughts about your grade.

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

Taken together this data suggest that self-critical people not only typically respond to setbacks with self-criticism, that their criticalness can be felt as powerful, angry and difficult to dismiss, but *as important is that they find it difficult to generate feelings of inner support and reassurance/warmth.* When they try to generate warm images of self, increasing levels of self-criticalness are associated with such (warm-supportive images) to be felt as relatively weak/powerless, not very encouraging and easily dismissed.

Structural Equation Modeling

Previous research (e.g., Baldwin, 1994; Baldwin & Holmes, 1987) has suggested that the impact of evaluative schemas varies as a function of their cognitive accessibility. Although there were a number of key aspects to the generated images (e.g., power and emotion of anger/warmth), for this study we wanted to focus on accessibility and ease of elaboration of an image. We focused on the *ease* of imaging a self-critical part of self and a self-reassuring part of the self (as if they were a person), and the *clarity/vividness* of the images generated. These may be indicators of the ease of accessibility and elaboration in internal self-critical and self-reassuring schemas, and affect processing systems.

Data from the question on the ease of generating an image of a self-critical part of self, and the question on the clarity of the image, were combined to give a single measure called *self-critical image.* Data from the questions on the ease of generating an image of a self-reassuring part of self, and the question on the clarity of the image, were combined to give a single measure called *self-reassuring image.* The variable of trait self-reassurance was taken from the FSCRS. Figure 1 represents the relationship between the ability to create a self-critical image and self-reassuring image and trait levels of self-reassurance, and how these relate to depressive symptomatology; in the figure, the standardized values are reported. We tested this model using AMOS. The model had a good fit, with a chi-square = 2.69, $df = 2$, $p = .261$. Low and nonsignificant values of the chi-square index are desired (Kline, 1998). We also used the Tucker-Lewis Index (TLI), which was .998. Finally, the root-mean-square error of approximation (RMSEA) was .042, with a lower boundary < .001, and an upper value of .154. TLI values greater than .90 and an RMSEA value lower than .06 are considered to be a good fit (Hu & Bentler, 1999).

The ability to create a clear self-reassuring image led to higher levels of trait self-reassurance ($\beta = .35$, $p < .001$). Also as expected, higher levels of trait self-reassurance led to significantly lower levels of depressive symptomatology ($\beta = -.56$, $p < .001$).

The correlation between self-critical image and self-reassuring image was marginally significant ($R = .13$, $p = .075$), such that, overall, people who found it easy to generate one kind of image also tended to find it easy to create the other kind.

Finally, the path between self-critical imagery and trait self-reassurance showed that the ability to create a clear self-critical image did not significantly predict lower levels of trait self-reassurance ($\beta = -.13$, *ns*). Thus, trait self-reassurance represents more than simply the lack of an accessible self-criticism script.

Structural Equation Modeling: Trait Self-Criticism

Figure 2 represents the relationship between the ability to create a self-critical image and self-reassuring image, and trait levels of self-criticism, and how this relates to depressive symptomatology. The model had a good fit, with a chi-square = 1.10, $df = 2$, $p = .576$. The TLI was 1.00, and the RMSEA was < .001, with a lower boundary < .001, and an upper value of .119.

Parallel to the first model, the ability to create a clear self-critical image led to higher levels of trait self-criticism ($\beta = .30$, $p < .001$). Also as expected, higher levels of trait self-criticism led to significantly higher levels of depressive symptomatology ($\beta = .63$, $p < .001$).

TABLE 3. CORRELATION COEFFICIENTS BETWEEN SELF-REPORT QUESTIONNAIRES AND SELF-REASSURING VISUALIZATIONS

	SUPP	TYP	IMIN	IMA	POW	WARM	ENC	DISM
Trait self-criticalness	−.59***	−.52***	−.23**	−.15*	−.54***	−.34***	−.45***	−.38**
Trait self-reassurance	.63**	.60**	.31**	.28**	.58**	.43**	.53**	.38**
Social comparison	.44**	.43**	.27**	.20**	.45**	.32**	.42**	.21**
Depression symptomology	−.49**	−.41**	− .22**	−.11	−.44**	−.28**	−.40**	−.31**

Note. SUPP = How supporting of yourself might you be; TYP = How typical is it for you to be self-supportive if you do not succeed in the things you would like? IMIN = How easy was it to imagine the self-critical image of yourself as a person; IMA = How clear was your visualization; POW = How powerful or dominating is your self-critical part; WARM = How warm and kind is this self-supporting part of you; ENC = How encouraged would you feel if you think in self-supportive ways; DISM = How easy would it be for you to dismiss your self-supporting thoughts.
*$p < .05$. **$p < .01$. ***$p < .001$.

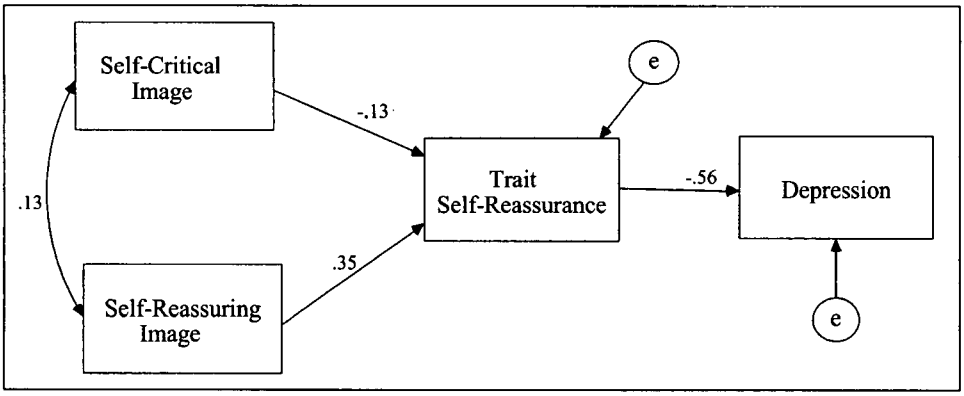

FIGURE 1. Relationship between image generation, trait self-reassurance, and depression.

Most relevant to the accessibility hypothesis, the path between self-reassuring imagery and trait self-criticism showed that the ability to create a clear self-reassuring image significantly predicted lower levels of trait self-criticism (β = -.27, p <. 001). This finding supports the hypothesis that people who are able to easily generate a clear image of a self-reassuring part of themselves were less likely to be chronically self-critical, even controlling for their ability to generate a self-critical image.

We also explored the alternative models, in which the relationship between trait self-criticalness/trait self-reassurance and depressive symptoms were mediated by the nature of the images generated, but this model was unsupported. The data suggest then that although people can generate hostile and reassuring images, to varying degrees their impact on mood is mediated by people's general tendencies to be self-critical or self-reassuring. This may fit with the over and understimulation of affective systems as underpinning the affective impacts of self-criticism.

Of course, other relationships are possible, such as depression can increase the generation of self-critical images and reduce positive ones—mediated by trait self-criticism. Thus we tested a competing model, with overall depressive symptoms leading to the ability to create a self-critical and self-reassuring image, mediated by trait self-criticism. This model did not have good fit, chi-square = 9.13, df = 3, p = .028. The TLI = .985 and the RMSEA = .102. In regard to self-reassurance we tested another model, with overall depressive symptoms leading to the ability to create a self-critical and self-reassuring image, mediated by trait self-reassurance. This model did not have good fit, chi-square = 8.149, df = 3, p = .043. The TLI = .989 and the RMSEA = .094.

DISCUSSION

Social relationships form the basis for experiencing and understanding the self (Schore, 1994), and it is social relationships that stimulate various social affect systems (e.g., feeling loved and cared for or neglected and rejected). Out of these social roles emerge social and self-to-self implicit scripts and procedures (Baldwin, 1992; Gilbert, 2005a). Self-to-self evaluative procedures operate through social mentalities that are role focused (Gilbert, 2000). Hence this study set out to explore the degree to which the capacity to imagine self-critical and self-reassuring aspects of the self as *if it were a person* are related to trait self-criticism, trait self-reassurance, and depressive symptoms. The findings seem to tell a consistent story.

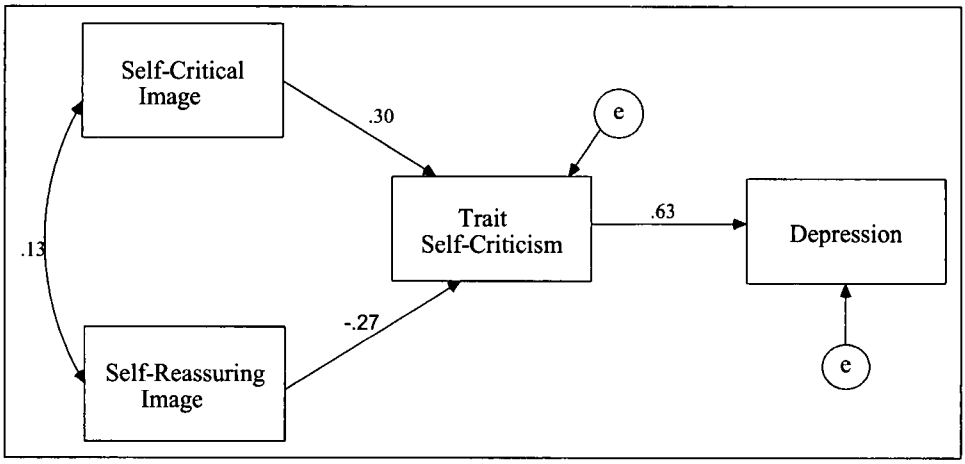

FIGURE 2. Relationship between image generation, trait self-criticism, and depression.

When people suffer setbacks, such as failing to acquire a set grade, they can become self-critical. We found that the degree of criticalness, and how typical it was to respond in this way to a setback, was highly related to trait self-criticism and inversely related to trait self-reassurance. We also found that when people are asked to imagine this self-critical aspect of themselves as if it were a person, the ease of the visualization and the clarity of the visualization was related to trait self-criticalness but was not related to trait self-reassurance. In other words, *it is not* some general ability to generate clarity of any image that is at issue here but the type of image and the interpersonal qualities it is given (e.g., power and anger). Previous research had shown that it is the experience of the power of self-criticism that can be particularly depressogenic (Dunkley, Zuroff, & Blankstein, 2003; Gilbert et al., 2001, 2004; Whelton & Greenberg, 2005). In this study we found that the power of the image, and the anger associated with the image, were significantly related to trait self-criticism and depressive symptomatology. Moreover, self-critics felt discouraged by their images and found them difficult to dismiss.

In contrast, the degree of trait self-reassurance was inversely related to the power of a self-critical image and anger in the image. It was also related to less discouragement and easier to dismiss a self-critical image. Taken together, these data suggest that self-criticism is linked to complex self-evaluative scripts where the criticism can be experienced as powerful, angry, discouraging and not easily dismissed. Those high in trait self-reassurance, however, do not have such an intense or clear internal self-critical relationship; their self-critical images are less powerful and easier to dismiss. Put another way, self-critics have a more elaborate, more easily accessible and powerful self-critical system. In social mentality theory, however, it is important to note the power/affects of the dominating critical part of self *and* the responses/affects of the "subordinated beaten down" part of self.

However, it may be that it is both the ease of accessing critical images *and* the difficulty of accessing warm supportive thoughts, feelings and images that impacts on depressive symptoms. As noted in the introduction, we were interested in the degree to which self-criticalness excluded the possibility of self-warmth. We therefore explored imagery in relationship to the ability to be self-accepting in the face of a setback. As shown in Table 3, there was a strong inverse correlation between feeling self-supportive and self-criticalness. Self-critics found it more difficult to generate images of a supportive part of themselves, did not experience such a part as particularly powerful, warm or encouraging and they were easily dismissed. Trait self-criticism

was thus associated with a rather *stunted* ability to generate a warm supportive image of self. Trait self-reassurance, on the other hand, was strongly related to the ability to be supportive of oneself, to "give" this image feelings of warmth and feel encouraged by it. The ability to generate powerful, warm and accepting images seems significantly protective of depression symptoms.

We were also interested in the degree to which the various domains of self-criticism and self-support were linked to general feelings of inferiority. This has been found to be the case in people with schizophrenia who hear hostile voices (Birchwood et al., 2000). This study found similar results, in that individuals who feel relatively inferior tend to be more self-critical, generate powerful self-critical images and are less warm with themselves. In interpersonal schema terms (Baldwin, 1992), if you feel subordinated by the outside world you might treat yourself in the same way.

Taken together, trait self-reassuring looks almost like a mirror image to that of trait self-criticism. The overall story seems to be that self-critics can generate potent and vivid images of a self-critical part of self but struggle with a compassionate part of self while for self-reassurers it is the other way around. We have not explored exactly where the self-critical image "comes from." In clinical discussions (Gilbert & Irons, 2004, 2005) some people say it has the "voice, appearance or feel" of a parent, bully or an abuser; like an echoic memory. In essence, when people fail there may be an automatic stimulation of memories of how others have treated them, but over time these come to be endorsed as their own self-evaluations (Baldwin, 1992). Future work may explore this aspect.

We also sought to explore the degree to which the accessibility of these images/self-scripts interacts with trait self-criticism and trait self-reassurance to influence depression. We thus generated two models. In the first model, the ease and vividness of self-reassuring imagery, but not the difficulty in generating self-critical imagery, predicted trait self-reassurance, which was associated with a low level of depressive symptomatology. Of special interest was that in the second model, the *inability* to generate a reassuring image significantly predicted increased levels of trait self-criticism, which was associated with higher levels of depressive symptomatology. In other words, both the ability to generate self-critical images *and* the inability to generate and access self-reassuring images are related to higher levels of criticalness.

This research builds on previous studies on the cognitive accessibility of relational schemas. Priming research has shown that the activation of structures representing social acceptance can have salutary effects on self-evaluation and attachment relations (e.g., Baldwin & Holmes, 1987; Baldwin et al., 1996). In recent research, classical conditioning techniques have been used to form associative links between social acceptance and either neutral cues (e.g., Baldwin & Main, 2001) or self-relevant information (Baccus, Baldwin, & Packer, 2004), resulting in improvements in implicit self-esteem and reductions in social anxiety. Thus, as Brewin (1989) argued, cognitive accessibility is a critical factor determining whether beneficial or troublesome structures will have the greater impact on emotional well-being.

These data may have important clinical implications. They suggest that it may be the inability to generate warmth, as much as the ability to counteract self-criticism, that is central to some depressions and perhaps other emotional difficulties. This may help explain why some patients can understand the logic of cognitive therapy and generate alternative beliefs/thoughts, but suggest they do not feel reassured by such. If the affect system for responding to "reassuring cues" is toned down for some reason, then "helpful cognitions" might not be able to link to certain type of soothing affect systems. This implies that for some people it may not be enough to teach them how to rationally re-evaluate their negative self-cognitions but the therapist needs to help build up *and practice experiencing* internal scripts and role relationships based on warmth, compassion and forgiveness (Gilbert, 2000; Gilbert & Irons, 2005). This is especially so given that the brain has evolved to be highly responsive to signals of warmth and affection and shows different patterns of activation to warmth/affection in contrast to hostility and criticalness

(Buck, 2002; Cacioppo et al., 2000; Panksepp, 1998). Although a supportive therapeutic relationship may aid this development and elaborate innate schemas for feeling supported and cared for, it is also the case that people can be encouraged to *practice* warm and compassionate forms of self-evaluation by focusing on compassionate attention, thinking, feeling, and behavior, and generating compassionate imagery to themselves (Gilbert, 2000; Gilbert & Irons, 2005; Lee, 2005). In fact, this has obvious overlaps with Buddhist ideas of loving-kindness imagery (Mullen, 2001; Ringu Tilku & Mullen, 2005). However, this is not always as easy as it may seem, as some people can feel overwhelmed by their feelings, especially their ability to tolerate sadness and grief when experiencing warmth; it can feel odd and unfamiliar, and be associated with shame for weakness and fear of becoming weak/vulnerable or "falling apart" (Gilbert, 2000; Gilbert & Irons, 2004, 2005). Clearly, more research is needed on the processes and value of compassionate and self-reassuring therapeutic work. Moreover, as in all studies of this type, work with students can be illuminative, but further research is needed with clinical populations. One salient idea, however, is that developing compassion for self and others may be key to emotional well-being. This requires further research on how to achieve this in highly self-critical people who may have experienced little warmth in their lives—and who may find it frightening to do.

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