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Acceptance and Commitment Therapy and Depression – the development of a
depression specific process measure

A thesis submitted in partial fulfilment of the requirements for the award of the degree
Doctorate of Psychology (Clinical Psychology)

From

University of Wollongong

by

Elizabeth Cooper, B. Psych (Hons), M. Psych (Clinical)
Student Number 2737103

THES924 Research Thesis
2008

Thesis Certification

I, Elizabeth Anne Cooper, declare that this thesis, submitted in partial fulfilment of the requirements for the award of Doctor of Psychology (Clinical Psychology), in the Department of Psychology, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Elizabeth Ann Cooper

June 2009

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Table of Contents

	Pages
Acknowledgments	ii
List of Figures	vi
List of Tables	vii
Appendices.....	vii
Abstract	ix
Introduction	1
ACT Theory of psychopathology: psychological inflexibility ..	2
The six core processes of ACT	10
What is Depression?	17
ACT formulation of Depression	22
Fusion.....	23
Evaluation and Self-Discrimination.....	23
Avoidance	24
Reason Giving	27
Rumination	29
Value Based Living and Committed Action	30
ACT and Depression Research	32
Assessment of ACT Processes in Depression	35
Development of the Original AAQ	37
The Current Study	40
Method	43
Participants.....	43
Non Clinical Sample	43

Table of contents (continued)

	Page
Clinically Depressed Sample	43
Procedure	44
Measures/Instruments	46
Demographic Information	46
Acceptance and Avoidance Questionnaire for Depression (AAQ-D)	44
Mindfulness Attention and Awareness Scale	48
White Bear Suppression Inventory	48
Outcome Questionnaire	49
Acceptance and Action Questionnaire –II	50
Reasons for Depression Questionnaire.....	51
Beck Depression Inventory- 2 nd Edition	51
Automatic Thought Questionnaire	52
Results	53
Preliminary Analysis	53
Main Analysis: Factor Analysis of AAQ-D.....	53
Internal Consistency	57
Test-retest reliability	58
Convergent and divergent validity	58
Criterion Correlations.....	62
Differences between depressed and non depressed samples ...	63
Discussion	70
Criterion relationships of AAQ-D, depression and AAQ-II	73

Table of contents (continued)

	Page
Group differences on the AAQ-D	76
Strengths, limitations and future directions.....	80
Summary	83
References	85
Appendices	102

List of Figures

	Page
Figure 1.1 An ACT/RFT model of Psychopathology	3
Figure 1.2 A model of the positive ACT processes	11

List of Tables

	Page
Table 3.1 Factor Loadings for AAQ-D items	55
Table 3.2 Internal Consistency Reliability Analyses for AAQ-D Scales	57
Table 3.3 Convergent and Divergent Correlations	61
Table 3.4 Criterion Correlations	62
Table 3.5 Results of t-test comparing depressed vs non-depressed on AAQ-D scales	64
Table 3.6 Results of t-test comparing depressed vs non-depressed on WBSI, MASS and ATQ-B	66
Table 3.7 Results of t-test comparing depressed vs non-depressed on BDI-II and AAQ-II	67
Table 3.8 Results of t-test comparing depressed vs non-depressed on Reasons for Depression Questionnaire	68

Appendices

	Page
A Subscales of the original AAQ-D.....	102
B Example of a consent and information form	103
C Questionnaire package	106
D Final AAQ-D after factor analysis	124

Abstract

The aim of this study was to develop a self report measure to assess the core processes of Acceptance and Commitment Therapy (ACT) as they apply to depressed individuals in the interest of further assessing the role of these processes in mediating depression. One hundred and twenty clinically depressed participants and a control sample of 121 first and second year psychology university students participated. Participants in both groups completed a battery of questionnaires including demographic and mental health history, Acceptance and Avoidance Questionnaire for Depression (AAQ-D), Acceptance and Avoidance Questionnaire II (AAQ-II), Mindfulness Attention and Awareness Scale, White Bear Suppression Inventory, Outcome Questionnaire, Beck Depression Inventory Second Edition (BDI-II), Reasons for Depression Scale, and a modified version of the Automatic Thought Questionnaire. One hundred and forty eight participants completed a two week follow up including the AAQ-D, AAQII and the BDI-II. The results of this study suggest the AAQ-D is a reliable and valid measure of ACT processes relevant to depression. The factor analysis of the AAQ-D produced a three factor structure with a general factor assessing psychological flexibility, and two second order factors measuring Mindfulness and Defusion and Values and Committed Action.

Acceptance and Commitment Therapy and Depression – the development of a depression specific process measure

Acceptance and Commitment Therapy (ACT) is a unique behaviour therapy approach that aims to reduce human suffering through the use of acceptance and mindfulness processes as well as commitment and behaviour change processes (Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004). ACT aims to assist people to accept a full range of subjective experiences including distressing thoughts, beliefs, feelings and physical sensations and to choose a valued life direction in order to promote behaviour change that will lead them in this direction, and hence to an improved quality of life (Eifert & Forsyth, 2005; Foreman, Herbert, Moitra, Yeomans & Geller, 2008).

ACT's theoretical base lies in Relational Frame Theory (RFT: Hayes, Barnes-Holmes, & Roche, 2001) which is a comprehensive functional contextual program of basic behavioural research on human language and cognition (Hayes & Strosahl, 2004). ACT reflects its philosophical roots in several ways. Firstly, ACT emphasises workability of life and coping as a truth criterion and relies on values and goals to provide a measure of success. ACT clients are encouraged to not take the literal meaning of their thoughts but rather to live according to their values and goals. Secondly, ACT tends not to view thoughts and feelings as causal in the mechanistic sense. Therefore, in ACT thoughts and feelings are not assumed to cause overt behaviour. Rather, it is the broader context in which thoughts and feelings are experienced that influences overt behaviour (Biglan & Hayes, 1996). Thus, rather than trying to change the form of private experiences (e.g., content of a thought or feeling), ACT attempts to change the function

of the private experience by manipulating contextual variables such as how the client relates to and perceives these thoughts and feelings (Hayes, Strosahl, & Wilson, 1999).

ACT theory of psychopathology: psychological inflexibility

From an ACT perspective, psychopathology can result from (or be exacerbated by) either the absence of relational abilities inherent to language (i.e., mental retardation), or by psychological inflexibility (Hayes et al., 1999). Psychological inflexibility is “the inability to modulate behaviour in response to how helpful it is, that is changing behaviour when it is helpful to do so and persisting when persistence is needed in order to achieve desired ends” (Hayes, Strosahl, Bunting et al., 2004, p. 25). ACT theory posits that there are six factors which can contribute to psychological inflexibility: cognitive fusion, experiential avoidance, attachment to a conceptualised self, lack of contact with the present moment, lack of clarity of life values and goals and inaction towards their values (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Figure 1.1 illustrates how these six factors interact to produce psychological inflexibility.

One factor contributing to psychological inflexibility is cognitive fusion. Cognitive fusion is the inability to detect the ongoing process of thinking as distinct from the products of thinking, that is thought (Fletcher & Hayes, 2005). In other words, cognitive fusion occurs when people get caught up in the content of what they are thinking so that dominates over other useful sources of behaviour regulation (Luoma, Hayes, & Walser, 2007). This can result in people missing opportunities their environment has to offer to achieve the chosen valued life goals (Hayes et al., 2006). The tendency for people to engage in cognitive fusion is maintained by the social and verbal community. For example, people are taught early on that emotions and thought are valid causes for behaviour (e.g., “I can’t do ____ because I’m too anxious”, “You don’t have to do _____ if it upsets you”). This means that people are even more drawn into using emotions and

thoughts as ways to regulate their behaviour. During periods of cognitive fusion, people equate thoughts with reality, for example if a person has the thought “life is meaningless” then they take that to mean that life truly is meaningless, rather than simply experiencing the thought as a part of suspect verbal commentary on life. Cognitive fusion can lead to a narrowing of behaviour because acting on the basis that “life is meaningless” will tend to produce a life that is less vital and meaningful (Hayes et al., 1999).

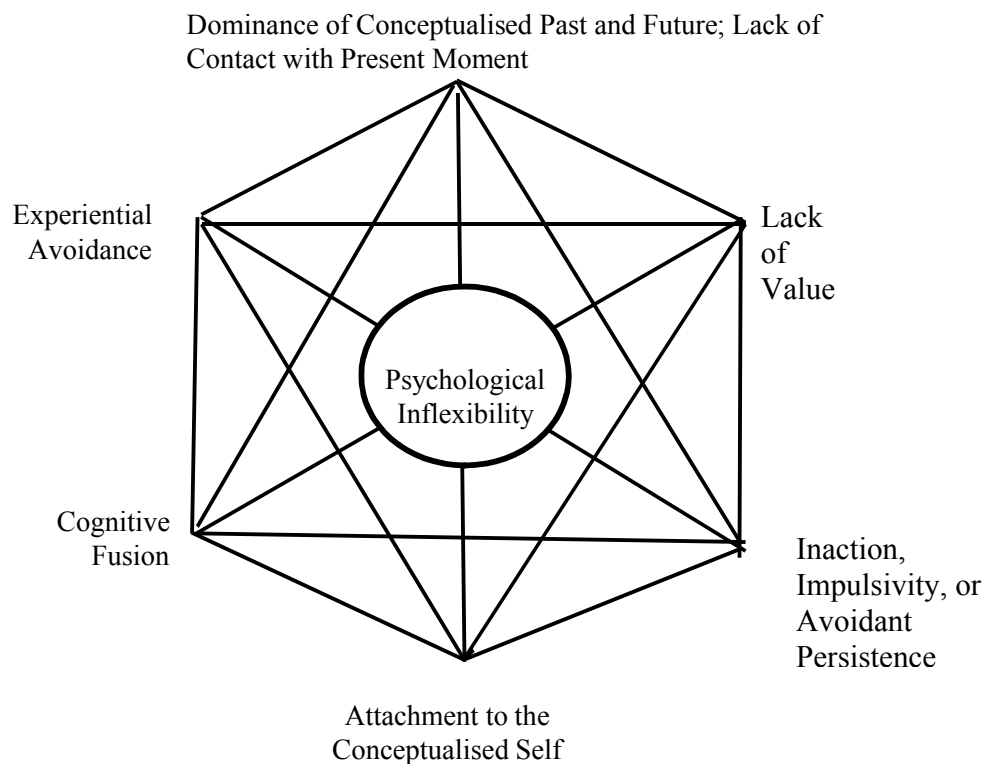


Figure 1.1 An ACT/RFT model of Psychopathology

A second factor considered to contribute to psychological inflexibility is experiential avoidance. Experiential avoidance is “the attempt to alter the form, frequency, or situational sensitivity of private events even when doing so causes behavioural harm” (Hayes et al., 2006, p. 7; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). It is easy to see how the social and verbal

contexts surrounding cognitive fusion can contribute to experiential avoidance. If thoughts are literal representations of reality and emotions and thoughts are causes for behaviour, it would be natural for someone to want to reduce their experience of “negative” thoughts and feelings. Experiential avoidance presents in two main forms: suppression and situational escape/avoidance (Hayes, Strosahl, Bunting, et al., 2004). Suppression is the active attempt to control or eliminate the immediate experience of an unwanted thought, feeling, memory or physical sensation (Wenzlaff & Luxton, 2003). For example, a depressed person may try to keep very busy in order to stop thinking of negative things. Situational escape or avoidance is the attempt to alter the antecedent contextual features likely to be associated with the appearance of unwanted private experiences. For example, the anxious person may avoid social situations in order to not feel anxious, and the depressed person may stop going to work in response to the thoughts they are hopeless at their job. Suppression and situational escape/avoidance have been found to contribute to poorer outcomes and exacerbation of the experiences trying to be avoided for many disorders (Hayes et al., 1996).

Experiential avoidance can also take many other forms including but not limited to daydreaming, distraction, ingestion of drugs and alcohol, spending money, or engaging in high risk sex (Zettle, 2007). Any behaviour that is used as a method to alter the form and/or frequency of inner experiences can be considered a form of experiential avoidance (Chawla & Ostafin, 2007). For example, several authors (Borkovec, 1994; Roemer & Orsillo, 2002) have suggested that worry is a form of avoidance for people with generalised anxiety disorder as it provides short term relief from internal distress. Chapman, Gratz, and Brown (2006) suggest that deliberate self harm (in the absence of intent to die) is a strategy for reducing unwanted emotional distress and arousal and therefore can be considered a form of experiential avoidance. For people who have experienced childhood sexual abuse, research has indicated that the greater tendency for these

individuals to engage in high risk sexual behaviour and substance abuse is due to experiential avoidance (Batten, Follette, & Aban, 2001; Polunsky, Rosenthal, Aban & Follette, 2004).

The natural language processes underling experiential avoidance explains how it can lead to an exacerbation of the experiences trying to be avoided (Hayes et al., 1999). In order to avoid a private experience people create the rule “I must not think X” or “If I feel X, then Y will occur”. These rules actually increase the functional importance of the material to be avoided and have a self amplifying effect because the verbal rule “don’t think X” will work as the cue for X; therefore, trying not to think X, will actually increase the presence of X. A similar situation occurs with trying to avoid feelings. Trying to avoid feeling bad in order to avoid a bad outcome relates the present moment to the bad feeling and may thus evoke the bad feeling trying to be avoided next time you are around similar cues.

There is considerable research illustrating that suppression and avoidance increase the occurrence of the unwanted private experiences as well as increases their behavioural impact (Hayes et al., 1999; Hayes, Strosahl, Bunting, et al., 2004). Research over the last 20 years has shown that when people are asked to suppress a thought they later report an increased frequency of that thought compared to those who are not asked to suppress a thought (Clark, Ball, & Pape, 1991; Gold & Wegner, 1995; Wegner, Schneider, Carter, & White, 1987; Wegner, Schneider, Knutson, & McMahon, 1991). The context in which the thought suppression occurs has also been found to significantly influence the subsequent presence of the suppressed thought. Wegner et al. (1991) found the rebound effects of suppressed thoughts was greatest in the context in which the thought suppression occurred. For example, if you were trying to suppress a thought while on the train, then that thought is most likely to resurface next time you are on a train. Wenzlaff, Wegner and Klein (1991) also found rebound effects of suppressed thoughts to be greatest while the person is in the same mood state. For example, if someone is trying to suppress a thought while

they are depressed they are most likely to have that thought return when they are again feeling depressed. These authors also found that the attempt to suppress a thought that previously occurred while in a low mood may stimulate the same low mood in a self amplifying loop (Wenzlaff et al., 1991). Furthermore, those who use thought suppression as a primary coping strategy have been found to report higher levels of depressive and obsessive symptoms (Wegner & Zanakos, 1994). In a broader sense, those that rely on general avoidance of thoughts or emotions have also been found to have poorer outcomes for depression (DeGenova, Patton, Jurich, & MacDermid, 1994), substance abuse (Ireland, McMahon, Malow, & Kouzekanani, 1994) and child sexual abuse (Leitenberg, Greenwald, & Cado, 1992).

Experiential avoidance is also encouraged within cultures by the expectation that people must “feel good” in order to be considered psychologically healthy. In other words, people should not experience emotional and psychological pain like anxiety, depression, traumatic memories, but instead the absence of these negative private events is desired and considered to be healthy (Luoma et al., 2007; Strosahl & Robinson, 2008). We are taught to evaluate our inner experiences as either good or bad, normal or abnormal and to try and eliminate them if we consider them to be bad (Strosahl & Robinson, 2008). From an ACT perspective, however, experiencing distress in response to painful events is not really the problem. The degree with which one problematically struggles to eliminate this distress is (Strosahl & Robinson, 2008).

A third factor which ACT considers to contribute to psychological inflexibility is an individual's attachment to their conceptualised self, or sense of “self as content”. Self as content is made up of “a collection of self-referential relations that generally are both descriptive (e.g., I am male) and evaluative (e.g., I am a sick person that has problems with depression)” (Hayes, Strosahl, Bunting et al., 2004, p. 9). In other words, self as content involves interconnected thoughts that people have about themselves which help define who they are and tells their life

story (Zettle, 2007). People learn early on that other people expect them to live up to their own and others views of themselves. This can take the form of needing to be right and can have powerful consequences. When a person is attached to/identifies with a particular conceptualisation, alternatives to that conceptualisation can seem almost life threatening. Therefore, if “Me = conceptualised self” then to eliminate the conceptualised self equates to eliminating me. Ironically this means that often what people are coming to therapy for, they also feel the need to defend. That is, they feel the “need to defend their conceptualised self even if it is loathsome” (Hayes et al., 1999, p. 182). An example of how attachment to a conceptualised self can contribute to psychological inflexibility is if a person perceives themselves to be “weak and broken” then their behaviour will reflect this and they are likely to act like a weak and broken person by not trying to engage in behaviours which may improve their quality of life. Therefore, although most of the stories we create about ourselves have some truth to them they often are not helpful and can result in inflexible behaviour patterns (Luoma et al., 2007). For example, someone with major depression may believe the story that they cannot go to work because they are depressed and so get focused on the fact they are depressed instead of how they can manage to function at work.

A fourth factor which is considered to contribute to psychological inflexibility is how people have a lack of contact with the present moment. That is, a person does not have “effective, open and undefended contact with the present moment” (Hayes, Strosahl, Bunting, et al., 2004, p. 10). Instead people often become focused and attached to their negative conceptualised pasts and futures and so lose contact with the present moment. This often takes the form of rumination, that is “the process of living in (fusion with) a verbally constructed past and/or future rather than functioning psychologically in the here and now” (Zettle, 2007, p. 15). For example, people may repeatedly think about perceived personal failures, things they wish

they did differently, and their personal shortcomings (e.g., “If I hadn’t yelled at my kid’s maybe they would still love me”). People can also become attached to thinking about ways of avoiding perceived negative possibilities in the future (e.g., “If I don’t leave the house I won’t embarrass myself”), or about how bad the future is (e.g., “Things are always going to be this bad”) (Luoma et al., 2007; Zettle, 2007). Attachment to a negative conceptualised future can contribute to suicidality as often people will perceive this as the only way to escape something they consider to be intolerable, inescapable and interminable (Chiles & Strosahl, 2005). Therefore attachment to a negative conceptualised past or future can not only reduce an individual’s contact with the present moment but it also takes over from effective action. This point is summarised well by Luoma and colleagues (Luoma et al., 2007) when they state that “without adequate contact in the present moment, behaviour tends to be dominated by historically programmed thoughts and reactions, resulting in more of the same behaviour that occurred in the past. New possibilities are foreclosed” (p. 19).

Lack of contact with the present moment is associated with the fifth factor contributing to psychological inflexibility - a lack of clarity involving personal life values and goals (Hayes et al., 2006). In ACT, core values are defined as “chosen qualities of purposive action, which can only be instantiated rather than possessed as an object” (Hayes, Strosahl, Bunting, et al., 2004, p. 10). Values bestow an enhanced sense of meaning, purpose, and vitality. Choosing values involves considering what you want your life to stand for in different life domains such as family, career, intimate relationships, friendship, personal growth and spirituality (Twohig, Msauda, Varra, & Hayes, 2005). A lack of contact or clarity of core values can occur for several reasons. One of the main reasons is that people avoid thinking about what is most important to them because it brings up painful emotions. For example, an individual who has experienced childhood sexual assault may avoid intimate relationships because it brings them in contact with painful

memories. Another problem with clarity of values can be an excessive reliance on social acceptance. Often, individuals may “choose” values which are more likely to be considered acceptable from other people rather than choosing values most intrinsically important to them. Some individuals may also avoid choosing core values because of fusion with the belief that it is impossible to achieve anything worthwhile (Dahl, Wilson, & Nillson, 2004; Wilson & Murrell, 2004). For example, someone who has had several failed attempts at abstaining from drugs may say that they do not care about having a close relationship with their family because it seems impossible to achieve. This could also be interpreted as attachment to a conceptualised failed past and future (i.e., relapse into drugs) or broken self (i.e., failed drug addict) dominates over choosing other things which may be more important (i.e., family). Therefore, people who lack clarity in their core values may experience psychological inflexibility because they often become more invested in living within their conceptualised self, past and future in order to avoid emotional and psychological pain (Hayes et al., 2006).

The final factor considered to impact on psychological inflexibility is inaction, impulsivity and persistent avoidance of value based living. This means that individuals may become so focused on avoiding painful emotions and fused with conceptualised self, past and futures that they lose contact not only with their values and effective action but also with the present moment (Hayes et al., 2006; Luoma et al., 2007). For example, a student may fuse with the conceptualised future of failing their exams and their conceptualised self as being stupid and so not study for their exams even though education is important to them. People can lose contact with and cease action towards their values because they cannot see past trying to relieve themselves from psychological pain. For some people with long term anxiety and agoraphobia their whole lives can be lost because they are so focused on trying to protect themselves from anxiety. As people become more and more consumed in these behavioural repertoires they

become less responsive to possibilities in their environment for living their life's values (Hayes, Strosahl, Bunting, et al., 2004; Luoma et al., 2007).

Therefore, ACT does not view psychopathology to be the result of what we think and feel. ACT views psychopathology as stemming from the interaction of cognitive fusion, experiential avoidance, attachment to a conceptualised self, lack of contact with the present moment, a lack of clarity of life values and goals and inaction towards their values which creates psychological inflexibility. That is, when we are caught up in the content of our inner experiences or in trying to avoid them we lose contact with the present moment and become less effective in regulating our behaviour so that we act in line with our valued life direction.

The six core processes of ACT

In contrast to most conventional forms of psychotherapy, the main goal of ACT is not to eliminate psychopathology, but to increase psychological flexibility. Psychological flexibility is “the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends” (Hayes et al., 2006, p. 7). ACT works to achieve psychological flexibility through six core processes of acceptance, cognitive defusion, being present, self as context, values and committed action (see Figure 1.2). These are described in detail below.

Acceptance is considered to be the antithesis to experiential avoidance, and involves “awareness and the active embrace of private experiences, as they are, not as what they say they are” (Twohig, et al., 2005, p. 110). In other words, acceptance is a behavioural process of experiencing difficult inner experiences (including bodily sensations, thoughts, unwanted emotions), without acting to reduce their form or frequency (Barnes-Holmes, Cochrane, Barnes-Holmes, Stewart, & McHugh, 2004; Hayes, Strosahl, Bunting, et al., 2004). An example of

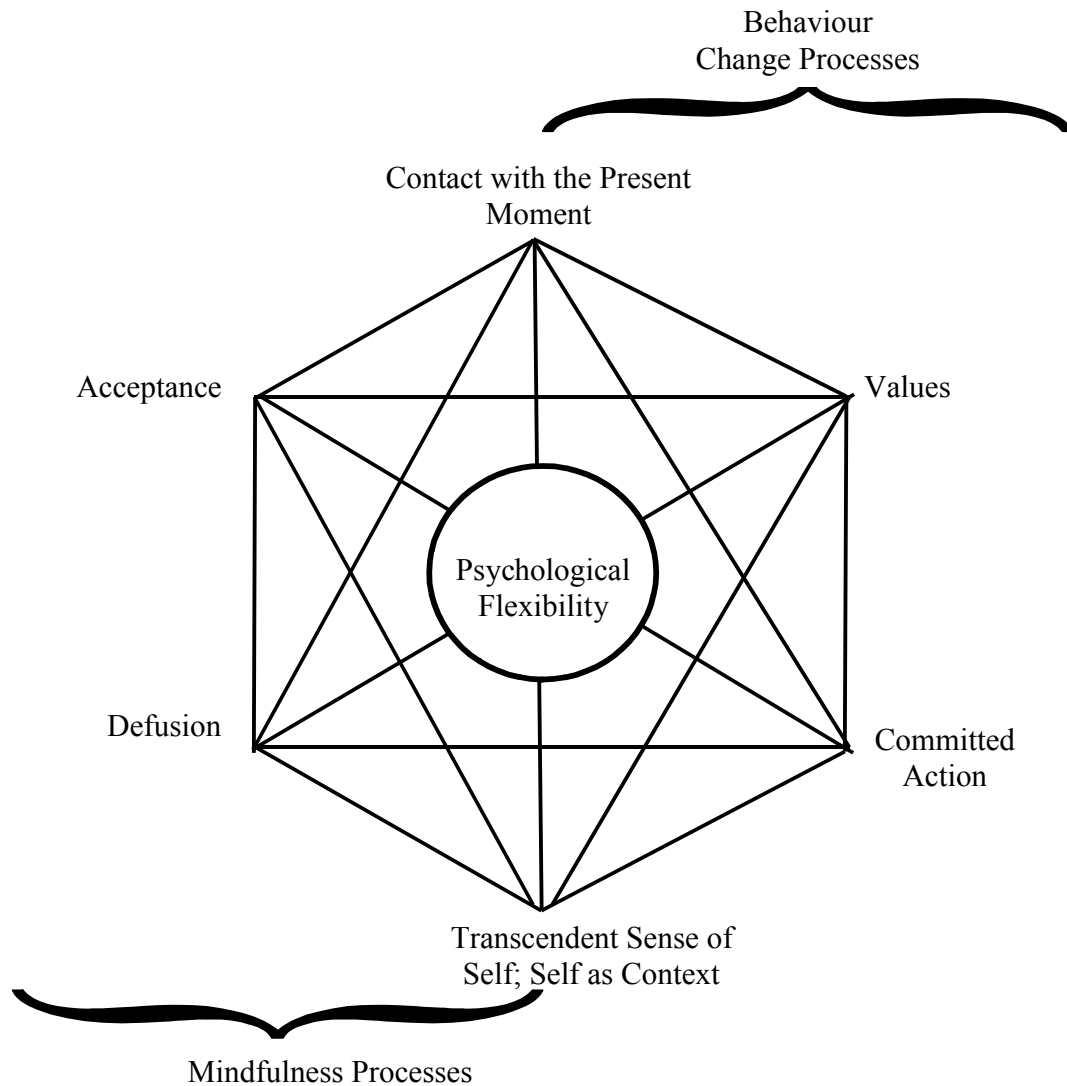


Figure 1.2. A model of the positive ACT processes

acceptance could involve a drug addict fully experiencing his feelings of guilt and shame (when thinking about hurt caused to his family) without taking more drugs or taking other actions in an attempt to alter these feelings. Another example of acceptance might involve a chronic pain sufferer experiencing their pain while also going to work, instead of avoiding work in order to reduce the pain. Acceptance is not to be confused with resignation (i.e., giving in to a life of misery) or mere tolerance, both of which are passive and fatalistic (Hayes et al., 2004). An

example of resignation would be an anxious person resigning themselves to a life inside their home because they will feel anxious if they leave. It has been suggested that one way to distinguish acceptance from tolerance is that tolerance is a form of acceptance “with strings attached”. That is, accepting pain or distress up to a certain point and then avoiding it. An example may be going to the dentist and tolerating the pain of the needles or drill but then if it reaches a point that you think is not acceptable leaving the dentist (Strosahl & Robinson, 2008). Acceptance is also not an end in itself. Rather, it is part of the process to enable people to live according to their values rather than trying to avoid unwanted private events. For example, someone who is depressed may have to accept feelings of sadness and go and play with their children, rather than avoid playing with their children in order to avoid feeling sad.

Cognitive defusion refers to the ACT process of trying to “alter the undesirable functions of thoughts, emotions, and bodily sensations, rather than trying to change their form or frequency” (Hayes et al., 2006, p. 8). That is, cognitive defusion is not intended to change the way people think about their experience but is intended to disrupt the verbal processes that give rise to problematic behavioural regulation and to taking their experiences too literally (Blackledge, 2007; Twohig et al., 2005). ACT uses a variety of techniques such as paradox, mindfulness and cognitive distancing, to help people begin to see thoughts as thoughts and feelings as feelings, rather than binding realities (Blackledge, 2007). For example, defusion might involve helping a person to see the thought “I’m hopeless” as what it really is (i.e., “I am a person who is having the thought that I’m hopeless”). Some more specific examples of techniques used in ACT to achieve cognitive defusion include watching thoughts dispassionately (e.g., as if writing on leaves floating down a stream), saying the thought out loud very slowly, or repeating the thought very quickly until only a blur of sound remains, as well as labelling thoughts and feelings (e.g., “I’m just having the thought...” or “I’m just noticing the feeling of...”) (Hayes et

al., 1999). These techniques reduce the literal believability of thoughts without ever getting rid of or attacking its form logically (Fletcher & Hayes, 2005).

Cognitive defusion techniques can also be used to undermine the conceptualised self. This is because difficult thoughts and feelings often present themselves as descriptions about the self, rather than just being evaluations about the self and hence just thoughts, not facts (Hayes, Strosahl, Bunting et al., 2004). Once the process of private events is dominant, the content becomes less important and therefore there is less need to try and avoid or control what one experiences. Several authors have also highlighted that ACT's main reason for implementing defusion strategies is to "expand a client's behavioural repertoire to include responses that were previously prevented through rigid cognitive fusion and which are more likely to achieve values-congruent outcomes" (Blackledge, 2007, p. 560). Thus, the goal of defusion is to assist people in being more flexible in their responding to difficult inner experiences in order to facilitate engagement in behaviour which will connect them with their core values.

Self as Context is another ACT process which fosters psychological flexibility. It is the sense of self as the "context (or vehicle) in which thoughts, feelings, memories and bodily sensations occur" (Hayes et al., 2004, p. 9). It is also referred to as the transcendent sense of self which witnesses all other inner experiences and so has no limits to consciousness as it is consciousness (Hayes, Strosahl, Bunting et al., 2004). Strosahl, Hayes, Wilson and Gifford (2004) state that without contact with self as context the products of daily human experience can be very threatening. This is because there is no distinction between "thought and thinker, feeling and feeler" (p. 45). They believe that this invites struggle rather than just accepting that thoughts and feelings are part of your history, thus there is no need to struggle with them. Self as context is an alternative to being fused with the conceptualised self and helps build the sense of self as a process of ongoing awareness of your inner experiences. ACT and other therapies use techniques

such as mindfulness to help people become more aware of the self as context. Viewing experiences from this self perspective allows unwanted thoughts and feelings to appear less threatening and enables defusion from the content of the thought to occur more easily. It also enables thoughts and feelings to be witnessed as a process. This also encourages people to shift from identifying with the conceptualised self (i.e., “I am no good”) and instead just experiencing their thoughts and feelings (Fletcher & Hayes, 2005).

Being Present refers to being open and undefended to contact with inner experiences in the present moment (Hayes, Strosahl, Bunting et al., 2004). In other words, being present is “ongoing non-judgemental contact with psychological and environmental events as they occur” (Hayes et al., 2006, p. 9). Being present is also described as establishing a “sense of self as process” which involves two stages: firstly, observing and noticing what is present in private experiences and the environment; and secondly, labelling and describing (not evaluating or judging) what is present (e.g., “now I am thinking this, now I am thinking that”) (Hayes, Strosahl, Bunting et al., 2004). When people are not in contact with the present moment their behaviour is more likely to be dominated by fusion, avoidance and reason giving. When they are in contact with the present moment they tend to be more flexible, responsive and aware of possibilities which will make them more effective in the current situation (Luoma et al., 2007).

Values are “chosen qualities of purposive action that can never be obtained as an object but can be instantiated moment by moment” (Hayes et al., 2006, p. 9). ACT helps clients to approach what is most important to them and what they want their life to stand for, and helps them to set goals to move them towards this valued direction (Hayes et al., 1999). Hayes (2007) noted that the only values that can transform lives are those that are “purposely chosen, reflect what you really want, and are fully expressed in your actions” (p. 52). ACT also helps clients to distinguish between choices and reasoned judgements, and to select values as a matter of choice,

not because of other verbal processes such as social compliance, fusion and avoidance. Values are one of the main components of ACT as living a valued life is the motivation for acceptance and contact with the present moment (Wilson & Murrell, 2004). Values also dignify and clarify our life course by putting psychological pain into a proper context (Hayes, 2007). Once a person has identified their core values in different life domains (e.g., family, career, health and citizenship), concrete goals and specific behaviours along a valued path are then defined. Barriers that may prevent action towards these core values are identified. The barriers are usually psychological ones and so the application of acceptance, defusion or being present can be applied in overcoming them. Strategies to help clients choose their values include things like asking them what they would like to see written on their tombstone, what they would most like to hear other people say about what their life stands for, completing a values assessment or journaling about what is most important to them (Hayes et al., 1999).

Committed action in ACT involves “defining goals in specific areas along one’s valued path, then acting on these goals while anticipating and making room for psychological barriers” (Hayes, Strosahl, Bunting et al., 2004, p. 11). An ACT therapist seeks to help the client gradually increase the size and breadth of the valued areas to be addressed in order to construct larger patterns of committed action. The main aim of committed action is to help the client develop behavioural patterns that work for them not against them. For example, choosing and following through with a goal to go to a friends party despite anxiety, rather than avoiding going to the party to avoid the anxiety. This is the point where acceptance, defusion, being present and values come together to help the client accept responsibility for behavioural change, adapting and persisting when necessary (Hayes, Strosahl, Bunting et al., 2004). Because ACT is a behavioural therapy any behavioural change method can be fitted into an ACT protocol such as exposure, skills training and problem solving (Hayes et al., 1999; Twohig et al., 2005).

These six core ACT processes work together to establish psychological flexibility by balancing between behaviour change strategies (i.e., committed action and value based living) when change is possible or needed (e.g., overt behaviour) and acceptance and mindfulness in areas when change is not possible or necessary (e.g., thoughts and feelings). This is evident in Figure 1.2, which shows how the six core processes can be divided into two main areas, mindfulness/acceptance and commitment/change processes. Under the umbrella of mindfulness and acceptance is cognitive defusion, acceptance, self as context and being in the present moment. These four processes have been considered to be a workable definition of mindfulness (Fletcher & Hayes, 2005). Commitment and change processes involve self as context and being present and also includes values and committed action. Self as context and being present are components of both areas because “all psychological activity of conscious human beings involves the now as known” (Hayes et al., 2006, p. 10)

ACT theory postulates that psychological inflexibility creates psychopathology and that creating greater psychological flexibility (through the application of ACT processes) reduces psychopathology. However, Hayes et al. (2006) noted that “understanding processes of change is of no importance unless there is change to begin with” (p. 15). Therefore, the ACT model has been applied to many different psychological problems and found to produce significant change. ACT has been applied to psychological problems including Social Phobia (Block & Wulfert, 2000), Work Stress (Bond & Bounce, 2000), Polysubstance Abuse (Hayes et al., 1996), Agoraphobia (Levitt, Brown, Orissilo, & Barlow, 2004), Math Anxiety (Zettle, 2003), Psychosis (Bach & Hayes, 2002), Borderline Personality Disorder (Gratz & Gunderson, 2006), Chronic Pain (Dahl et al., 2004) and Trichotillomania (Woods, Wetterneck, & Flessner, 2006). The ACT model has also been found to produce change for people experiencing depression (Zettle &

Hayes, 1986; Zettle & Rains, 1989). However, before a specific ACT model of depression is discussed, what constitutes depression must first be delineated.

What is Depression?

According to the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revisions (DSM-IV-TR; APA, 2000), depression is considered a Mood Disorder because it has a disturbance of mood as the predominant feature. The DSM-IV-TR separates mood disorders into Depressive Disorders (i.e., “Unipolar Depression”) and the Bipolar Disorders. The Bipolar Disorders include, Bipolar I Disorder, Bipolar II Disorder, Cyclothymic Disorder, and Bipolar Disorder not otherwise specified. The Bipolar Disorders involve the presence or history of Manic Episodes, Mixed Episodes, or Hypomanic Episodes as well as the presences of a history of a Major Depressive Episode. The Depressive Disorders are distinguished from the Bipolar Disorders by the absence of a Manic, Mixed or Hypomanic Episodes and hence people diagnosed with a depressive disorder only experience one end of the mood spectrum (the low end) and as such can be referred to as “Unipolar”.

There are several different Depressive Disorders, such as Major Depressive Disorder, Dysthymic Disorder and Depressive Disorder Not Otherwise Specified. A Major Depressive Disorder is characterised by one or more Major Depressive Episode (MDE). The essential criteria for a MDE is the presence of either depressed mood or loss of interest or pleasure in nearly all activities present for more days than not for at least a two week period. In addition the individual must experience four or more depressive symptoms such as sleep disturbance; poor attention and concentration or difficulty making decision; decreased energy; disturbed appetite or significant weight gain or loss; psychomotor agitation or retardation; excessive feelings of worthlessness or inappropriate guilt; recurrent thoughts of death or suicide. These symptoms must be associated

with impairment in social or occupational functioning, in some cases people will describe it being difficult to complete activities of daily living such as washing and eating. For people experiencing milder symptoms of depression their functioning may appear normal but they will describe activities requiring markedly increased effort. Furthermore the MDE must not be due to a general medical condition, the direct physiological effects of a drug (e.g. Alcohol) or medication or bereavement (DSM-IV-TR; APA, 2000).

A Dysthymic Disorder is characterised by at least 2 years of depressed mood for more days than not, accompanied by additional depressive symptoms that do not meet criteria for a Major Depressive Episode. Depressive Disorder Not Otherwise Specified is used when an individual reports depressive features that do not meet criteria for another Mood or Adjustment Disorder. A Depressive Disorder can vary in its severity of symptoms, from mild to severe and in the length of the presence of symptoms, from two weeks to chronic (greater than 2 years) (DSM-IV TR; APA, 2000).

The lifetime risk of developing a MDD in a community sample has varied from 10% to 25% for women and from 5% to 12% for men. The point prevalence of MDD in adults in community samples has varied from 5% to 9% for women and 2% to 3% for men (DSM-IV-TR; APA, 2000). The risk for dysthymic disorder or chronic depression is approximately two times greater for women than for men (Klein & Santiago, 2003). Chronic depression is among the most common conditions seen in clinical settings, with studies reporting that 22% to 36% of outpatients meet criteria for dysthymic disorder (Klein & Santiago, 2003). Research has shown that the prevalence rates for MDD appear to be unrelated to ethnicity, education, income, or marital status. However, culture is a factor which may influence the presentation of depression. For example, people from Asian cultures may present more with somatic complaints, while Middle Eastern cultures may report problems of the heart (DSM-IV-TR; APA 2000). Age of

onset is also an important factor to consider as an earlier onset is associated with longer and more frequent episodes, greater co-morbidity, and a higher familial loading for mood disorders (Klein & Santiago, 2003).

Depressive Disorders vary in the course that they run for individuals, however, it is common for people to experience recurrent MDE's, for example, at least 60% of individual with MDD, Single Episode, can be expected to have a second episode. The risk of recurrent episodes further escalates after a second MDE, with 70% of individuals who have had a second episode of depression expected to have a third, and 90% of individuals who have a had a third episode are expected to have a fourth (DSM-IV-TR, APA, 2000). Not only can people experience recurrent episodes of depression but many experience chronic depression, with symptoms of depression present for a minimum of two years. In fact, Klein and Santiago (2003) state that, approximately 15-20% of patients with a MDE have a chronic course. Furthermore, the National Institute of Mental Health Collaborative Study of the Psychobiology of Depression found that 19% of patients in their study had MDE's lasting over two years and the longer the episode the lower the chances of recovering in each subsequent year. Twelve percent of their original cohort had not recovered after five years and 7% had not recovered after 10 years (Mueller, Keller, Leon, Solomon, Shea, Coryell & Endicott, 1996).

Not only can people experience chronic depression or episodic depression but many people experience only partial remission of depressive features between episodes. Approximately one third of people with depression experience only partial remission of their symptoms. It is important to identify sub-threshold symptoms or partial remission of depression as it is associated with ongoing significant impairment in social functioning and an increased risk of further MDE's (Judd et al., 2000; Paykel, 2006; Paykel, Ramana, Cooper, Hayhurst, Kerr, & Barokca, 1995).

Other research estimates that 85% of patients with unipolar depression are likely to experience recurrences (Keller & Boland, 1998).

There are many different theories of the causes of depression, varying from physiological causes such as hormones and chemicals, to experiencing a loss or general stress (e.g., problems with family or finances). It is generally accepted that there is a physiological component to the presence of depression. A MDE is thought to be associated with the de-regulation of neurotransmitters such as serotonin, norepinephrine, dopamine, acetylcholine, and gamma-aminobutyric acid systems (DSM-IV-TR; APA, 2000; Goodwin & Jamison, 1990; Hylton & Nemeroff, 2008; Norman, 2006; Robinson, 2007). There is also evidence of problems with several neuropeptides, such as corticotropin releasing hormone (DSM-IV-TR; APA, 2000; Goodwin & Jamison, 1990; Hou, Jia, Liu, & Li, 2006; Hylton & Nemeroff, 2008). Hormones disturbances have also been associated with depression for some individuals including thyroid stimulating hormones, and stunted growth hormone (Feinburg, 1999; Hylton & Nemeroff, 2008).

It is generally accepted that individuals may also develop depression in response to psychosocial stressors and interpersonal difficulties or deficits, such as loss of an attachment figure, inability to make or maintain affectional bonds, stressful life events (e.g. marital discord), and lack of social support and intimacy (Gillies, 2001; Klein & Santiago, 2003; Klerman, Weissman, Rounsaville, & Chevron, 1984; Swartz, 1999). If psychosocial or interpersonal factors are considered to be most relevant for a depressed person then an Interpersonal Psychotherapy approach is considered the most appropriate treatment (Gillies, 2001). Individuals with personality styles that include features such as low self confidence, pessimism, unassertiveness, dependency and a self perception as inadequate are also considered to be at greater risk of developing depression (Klerman et al., 1984). Hayden and Klein (2001) found the risk of developing chronic depression, and poorer recovery from depression, was related to a family

history of chronic depression, childhood adversity, co-morbid anxiety and personality disorders, and chronic stress.

Other psychological theories about the development of depression include the psychoanalytic, behavioural and cognitive theories. The psychoanalytic approach suggests that depression is seen as the “emotional expression of the ego’s helplessness in maintaining a desired sense of self” (Bemporad & Vasile, 1999, p.92). That is, people with depression are dependent on direct or indirect narcissistic inputs from others for their self esteem (Klerman et al., 1984). A behavioural approach to depression assumes that depression results from a deficit of important behaviours (e.g., social skills) which leads to an increase in negative reinforcement and a lack of positive social reinforcement for behavioural change. Behavioural deficits are also thought to contribute to rumination and low motivation (Klerman et al., 1984; Young, Weinberger, & Beck, 2001). A classic behavioural model of unipolar depression (Lewinsohn, Youngren, & Grosscup, 1979) proposes that depression can result from a stressor which disrupts normal patterns of behaviour causing a low rate of response contingent positive reinforcement. If the person cannot reduce the negative reinforcement they can develop increase self awareness, self criticism and behavioural withdrawal (Antonuccio, 1998; Lewinsohn, Hoberman, Teri, & Hautzinger, 1985). A behavioural treatment approach aims to identify and change aspects of behaviour that may be implicated in the cause and maintenance of depression (e.g. behavioural withdrawal). Intervention techniques may include: activity scheduling, social skills training, structured problem solving, and goal setting (Treatment Protocol Project, 2000).

The cognitive theory of depression posits that a core process to the development of depression is that these individuals have a set of negatively biased cognitions, often referred to as the cognitive triad of depression (Young, Weinberger, & Beck, 2001). That is, depressed individuals have a negative view of themselves, the world and the future. According to this

theory depressed individuals also experience cognitive distortions (usually negative) and maladaptive schemas (core beliefs) which are considered to predispose individuals to emotional, cognitive and behavioural vulnerabilities, such as depression (Freeman & Oster, 1999).

Overall, most experts on depression agree on the biopsychological model of depression, which claims that depression results from an interaction of thoughts, feelings, and behaviour that can ultimately affect or be affected by, basic biological processes (Schotte, van den Bossche, de Doncker, Claes, & Cosyns, 2006). The ACT model of depression fits within this accepted view of depression.

ACT Formulation of Depression

The conventional view of depression is syndromal, and focuses on the symptoms of depression which clients report and looks at ways of changing their form, frequency or situational sensitivity (e.g., reduce negative thoughts and improve low mood). ACT takes a functional approach to problems like depression, examining the specific contextual links between mood, thoughts and behaviour and how this link reduces an individual's ability to live an effective life (Zettle & Hayes, 2002). In other words, ACT views depression both as the consequence of unsuccessful attempts to escape from negative private events that an individual is unwilling to experience, and of the individual's inability to live a sufficiently valued life. ACT's model of depression can be summarised in the acronym FEAR, which stands for Fusion, Evaluation, Avoidance and Reasons, as well as how an individual is living in line with their valued direction (Zettle, 2007).

Fusion.

Fusion (or cognitive fusion) occurs when an individual takes their thoughts to be literally true (Hayes et al., 1999). For example, if a depressed person had the thought “I can’t get out of bed today because I’m just too depressed,” fusing with the thought would involve viewing it as literally true and following through with its implications. Another example is the thought “I am worthless”, with cognitive fusion people would take this thought to mean that they, as a person, actually are worthless, rather than noticing that they are just having the thought “I am worthless.” Fusion with depressing thoughts often occurs in three main areas of Beck’s Cognitive Triad – the self, world and future. For example, they may fuse with thoughts such as “I am no good” (self), “everyone is alone in the world” (world), and “things are never going to get better” (future). Generally speaking, from an ACT perspective, many of the difficulties depressed people face arise from focusing simply on the content of depressive thoughts rather than noticing the process of generating these thoughts (Zettle, 2004).

Evaluation and Self-Discrimination.

Language allows humans to evaluate and discriminate all events and experiences. We learn to add verbal labels to a collection of thoughts, feelings and physical sensations such that they become experiences we call “anxiety” and “sadness” (for example). This process can continue until even the finer content of these experiences can be evaluated and labelled, such as an increased heart rate or a particular thought (Hayes et al., 1999). This process of discrimination and evaluation is a problem because humans can evaluate anything as negative, including internal experiences, and are then able to evaluate and struggle with their inner experiences the way that they would external events. ACT attempts to deal with these issues not by changing our evaluations, but by helping people to change their relationship with their evaluations, essentially,

just noticing them as “evaluations” rather than authoritative and prescriptive facts. Zettle (2007) noted that depression can result from people struggling to feel the “right way”. That is, the sadness or depression they feel is evaluated as being “bad” or “wrong” and so they engage in behaviours in order to avoid feeling that way. This leads to experiential avoidance and away from being mindful of their inner experiences or as their self as a vehicle for their thoughts and feelings.

The combination of an individual's ability to evaluate anything as negative and tendency for cognitive fusion of thoughts about the self, world and future contributes to what ACT refers to as attachment to a negative conceptualised self, past and future (Hayes et al., 1999). Zettle (2007) goes as far to say that fusion with repetitive critical self evaluations (such as “I am stupid and can't do anything right”), creates “not only a dreaded future they cannot live in but also a conceptualised self they cannot live with, and from which its murder is seen as the only escape” (p. 53). By this Zettle is referring to how the process of evaluation and fusion can lead to suicidal thinking and behaviour as people attempt to “murder” this damaged self and escape the pain they experience.

Avoidance.

While ACT views experiential avoidance as encompassing both avoidance of and escape from unwanted inner experiences (Hayes et al., 1999), escape appears to play a greater role in depression (Zettle, 2004, 2007). Zettle (2004) considers symptoms of depression such as anhedonia and feeling “numb” to function to provide emotional escape. The behaviour patterns associated with depression such as social isolation, low energy and self-focused negative attention, are thought to be consistent with the goal of experiential escape. That is, the more depressed a person becomes, the harder it is to focus on problems that cause real emotional

distress, and the less is expected of them behaviourally. In general depressed people are reacting to negative events that they have already experienced and continue to endure, even if only through remembering (Zettle, 2004).

Zettle and Hayes (2002) suggested that depression in particular is associated with thought suppression, avoidant coping, and reason giving, which as noted above, are all considered to be forms of experiential avoidance. Tull, Gratz, Salters and Romer (2004) found that experiential avoidance, as measured by the Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, Wilson et al., 2004), was associated with symptoms of depression, anxiety and somatization for individuals exposed to multiple potentially traumatic events, when controlling for posttraumatic stress symptom severity. A more recent study by Tull and Gratz (2008) found that experiential avoidance (also measured by the AAQ) mediated the severity of depression for an individual and that it may be more relevant to the development of depression than difficulties engaging in goal directed behaviour when distressed. Not only does experiential avoidance contribute to severity of depression, but one study found that depressed individuals who were asked to be more accepting of their emotions displayed less negative affect and a decreased heart rate in response to watching an emotion-provoking film compared to those who were instructed to suppress their emotions (Campbell-Sills, Barlow, Brown, & Hofmann, 2006).

The research on thought suppression (a common form of experiential avoidance) indicates that, despite being a commonly used method of dealing with unwanted thoughts, suppressing depressing thoughts actually leads to an increase in the frequency of the thoughts trying to be avoided (Brewin, Watson, McCarthy, Hyman, & Dayson, 1998; Wenzlaff & Bates, 1998; Wenzlaff & Eisenberg, 2001). For example, Brewin et al. (1998) found that cancer patients with depression reported significantly more intrusive memories than cancer patients without depression. In 1991, Wenzlaff and colleagues found that suppressing thoughts can actually

increase depressed mood. This was demonstrated by the fact that instructing subjects not to think about a target thought reinstated the original mood they were in when they initially suppressed the thought. This shows that efforts to suppress negative thoughts associated with a depressed mood can increase a depressed mood, which in turn, leads to a re-emergence of the suppressed thought. On a similar note, Wenzlaff and Luxton (2003) found that people who had experienced relatively high levels of stress reported significantly greater increases in rumination and dysphoria than those of any other group. The findings support the idea that when stress undermines mental control, thought suppression efforts can ironically fuel depressive rumination. These results were supported by Beevers and Meyers (2004) when they found that for people vulnerable to depression as life stress increases, the tendency to suppress negative thoughts may actually contribute to the very emotional state trying to be avoided.

Rosenthal, Cheavans, Compton, Thorp and Lynch (2005), conducted a study into the effects of thought suppression on the treatment outcome of depressed older adults. They found that severity and chronicity of depression and higher levels of thought suppression were associated with higher depressive symptoms six months after treatment. Szentagotai (2006) found significant positive correlations between the chronic use of suppression (measured by the White Bear Suppression Inventory and the Thought Control Questionnaire) and anxiety, depression and distress. Finally, Purdon's (1999) review of literature on thought suppression concludes that "thought suppression has now been implicated as an etiological and/or maintaining factor in depression, generalised anxiety disorder, specific phobia and posttraumatic stress disorder" (p.1029).

Thought suppression is just one experiential avoidant coping technique used by depressed individuals. There are many different ways of describing styles of coping, most of which would be explained as experiential avoidance in an ACT model. These styles of coping include, emotion

focused coping (e.g., talking about how you feel), avoidant coping (e.g., “tried to forget the whole thing), emotional discharge coping (e.g., “I cried all night), ineffective escapism (e.g., stay away from people) (Rohde, Lewinsohn, Tilson & Seeley, 1990), and ruminative coping (Nolen-Hoeksema, Parker & Larson, 1994). A study by Rohde et al. (1990) found that older adults who used ineffective escapism as a coping style was associated with their current depression and future depression over a two year period.

Ruminative coping involves depressed individuals worrying about the self, their symptoms of depression, the implications of their depression and its possible causes. It has been suggested that ineffective thought suppression may precede rumination (Nolen-Hoeksema et al., 1994). The impact of rumination on depression will be discussed in further detail later.

It should be noted that from an ACT perspective suicide is also considered to be an experiential avoidance strategy (Zettle, 2007). Zettle (2004) states “suicide is a way for patients to get out from under what is perceived as being intolerable, inescapable and unending emotional pain” (p. 83). Therefore suicide and fantasising about suicide can be considered an emotional control strategy.

Reason Giving.

Hayes (2002) has suggested that reason giving in depression is a form of rule governed behaviour which prescribes and proscribes particular behaviours based on the presence or absence of certain thoughts, feelings, and conditions. In other words, society teaches us that thoughts and feelings are good acceptable reasons for behaviour and so people begin to believe these “reasons or causes” of their depression. But unfortunately, the more that people begin to believe the “reasons” for their behaviour as being due to negative thoughts and feelings, the more resigned they are to behaving in accordance with these thoughts and feelings even when other

alternatives exist. Addis and Jacobson (1996) found that depressed people who felt that they had “good reasons” to be depressed, or for their depressed behaviour, tended to be more depressed and more resistant to treatment than other depressives. Other research has shown that people who believe they have more reasons for being depressed tend to ruminate more in response to a depressed mood (Addis & Carpenter, 1999). Rumination is often associated with trying to figure out the cause or “reason” for depression. Therefore, reason giving is associated with the ACT formulation of depression because people often get caught up in trying to figure out the reason for their depression in order to determine what “caused it” and ultimately what needs to be changed in order to overcome their depression (Zettle, 2007). Zettle and Hayes (2002) stated that clients begin to believe their own stories of why they are depressed and unfortunately those stories often involve internal rather than external “causal” events. This can result in people either trying to “fix” how they feel or think or waiting until they “feel better” before taking action towards their valued life domains.

Further support for the relationship between depression and reason giving is found in a study by Garst and Zettle (2006), which found that scores on the Reasons For Depression Scale (RFD; Addis et al., 1995) was significantly related to both depression (BDI scores) and psychological flexibility (AAQ scores).

Zettle (2004) has suggested that for people with depression, reason giving will often present as “being right” about the causes for their depression, and that this sets them up for playing the martyr role. For example “I am depressed because my husband was unfaithful (reason giving), and I didn’t do anything to deserve it (being right), anyone whose husband cheated on them would be depressed (martyr role).” For some depressed people, being right may be incompatible with “getting better,” in that they may believe that not being depressed means that the woman’s husband did not hurt her. Being right and holding others accountable then become a

greater priority than getting better. Therefore, people are faced with continuing to be “right” or risk “losing face” or being “wrong” and getting on with life. Suicidal behaviour can also be related to the investment in being right, such as revenge or getting even “they’ll be sorry when I am gone” (Zettle, 2007).

Rumination.

The “R” in the FEAR acronym can also be reflective of the impact of rumination on depression. Rumination generally refers to the verbal process of attempting to answer self posed questions about the meaning, causes, and consequences of depression (Zettle, 2007). There has been extensive research into rumination and depression, only some of which will be reported here. Nolen-Hoeksema and Morrow (1991) studied college students coping immediately after an earthquake and found that students who displayed a ruminative style in coping with depressed mood were more likely to be depressed seven weeks after the earthquake than their peers with less ruminative response styles. Nolen-Hoeksema, Parker, and Larson (1994) also found that bereaved adults with a ruminative coping style were more depressed after six months even after controlling for initial levels of depression. Several experimental research studies (Lyubomirsky, Tucker, Caldwell, & Berg, 1999; Lyubomirsky & Nolen-Hoeksema, 1993, 1995; Lyubomirsky, Caldwell, & Nolen-Hoeksema, 1998) have found that dysphoric individuals who ruminate had a reduced willingness to engage in pleasant distracting activities and a reduced ability to generate effective solutions to interpersonal problems. Despite this outcome, they were also found to believe that they gained significant insight into their problems, but they were less likely to actually implement any of the solutions they generated while ruminating. Zettle (2007) summarised the results of this study as evidence to support the notion that rumination leads to “even more fusion with a verbally constructed world and less effective engagement with life

outside oneself” (p. 26). Rumination also takes people away from contact with the present moment and into a negatively viewed past or future. This can result in people being less effective in the present moment as they are less aware of options available to them which may assist them in living a valued life in that moment. For example, a depressed individual may want to have an intimate relationship but does not go out and meet people because they are ruminating about how badly people have hurt them in the past. Watkins, Moulds, and Mackintosh (2005), have stated that rumination appears to be as central to clinical depression as worry is to generalised anxiety. Therefore, although rumination is aimed at reducing dysphoria by trying to “figure it out”, rumination has actually been found to be a key contributor to dysphoria becoming depression (Zettle, 2007).

Value Based Living and Committed Action.

In addition to the contributing FEAR factors to the ACT model of depression, Zettle (2004, 2007) emphasises the role of value-incongruent based living to the development and maintenance of depression. Specifically, he identified the pursuit of value-incongruent goals and failure to pursue value congruent goals as important factors to the development and maintenance of depression.

People may find themselves feeling depressed, dispirited and disengaged from life as a natural consequence of pursuing and perhaps even attaining goals which are inconsistent with what they consider to be important in life. This is reflected in a quote by Joseph Campbell (cited in Zettle, 2007), “Midlife is when you reach the top of the ladder and find that it was up against the wrong wall”. This may occur because an individual’s values have changed but their behaviour has not, as a result, they have continued to pursue the wrong path (Zettle, 2004, 2007). Another reason that people may find themselves pursuing values incongruent goals is because of rule

governed behaviour. This means that people base their behaviour and goals on the “rules” and expectations that society (including family) teaches us is acceptable, rather than on what is really most important to them. That is, society teaches people that one must do X, Y and Z in order to be “happy”. For example, one might subscribe to the cultural rule, “if I get married and have a good job in a large company, then I will be happy”, only to find much later that behaving according to this rule does not lead to happiness for them.

Depression can also result from, or be exacerbated by, the failure to pursue goals which are congruent with what one truly values (Zettle, 2007). This may result from attempts to avoid unpleasant emotions and thoughts that may arise during the course of pursuing these values. For example, even if having an intimate relationship with someone is important, fear of rejection may prevent someone from pursuing that value in order to avoid feeling rejected.

The ACT model of depression can also be summarised by the hexagonal model of Psychological Inflexibility as was shown in Figure 1.1. The six pathogenic ACT processes incorporates each of the factors of the FEAR acronym - cognitive fusion (including reason giving), experiential avoidance, attachment to a conceptualised self and conceptualised past (evaluation and self discrimination), lack of values or value incongruent goals and inaction or failure to pursue value congruent goals. Each of the six positive core ACT processes are intended to counteract the six pathogenic core process of the ACT model of depression, such that acceptance counters experiential avoidance, cognitive defusion counters cognitive fusion, mindfulness or being present counters attachment to the conceptualised past and future, self as context counters attachment to a damaged conceptualised self, choosing a valued counters lack of clear values and committed action towards those chosen values counters behavioural inactivity.

ACT and Depression Research

There were two early studies that compared ACT (Comprehensive Distancing) and Cognitive Therapy for treating depression (Zettle & Hayes, 1986; Zettle & Rains, 1989). Zettle and Hayes (1986) compared an earlier version of ACT (Comprehensive Distancing) with CT delivered in a 12 week individual format. Comprehensive Distancing (CD) was found to be superior to CT on depression outcomes at post and at 2-month follow up. CD and CT did not differ significantly on the Automatic Thought Questionnaire (ATQ; Hollon & Kendall, 1980) which measures the frequency of depressing thoughts. However, the groups differed when participants were asked to rate the believability of these automatic thoughts, with the CD group reporting less believability of depressing thoughts. This was assessed using a modified version of the ATQ to include a believability scale (ATQ-B; Hollon & Kendall, 1980; Zettle & Hayes, 1986), which was considered to be a measure of cognitive defusion. The groups also differed on reason giving, with the CD group reporting less validity for reasons for dysfunctional behaviour. The data from these studies were re-analysed some years later (Hayes et al., 2006) and it was shown that defusion measured mid-way through treatment fully mediated the outcomes at follow up. That is, cognitive defusion, or greater changes in believability of depressing thoughts, was responsible for the superior outcome found for CD. However, a major weakness of this study was that it was conducted on a small sample size of only six clinically depressed women in each group. Also all data was based on self report measures. Therefore, these results can only be interpreted as preliminary results.

Zettle and Rains (1989) also compared a 12 week group format of Comprehensive Distancing (CD) to group Complete Cognitive Therapy (CCT) and Partial Cognitive Therapy (PCT). Complete Cognitive Therapy included a treatment package following Hollon and Shaw's (1979) treatment outline which included distancing, cognitive restructuring, and behavioural

hypothesis testing. The PCT group received similar treatment to the CCT group but without the distancing procedures. The results of this study found significant and equivalent reductions in depression for all three groups, with a trend on the BDI that favoured CD. A significant difference was found between groups on the Dysfunctional Attitudes Scale (DAS; Weissman & Beck, 1978) with the CCT and PCT groups showing a greater reduction than the CD group. The authors interpret this as evidence that CD (or ACT) initiates therapeutic change through a process that differs from CT. They also note that the effectiveness of ACT was diminished when applied in a group format. It is important to note that this study was carried out with a female only sample (31 females in total) who were recruited through an advertisement in the local paper. Therefore, the results cannot be generalised to the male population.

A third study (Folke & Parling, 2004) involved a randomised trial comparing ACT to treatment as usual (TAU) for a group of people on sick leave due to depression. The results of this study found that after treatment the ACT group reported lower levels of depression, and higher qualities of life, general health and perceived level of functioning compared to the TAU group.

Pellowe (2007) compared a brief group ACT intervention for the treatment of dysphoric symptoms in college students to a supportive therapy control group. The ACT group experienced significant pre to post intervention improvement with regard to depressive symptoms and psychological flexibility, and they endorsed a higher frequency of depression related cognitions and attitudes post treatment compared to base line assessment. ACT was superior to supportive therapy only with regard to its ability to positively impact psychological flexibility.

Another recent study compared ACT with Cognitive Therapy for anxiety and depression (Foreman, Herbert, Moitra, Yeomans & Geller, 2007). In this study, 101 people reporting moderate to severe levels of depression and anxiety were randomly assigned to traditional

Cognitive Therapy (CT) or to ACT. Participants in both groups exhibited large, equivalent improvements in depression, anxiety, functioning difficulties, quality of life, life satisfaction and clinician rated functioning. However, the mechanisms of action between the two groups appeared to differ. Changes in “observing” and “describing” ones experience were more strongly associated with outcomes for the CT group relative to the ACT group. By contrast, changes in experiential avoidance, acting with awareness and acceptance, were more strongly associated with outcomes for those in the ACT group. The authors interpret this as evidence that CT and ACT are functionally distinct from one another. Taken together, the outcome of research on ACT treatments for depression suggests that ACT may work through different processes than CT.

Research into ACT and psychosis provides further evidence that ACT may work through different processes than CT. Bach and Hayes (2002) compared the effects of four 45-minute sessions of ACT to TAU in a randomised trial helping inpatients cope with positive psychotic symptoms (e.g., rating whether the delusions/hallucinations were literally true) at the four month follow up. Overall, symptom reduction was less in the ACT group than the TAU group. However, in the ACT group the rate of re-hospitalisation of patients who disclosed psychotic symptoms was one-quarter of the number of patients re-hospitalised who did not reports psychotic symptoms. This pattern was interpreted as an indication that ACT undermined denial of symptoms and thus symptom admission was an indication of greater acceptance in the ACT group. No-one in the ACT condition was re-hospitalised who both admitted symptoms and viewed them as less believable. This study also illustrates how symptom reduction may not be the most appropriate measure of ACT outcomes. The results of this study have been replicated by Gaudiano and Herbert (2006a, 2006b).

Given the mounting evidence that ACT works through different processes than CT and provides participants with benefits beyond symptom reduction it is important that assessment

tools are developed to measure these processes. Therefore, it is vital for the future of ACT research and treatment to develop ACT specific process measures which would be maximally sensitive to changes brought about by ACT treatment. That is, measures of change in areas beyond symptom reduction which captures the six core ACT processes of cognitive fusion, experiential avoidance, attachment to a conceptualised self, lack of contact with the present moment, a lack of clarity of life values and goals, and inaction towards their values (Hayes et al., 2006).

Assessment of ACT Processes in Depression

The importance of assessing core ACT processes has been highlighted and progress towards meeting this need has already begun to be explored (e.g., Blackledge & Ciarrochi, 2005; Hayes, Strosahl, Wilson et al., 2004; McCracken, Vowles & Eccelston, 2004; Wilson & Groom, 2002). There are several structured and unstructured approaches that can be used to assess the six core ACT processes for a depressed client. One approach is via a clinical assessment or interview in which the clinician directs questions towards exploring each process. For example questions such as “How much do you find yourself thinking about the past or future?” or “If you no longer struggled with depression, how would your life be different?” enquire into being present and values. There are also paper and pen self report measures which can be used to assess only some of the core processes. However, currently there is not one assessment instrument that measures all six. Aspects of experiential avoidance can be assessed by the White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994) and the Response Styles Questionnaire (RSQ; Nolen-Hoeksema & Morrow, 1991). The WBSI measures degree of thought suppression while the RSQ assesses the amount that an individual ruminates, both of which are reflections of experiential avoidance. Fusion within the context of depression (for example) can be partially

assessed by the Reasons for Depression Questionnaire (RFD; Addis et al., 1995) and the Automatic Thought Questionnaire (ATQ; Hollon & Kendall, 1980). The RFD measures how much people believe that certain factors are reasons or causes for their depression, such as childhood and biology. The higher the score on the RFD, the more fused the individual is with these reasons for their depression. The ATQ measure the frequency of common negative automatic thoughts. As noted earlier, Zettle and Hayes (1986) used a modified version of the ATQ that also includes a scale measuring how much individuals believe each of these negative automatic thoughts, that is, how much they are fused with these items. Being present (Self as Process or Mindfulness) can be assessed by the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004) or the Mindfulness Attention and Awareness Scale (MAAS; Brown & Ryan, 2003). Self as concept (attachment to a conceptualised self) can be assessed by the Rosenberg Self-Esteem Scale (RES, Rosenberg, 1965). The RES asks people how much they agree with statements such as “I feel that I do not have much to be proud of”. Values can be assessed by the Personal Values Questionnaire (PVQ; Blackledge & Ciarrochi, 2005) or the Valued Living Questionnaire (VLQ; Wilson & Groom, 2002).

The most widely used measure in ACT treatment and research is the Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, Wilson et al., 2004), which is considered a measure of general psychological flexibility (the development of the AAQ will be discussed in more detail shortly). The AAQ has been used in numerous studies with both clinical and non-clinical samples (Batten et al., 2001; Bond & Bounce, 2000, 2003; Gratz & Roemer., 2004; McCracken, 1998; Plumb, Orsillo & Luterek, 2004; Polunsky et al., 2004). These studies have identified that one of the main limitations of using the AAQ as a process measure is that in some populations it only demonstrates marginal reliability. It has also been found to be less sensitive to clinical change as revised population-specific versions (Hayes, Strosahl, Wilson et al., 2004; Lillis

& Hayes, 2008). Therefore, several disease and disorder specific versions of the AAQ have been developed. Examples of disease and disorder specific areas for which modified versions of the AAQ have been developed include: pain (CPAQ; McCracken, Vowles, & Eccelston, 2004), diabetes (AADQ; Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007), weight (AAQ-W; Lillis & Hayes, 2008), smoking (AIS; Gifford, Antonuccio, Kohlenberg, Hayes, & Piasecki, 2004), body image (BI-AAQ; Sandoz & Wilson, 2006) and auditory hallucinations (VAAS; Shawyer, Ratcliff, Mackinnon, Farhall, & Hayes, 2007). Research using these disorder and disease specific versions of the AAQ have shown that these areas are better assessed by a modified version of the AAQ than the original (Lillis & Hayes, 2008). At present there is no depression specific version of the AAQ and there is a lack of depression specific ACT process measure. Therefore, given that depression is such a pervasive problem within the population the development of a depression specific AAQ is warranted and in fact needed (this is explored in further detail below).

Development of the Original AAQ

Hayes, Strosahl, Wilson et al. (2004) developed the original version of the Acceptance and Action Questionnaire (AAQ) for two main reasons. Firstly, because they considered experiential avoidance to be of considerable importance and there were no existing research instrument to explore and measure this construct. Secondly, they stated that

If the theory underlying ACT and similar approaches was correct, then a measure of experiential avoidance should correlate with a broad range of measures of psychopathology, life satisfaction, and behavioural health, and should add something above and beyond more specific dimensions that are part of experiential avoidance, such as thought suppression (Hayes, Strosahl, Wilson et al., 2004, p. 556).

There are two versions of the AAQ. One 16-item version which consists of two factors: one factor that measures acceptance and mindfulness and another factor that assess values-based action. Both of these load onto a second order factor, which has been labelled psychological flexibility (Bond & Bunce, 2003). The second 9-item version measures only this general factor (Hayes, Strosahl, Wilson et al., 2004). Both versions have adequate criterion related, predicative and convergent validity (Bond & Bunce, 2003; Hayes, Strosahl, Wilson et al., 2004). Due to the AAQ having only limited validity the AAQ-II was developed and is currently being validated. Preliminary outcomes indicate that it has better validity than the original AAQ. The AAQ-II (Bond, Hayes, Baer et al., submitted) was found to correlate moderately with measures of depression with $r = -.71$ for the BDI-II (Beck, Steer, & Brown, 1996) and $r = -.61$ for the depression scale of the DASS (Lovibond & Lovibond, 1995).

A recent review of ACT literature (Hayes et al., 2006) found a set of 74 correlations between the AAQ and various outcome measures. The weighted effect size of these correlations was .42 showing that this measure of ACT processes had a moderate inverse relationship with a multitude of negative psychological outcomes. This data also showed that higher levels of psychological flexibility are associated with better quality of life outcomes.

Three studies (Bond & Bunce, 2000, 2003; Donaldson-Feiler & Bond, 2004) have shown that higher levels of psychological flexibility (i.e., acceptance and values-based action processes) were associated with a lower probability of having a psychiatric disorder, as measured by the General Health Questionnaire (GHQ; Golderberg, 1978). Another study (Bond & Bunce, 2003) showed that higher levels of psychological flexibility predicted better mental health to a medium extent. At one year follow up, GHQ scores did not predict AAQ scores. This suggests that levels of psychological flexibility are impacting subsequent mental health, and not the reverse.

Eight studies (Bond & Bunce, 2000; Dykstra & Follette, 1998; Forsyth, Parker, & Finlay, 2003; Gold, Marx, & Lexington, 2007; Hayes, Strosahl et al., 2004; Pistorello, 1998; Plumb et al., 2004; Polusny et al., 2004; Strosahl, Hayes, Bergan, & Romano, 1998) compared the AAQ with the Beck Depression Inventory (Beck et al., 1996). The aggregate effect size was .53 (95% confidence interval: .46 to .54), with correlations varying from .35 to .58 (Hayes, Strosahl, Wilson et al., 2004). Therefore the AAQ did not correlate consistently with the most commonly used measure of depression symptomatology. This suggests that the AAQ only assesses a moderate portion of the processes theorised to lead to depression from an ACT perspective. It is also not a very consistent measure of the ACT processes as they present for depressed people indicating that a more depression specific and relevant version of the AAQ may be appropriate.

Hayes et al. (2006) note one of the major problems with ACT research at present is that outcome and process studies are often relying on a number of measures which lack published data regarding their psychometric properties. There is also a large focus in the research on measures of thought suppression (e.g., WBSI) and avoidance and less on other ACT processes, which is leaving other parts of the overall ACT model untested. Furthermore, Hayes, Strosahl, Wilson et al. (2004), state that the AAQ was meant as a place to begin the search for a more multidimensional approach to assessing the ACT model. They identified that although it was useful for its intended purpose (outlined above), additional scale developments are warranted. These ideas have already been proven by the development and use of the chronic pain version of the AAQ, which demonstrated a multifactorial assessment of the dimensions of acceptance of chronic pain (Hayes, Strosahl, Wilson et al., 2004; McCracken, 1998). Hayes states that McCracken's data is evidence that "the area of acceptance is worth exploration and that multifactor, disorder specific forms of the AAQ may be successfully constructed. It could be that other specific measures of experiential avoidance relevant to anxiety, depression and other areas

could be developed” (Hayes, Strosahl, Wilson et al., 2004, p. 573). Hayes again encouraged the development of disorder specific modified versions of the general AAQ following his success with a modified version for weight problems when he states

Testing an ACT model in specific areas in a sensitive way require the development of targeted process measures. Fortunately the present study (weight management) provides additional evidence that modifying the content of other successful process measures will accomplish that goal efficiently. In addition to the epilepsy, smoking, and diabetes measures (described earlier), that strategy also turned early versions of the AAQ into the Chronic Pain Acceptance Questionnaire, now a widely used and very successful measure in chronic pain. Given the consistent pattern seen across studies in mediational results, researchers applying ACT to new areas should seriously consider the need for targeted process measures rather than relying on more general measures that may prove to be insensitive to changes in a targeted domain (Lillis & Hayes, 2008, p. 36).

The Current Study

Therefore, given the absence of a depression specific ACT process measure and the mounting support for the use of disorder specific versions of the AAQ, the development of a depression specific measure of the six core ACT processes is warranted. The aim of the current study is to develop and validate an ACT specific measure of depression which covers all six core ACT processes and can be used as a valuable therapeutic and research tool. This will allow researchers and therapist to identify areas in ACT which are most contributing a client’s psychological inflexibility and which may need to be addressed further.

ACT research is attempting to continually test and refine the ACT model by conducting research and micro-studies on each of the key ACT processes – acceptance, defusion, values, self

as context, contact with the present moment and commitment. Hayes et al. (2006) consider these types of studies to be important for the overall ACT model. Although a number of studies have begun to show support for the different ACT components (e.g., Hayes, Strosahl, Wilson et al., 1999; Masuda, Hayes, Sackett, & Twohig, 2004), the questionnaire being proposed in this study will address all six core ACT processes and so may allow for one measure to address this important part of research specifically for ACT and depression.

The need for a depression specific version of the AAQ is also indicated by the significant variability in correlations between the AAQ and measures of depression (BDI). Correlations between the BDI and AAQ varied from .37 to .56 (Hayes, Strosahl, Wilson et al., 2004). As noted above, this suggests that the AAQ only assesses a moderate portion of the processes theorised to lead to depression from an ACT perspective. It is also not a very consistent measure of the ACT processes as they present for depressed people, indicating that a more depression specific and relevant version of the AAQ may be appropriate. A depression specific version of the AAQ (AAQ-D) would enable the ACT model of depression to be tested because if the theory “perfectly” captures the processes that lead to depression, the AAQ-D should correlate perfectly with outcome measures of depression (e.g., Beck Depression Inventory). However, perfect correlation could also mean the BDI and depression AAQ instruments measure the same construct(s). Therefore, in order to be able to identify which interpretation is correct an ACT for depression outcome study is also needed. If the AAQ-D supported the ACT model of depression, the changes on the AAQ-D would be found to occur before changes in depression. That is, changes in ACT process measures would mediate change in depression scores. Although this is beyond the scope of this study, the development of the AAQ-D is the first step in moving towards this goal. In addition to this outcome study if the theory underlying ACT is correct then researchers should be able to develop a measure which focuses on each of the core processes.

This measure should also correlate with a range of existing measures of ACT processes such as the WBSI, MAAS and ATQ. This study aims to take the first necessary step toward this longer term goal through the development of a depression specific measure of ACT processes – acceptance, cognitive defusion, being present, self as context, values and committed action.

Method

Participants

Non Clinical Sample. Data was collected from 121 adults (42 males, 79 females) who were first year Psychology students at the University of Wollongong in New South Wales, Australia. They ranged in age from 17 to 63 years ($M = 25.0$, $SD = 9.22$). The majority of students identified themselves as being born in Australia ($n = 118$) and only 3 people stated that they were born in China, Chile or South Korea. All participants stated their first language was English, except for two people who stated their first language was Chinese and Korean. In regards to level of education, 42 (35%) participants had obtained a trade/TAFE qualification, 24 (20%) participants had obtained tertiary level qualifications, 3 (2%) participants had obtained postgraduate level qualifications, and 52 (43%) participants were currently completing their first year of tertiary study.

Clinically Depressed Sample. Data were collected from 120 adults (50 male, 70 female) who were either inpatients or outpatients at Northside Clinic (a private psychiatric hospital), or patients from the Mindcare Centre (a psychiatric private practice). The age range for all the participants in the depressed sample was 18 to 63 years ($M = 38.26$, $SD = 13.80$). The majority of this sample were born in Australia ($n = 111$), with two people from China, two from the USA, one from Lebanon, and three people from Chile, Norway and the UK. Similarly 114 depressed participants reported English as their language first spoken, with two people speaking Chinese and one speaking Norwegian. In regards to education, 31(25%) people reported obtaining trade/TAFE qualifications, 45 (38%) participants had obtained tertiary level qualifications, 18 (15%) participants had obtained postgraduate level qualifications, and 26 (22%) had only completed High School. Participants in this sample all met DSM-IV-TR criteria for a current

Major Depressive Episode. The 45 participants from Northside Clinic were diagnosed by a Psychiatric Registrar and Consultant Psychiatrist with many years of experience working with mood disorders. The patients at Northside Clinic were diagnosed based on a clinical interview, administration of the Beck Depression Inventory Second Edition (BDI-II; Beck, Steer & Brown, 1996), and other measures if considered applicable. All participants were also presented during ward rounds to several experienced Psychiatrists and Clinical Psychologists for discussion regarding diagnosis and treatment. The 75 participants from the Mindcare Centre were diagnosed by either a Consultant Psychiatrist or one of three Clinical Psychologists with experience in treating and diagnosing mood disorders. The diagnosis was based on a clinical interview, administration of the Depression, Anxiety and Stress Scale (DASS21, Lovibond & Lovibond, 1995) as well as the Psychiatric Diagnostic Screening Questionnaire (PDSQ; Zimmerman & Mattia, 2001). Difficult cases were presented at Peer Review which was attended by two Psychiatrists and five experienced Clinical Psychologists. All participants in this sample had a primary diagnosis of Major Depression or were currently in a depressed phase of a Bipolar Disorder. Seventy six (63.3%) of the depressed participants were taking an antidepressant (e.g., Zoloft), 21 (17.5%) were taking a mood stabiliser (e.g., Lithium), 14 (11.7%) were taking Benzodiazepines (e.g., Valium) and 23 (19.2%) were taking an antipsychotic (e.g., Seroquel).

Procedure

Prior to commencing the study ethical approval was obtained from the University of Wollongong Human Research Ethics Committee and the Northside Clinic Research Ethics Committee. The Mindcare Centre was satisfied with the approval already obtained from the above committees.

Participants in the non-depressed sample were recruited via the University of Wollongong online research sign up system. The students received 1.5 course credit points for their participation in the study. Participants in the non-depressed sample completed the questionnaires in a room at the University of Wollongong in the presence of the researcher.

Participants in the depressed sample were initially identified by their treating health professional and asked if they were interested in participating in the study. If they consented, they were contacted by the researcher, informed about the study and provided with the questionnaires. These participants were shown to a quiet and private room at either Northside Clinic or the Mindcare Centre to complete the questionnaires.

All participants were asked to complete a battery of questionnaires including consent and information forms, demographic information and mental health history, the Beck Depression Inventory II (BDI-II; Beck et al., 1996), Acceptance and Action Questionnaire II (AAQ-II; Bond, Hayes, Baer et al., Submitted), Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003), White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994), Outcome Questionnaire (Lambert, et al., 1996), a modified version Automatic Thought Questionnaire (ATQ; Hollon & Kendall, 1980) and the depression-specific AAQ (AAQ-D) (refer to Appendix C). Participants were also requested to complete the AAQ-D, AAQ-II and BDI-II two weeks after completing the first battery of questionnaires. Participants in the depressed sample who had completed treatment or been discharged from hospital were not followed up to complete the second set of questionnaires as requested from the Northside Clinic Ethics Committee. One hundred and twenty one participants from the non-depressed and 27 participants from the depressed sample completed the 2 week follow up.

Measures/Instruments

Demographic information. Participants in both samples answered a variety of demographic questions regarding their age, gender, country of birth, level of education, current employment status, marital status and number of children. All participants were asked about their past experiences of depression and if they had ever been diagnosed with Major Depression or Bipolar Disorder, and if so when. They were also asked to comment on how many episodes of depression, mania and/or hypomania they have experienced. If participants were currently on medication they were asked to indicate which medication they were currently taking.

Acceptance and Avoidance Questionnaire for Depression (AAQ-D). This measure was developed for the purpose of this study through a three step process. Initially two Clinical Psychologists with experience in ACT brainstormed a large sample of questions which they considered to reflect the six core processes of ACT as it would be related to depression. The item pool was reduced such that: (1) final items appeared to directly reflect one of the six core processes of ACT; (2) the wording of items was simple enough that an understanding of the technical terms or relatively unique phrasings used in ACT therapy would not be required to understand the items; and (3) final items did not reflect symptoms of depression as assessed by the DSM-IV-TR or depression self-report instruments used in this study. The items were reduced to a set of 24 questions (four for each core process) which were considered to best meet the questionnaire's requirements. This list of questions was reviewed by an ACT expert with numerous published works on ACT for depression, for opinion and recommendations. The sample of questions was also reviewed by three other Clinical Psychologists with experience in ACT and Depression. They were informed of the item selection criteria and asked for their opinion regarding the relevance of questions and if they were able to be understood. Some minor

amendments were made to wording of questions to reflect the feedback provided. Following this the questions were reviewed by two depressed patients at Northside Clinic who were asked to comment on whether the questions were easily understood, these patients were excluded from the final study. No adjustments were required following this stage. The 24 items were retained to be tested in this study.

As stated above, the questions in the AAQ-D were developed to assess depression-specific manifestations of the six core processes of ACT. The six factors are comprised of Acceptance, Cognitive Defusion, Being Present, Self as Context, Values and Committed Action. An example of items written to assess Acceptance include “It is ok to feel sad” and “I avoid doing things that might make me feel sad or anxious” (reversed scored). Examples of questions written to assess Cognitive Fusion include “Just because I think things are hopeless doesn’t mean they are” and “If I could just get my thinking straight, I wouldn’t feel so sad” (reversed scored). Examples of items written to assess Being Present include “I can really get lost in the moment” and “It seems as if I am often running on automatic pilot without much awareness of what I am doing”. Examples of items written to assess Self as Context include “When I am sad, my thoughts and feelings completely define who I am” and “I can allow my thoughts and feelings to come and go without getting attached to them”. Examples of items written to assess Core Values include “Things can still matter to me even when I feel they don’t” and “Nothing in life is really important to me”. Finally, examples of Items written to assess Committed Action include “When I feel down I cannot do the things I want to do” and “I do things which are important to me regardless of how I feel.” Participants were asked to rate each item on a 5-point Likert Scale ranging from (1) *never true* to (5) *always true*, where high scores indicated higher levels of each of the six core processes. For example, a high score on items developed to reflect Acceptance

indicates that a person has a high level of acceptance of their inner experiences. Refer to Appendix A for a list of the four items under each subscale of the AAQ-D.

Mindfulness Attention and Awareness Scale (MAAS). The Mindfulness Attention and Awareness Scale (MAAS; Brown & Ryan, 2003) measures a conceptualisation of mindfulness as “the presence or absence of attention to, and awareness of, what is occurring in the present moment” (Brown & Ryan, 2003, p. 824.). The MAAS is a 15 item self-report measure where participants rate agreement with items on a 6- point Likert Scale ranging from *almost always* to *almost never* . The items are written as statements such as “I could be experiencing some emotion and not be conscious of it until some time later” and “I find it difficult to stay focused on what’s happening in the present”. Higher scores on the MAAS indicate greater mindfulness. The MAAS has demonstrated good convergent and discriminate validity with other measures of psychological well being in two separate studies (Brown & Ryan, 2003; MacKillop & Anderson, 2007). The MAAS has also been found to incrementally predict depressive and anxious symptomatology (Zvolensky, Solomon, McLeish, Cassidy, Bernstein, Bowman et al., 2006).

White Bear Suppression Inventory. The White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994) is a self-report questionnaire measuring people’s general tendency to suppress unwanted negative thoughts. Example items include “There are things I prefer not to think about” and “I wish I could stop thinking about certain things”. The WBSI has been found to have good internal consistency ($\alpha = .89$) and test-retest reliability ($\alpha = .80, n = 40, p < .001$). The WBSI has been found to be a reliable measure of thought suppression (Muris, Merckelbach & Horselenberg, 1996). A high score on the WBSI indicates a greater tendency to suppress

unwanted thoughts. Research has shown that the WBSI was positively associated with symptom measures of depression (BDI) (Muris, Merckelbach, & Horselenberg, 1996).

Outcome Questionnaire (OQ -45.2). The Outcome Questionnaire (OQ -45.2; Lambert, Morton, Hatfield, Harmon, Hamilton, Reid et al., 2004) is a self-report measure assessing three important areas of an individual's life: Subjective Discomfort, Interpersonal Relationships, and Social Role Performance. One of the common applications of the OQ is for measuring current level of distress as well as being used as a treatment and research outcome measure. Results of the OQ yield a total score and three subscale scores. The OQ has been found to have good concurrent and criterion validity beyond the .01 level of confidence for the total score and three subscales (Lambert et al., 2004).

A high total score indicates that the person admits a large number of symptoms of distress as well as interpersonal difficulties in social roles and in their quality of life. The total score has been found to have excellent test-retest reliability ($\alpha = .84$) and excellent internal consistency in both student and patient samples ($\alpha = .93$ and $.93$ respectively).

The Symptom Distress (SD) subscale is composed of items that have been found to reflect anxiety, affective, adjustment and stress-related disorders. A high score indicates that a person is bothered by these symptoms, and a low score indicates either their absence or denial of symptoms. Example items include "I feel irritated" and "I feel something is wrong with my mind". SD scores have been found to correlate highly with measures of depression, such as the Beck Depression Inventory, and measures of anxiety, such as the State Trait Anxiety Inventory. The SD has been found to have good test-retest reliability ($\alpha = .78$) and excellent internal consistency in both student and patient samples ($\alpha = .92$ and $.91$ respectively).

The Interpersonal Relationships (IR) subscale assess things such as complaints about loneliness, conflict with others and marriage and family difficulties. Example items include “I get along well with others” and “I feel unhappy in my marriage/significant relationship”. High scores suggest concerns in those areas. The IR has been found to have excellent test-retest reliability ($\alpha = .80$) and good internal consistency in both student and patient samples ($\alpha = .74$ and $.74$ respectively).

The Social Role (SR) subscale measures the extent to which difficulties fulfilling workplace, student or home duties are present. High scores indicate difficulty in social roles. Example items include “I feel stressed at work/school” and “I am not working/studying as well as I used to”. The SR has been found to have excellent test-retest reliability ($\alpha = .82$) and good internal consistency in both student and patient samples ($\alpha = .70$ and $.71$ respectively).

Acceptance and Action Questionnaire-II (AAQ-II). The Acceptance and Action Questionnaire (AAQ-II; Bond, Hayes, Baer et al., submitted) is a 10 item self report measure developed to measure psychological flexibility as defined by ACT. It includes items such as “I’m afraid of my feelings” and “I am in control of my life”. Preliminary data analysis has demonstrated sound construct and divergent validity. The AAQ-II had a moderate to high correlation with measures of depression with $r = -.71$ for the Beck Depression Inventory (BDI-II; Beck, Steer & Brown, 1996) and $r = -.61$ for the Depression scale of the Depression Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995). The AAQ-II also showed good test-retest reliability with $r = .80$ (3 month retest) and $r = .78$ (1 year retest). It also has been found to have good internal consistency with a mean α of $.83$ across seven samples.

Reasons for Depression Questionnaire. The Reasons For Depression Questionnaire (RFD; Addis, Truax, & Jacobson, 1995) is a 48 item self report measure which assesses explanations people give for the causes of depression. Respondents rate the degree to which they believe an item contributed to the development of their depression on a 4-point Likert Scale ranging from *definitely not a reason* (1) to *definitely a reason* (4). Individuals who have never been depressed are asked to “think back to a time when (they) were extremely sad and it lasted for more than just a little while”, and then indicate their reasons for this experience. Nine subscales have been derived including characterological, existential, interpersonal conflict, intimacy, achievement, relationship, physical, childhood and biological. Subscale scores are reached by totalling the individual subscale item and dividing it by the number of subscale items to obtain an average. Example items include “I don’t feel loved” and “I think about things in a depressing way”. The RFD has been standardised for both clinical and non clinical populations in the UK (Thwaites, Dagnan, Huey & Addis, 2004) and US (Addis, Tuax & Jacobson, 1995). It has been found to have high reliability for all subscales and support for concurrent and divergent validity (Addis, et al, 1995; Thwaites et al., 2004).

Beck Depression Inventory- Second Edition (BDI-II). The Beck Depression Inventory-Second Edition (BDI-II; Beck, Steer, & Brown, 1996) is a popular 21 item self-report questionnaire used to assess the severity of depression in adults and adolescence. Example items include “I am so sad or unhappy that I can’t stand it” and “I feel like crying but can’t”. It was developed as an indicator of the presence and degree of depressive symptoms consistent with the Diagnostic and Statistical Manual Fourth Edition (DSM-IV). The BDI-II has demonstrated good psychometric characteristics with good internal consistency as all of the item-total correlations were significant beyond the .05 level for both the clinical and outpatient samples. One week test-

retest reliability of .93 was also significant at the .001 level. The BDI-II has also demonstrated excellent content and construct validity (Beck et al., 1996)

Automatic Thought Questionnaire (Modified). The Automatic Thought Questionnaire (ATQ; Hollon & Kendall, 1980) is a 30 item self-report questionnaire designed to identify and measure the frequency of occurrence of automatic negative thoughts associated with depression. Participants are asked to read each statement and rate on a 5-point scale how frequently that thought has occurred to them over the past week, from *Not at all* to *All the time*. The ATQ has demonstrated sound internal consistency ($\alpha = .96$) and construct validity. It has also been found to reliably separate groups who were depressed from those who were not depressed based on the frequency of their negative automatic thoughts. It also correlated highly with a measure of depression ($r = .60$ to $.78$). Together these results indicate good construct validity (Hollon & Kendall, 1980).

Zettle and Hayes (1986) used a modified version of the ATQ in an original study of ACT and Depression. They added an additional measure of believability to each statement in an effort to assess the degree of cognitive fusion relative to each negative automatic thought. These additional scales were also scored using a 5-Point Likert Scale ranging from *not at all* to *totally*. The modified version of the ATQ (ATQ-B) was included in this study.

Results

Preliminary Analysis

Prior to conducting the factor analyses, the response distribution of all the individual items of the AAQ-D were examined. As none of the items were excessively skewed or kurtotic no items were excluded from the analysis on the basis of their response distribution.

Main Analysis: Factor Analysis of the AAQ-D

Exploratory Factor Analysis using Principal Axis Factoring with Oblique Rotation was conducted on the 24 items in order to assess whether the six core factors of ACT were represented in the AAQ-D. As recommended by Floyd and Widman (1995), multiple methods were used to determine the number of factors. A three factor solution was indicated based on the Cattell-Nelson-Gorsuch (Gorsuch, 1983) scree test and the criteria of eigenvalues greater than 1.

In regards to item selection for the three factors, decisions were made based on Floyd and Widaman's (1995) criteria that factor loadings are considered significant between .3 and .4. In order to ensure identification of reliable factors, factor loadings of .30 or higher were considered meaningful for the purpose of the AAQ-D. Items loading below .30 on all factors were excluded from interpretation. Variables that appeared to load highly on two or more factors were also excluded. On the basis of these criteria, two items were excluded following the factor analysis. Item 2 ("I avoid doing things that might make me feel sad or anxious") and item 12 ("I can really get lost in the moment") had loadings of less than .30 on all factors.

Notably, the original factor structure produced three factors and a global factor. However, following further analysis it became apparent that one of the three factors demonstrated very poor internal consistency, with inter-item correlation ranging from .31 to .44. It also demonstrated

poor correlation with the other factors ($r = .14$ to $.22$). Further, two of the three items did not load onto the global factor (.22 and .13). This suggests that this factor resulted from a method effect and did not represent a substantive factor. Therefore it was decided that a factor solution with a global factor and two other factors was the best fit for this data.

The final analysis producing the best solution consisted of 22 items with two interpretable factors with eigenvalues of 9.05 and 1.21. Together these accounted for 46.6% of variance in item response. Factors one and two accounted for 43.08%, and 3.52% of total item variance, respectively. The factors that emerged were labelled as follows: Factor 1 (5 items) Mindfulness-Defusion and Factor 2 (7 items) Values-Commitment. The factor analysis also identified a global factor which appears to be a measure of general psychological flexibility (22 Items; refer to Table 3.1 for factor loadings).

Items loading highly on the Mindfulness-Defusion factor include “When I am sad, my thoughts and feelings completely define who I am” and “It seems as if I am often running on ‘automatic pilot’ without much awareness of what I am doing”. This factor appears to measure the degree to which an individual is able to be aware of the present moment (mindfulness), and able to differentiate themselves from the content of their thoughts or define themselves by their feelings. Representative items on the Values-Commitment factor include “I know what matters most to me even when I am sad” and “I do things which are important to me regardless of how I feel”. The Values-Commitment factor assesses whether an individual is aware of what is important or meaningful to them (Values) and is able to engage in value based behaviour even when they feel sad or depressed (Commitment). The global factor of Psychological Flexibility measures the degree to which an individual is able or willing to experience their unpleasant

Table 3.1

Factor Loadings for AAQ-D items

Item Number and Question	MD	VC	PF
9 I spend a lot of time thinking about what has gone wrong in my life	.801	-.015	.807
16 When I am sad, my sadness completely consumes me	.721	-.095	.795
10 It seems as if I am often running on ‘automatic pilot’ without much awareness of what I am doing	.701	-.106	.624
11 I spend a lot of time thinking about how bleak the future is	.675	-.280	.842
15 When I am sad, my thoughts and feelings completely define who I am	.666	-.058	.725
8 If I could just get my thinking straight, I wouldn’t feel so sad	.399	.136	.512
21 When I feel down I cannot do the things I want to do	.394	-.198	.719
7 Just because I think things are hopeless doesn’t mean they are	-.347	.278	-.664
12 I can really get lost in the moment	.280	.004	.183
3 It’s ok to have negative thoughts	.132	-.043	-.135
1 It is ok to feel sad	-.029	.072	-.229
4 Feeling sad is a problem	.309	-.111	.569
17 I know what matters most to me even when I am sad	-.172	.756	-.722
18 Things can still matter to me even when I feel they don’t	.124	.626	-.354

Table 3.1 (continued)

Item Number and Question		MD	VC	PF
22	I do things which are important to me regardless of how I feel	-.010	.537	-.665
20	I can live a meaningful purposeful life even when I'm feeling sad	-.128	.530	-.713
13	I feel connected to the people and things around me.	-.222	.523	-.684
19	Nothing in life is really important to me	.227	-.472	.670
14	I can allow my thoughts and feelings to come and go without getting attached to them	-.172	.450	-.644
2	I avoid doing things that might make me feel sad or anxious	-.094	.021	.189
24	I act according to how I am feeling at the time	.050	-.097	.515
23	My mood determines what I will be able to do each day	.338	-.066	.684
6	My self critical thoughts are just thoughts, not facts	-.076	.380	-.668
5	I don't take my sad thoughts too seriously when they come up	-.152	.284	-.556
Eigenvalue		9.05	1.22	
% Variance		43.08	3.52	

Note. MD = Mindfulness-Defusion Scale; VC = Values-Commitment Scale; PF = Psychological Flexibility Scale

thoughts and feelings and still be able to function in their daily lives. The factor includes items such as “My mood determines what I will be able to do each day” and “I don’t take my sad thoughts too seriously when they come up”.

Internal Consistency

Cronbach’s α was calculated to determine the internal consistency of the AAQ-D general factor of Psychological Flexibility. The Psychological Flexibility Scale had high Cronbach alphas of .96, while the Mindfulness-Fusion and Values-Commitment Scales had high Cronbach alpha’s of .90 and .83 respectively. There was a high correlation between the Psychological Flexibility and the Mindfulness-Defusion ($r = .89$) and Values-Commitment subscales ($r = .88$). There was a moderate correlation between the Mindfulness-Defusion and Values-Commitment subscales ($r = .70$). Item-total correlations for the Mindfulness-Defusion Scale ranged from .77 to .89, with inter-item correlations ranging from .54 to .76 indicating adequate internal consistency. The item-total correlation for the Values-Commitment scale was also adequate, with correlations ranging from .59 to .81 and inter-item correlations ranging from .29 to .59.

Table 3.2.
Internal consistency Reliability Analyses for AAQD Scales (N = 241)

Scale	No.	Cronbach’s Alpha	Correlation with MF	Correlation with VC	Range of		
	of items				item-total correlations	Range of inter- item correlations	Mean inter-item Correlations
Mindfulness- Fusion	5	.90	1	.70**	.77 - .89	.54 - .76	.65
Values- Commitment	6	.83	.70**	1	.59 - .81	.29 - .59	.45
Psychological Flexibility	22	.96	.89**	.88**	.13 - .76	-.12 - .76	.35

Note. ** Correlation is significant at the 0.01 level (2-tailed)

MD = Mindfulness-Defusion Scale; VC = Values Commitment Scale

Test-retest reliability

Two week test-retest reliabilities were computed to determine if the AAQ-D scores showed stability over time. The test-retest coefficient for the Psychological Flexibility, Mindfulness-Defusion and Values-Commitment scales were .91, .77 and .86 respectively. This indicates that the scales of the AAQ-D demonstrate high stability over a two week period.

Convergent and divergent validity

The construct validity of the AAQ-D subscales was evaluated through the examination of correlations between measures which were considered to be similar (convergent) and different. The most commonly used measure of Psychological Flexibility is the Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, Wilson, et al., 2004). This study used the AAQ-II (Bond, et al., Submitted) as it is a more recent version of the AAQ and is more psychometrically sound. As expected, the Psychological Flexibility scale of the AAQ-D correlated highly with the AAQ-II at $r = .88$ (see Table 3.3 for a complete listing of correlations), suggesting that the Psychological Flexibility scale is a good measure of what it was intended to measure.

The Mindfulness-Defusion scale assesses the degree to which an individual is aware of their experiences in the present moment and the degree to which they fuse or believe their cognitions. Therefore, the Mindfulness-Defusion scale was expected to correlate highly with the Mindfulness Attention and Awareness Scale (MAAS; Brown & Ryan, 2003) as this is a self report questionnaire which assesses an individual's ability to be mindful and aware of the present moment. There was a moderate correlation between the Mindfulness-Defusion Scale and the MAAS ($r = .67$). The Automatic Thoughts Questionnaire Believability Subscale (ATQ-B; Zettle & Hayes, 1986) is a measure of the degree to which an individual believes their depression-related negative thoughts, which is considered to be similar to fusing with their thoughts. As expected, the Mindfulness-Defusion Scale produced a moderate to high negative correlation with

the ATQ-B ($r = -.77$). The White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994) is a self report instrument assessing the degree to which an individual is unwilling to experience their negative thoughts, and would therefore be expected to have a significant negative correlation with the Mindfulness-Defusion Scale. As predicted, the Mindfulness-Defusion Scale produced a moderate to high negative correlation with the WBSI ($r = -.75$). This suggests that when an individual suppresses their thoughts they are less mindful and defused from them. Zettle (2007) suggested that the Reasons For Depression Scale (RFD; Addis et al., 1995) is a measure which can be used to assess level of fusion, therefore this was expected to correlated significantly with the Mindfulness-Defusion Scale. There was generally significant moderate correlation with most subscales of the RFD scale (ranging from $-.26$ to $-.61$), with the exception of the relationships subscale, which had an insignificant correlation with the Mindfulness-Defusion Scale ($r = -.03$). This suggests that these scales measure something related but unique to each other.

In regards to construct validity for the Values-Commitment Scale, there were no specific measure of values and commitment that were included in the study due to the lack of well validated measure of values and the length of existing experimental questionnaires. Therefore the Values-Commitment Scale's validity may be best indicated by divergent validity. In regards to divergent validity, the Values-Commitment Scale had a moderate correlation with the WBSI and the MASS ($-.53$ and $.50$ respectively). This indicates that the Values-Commitment Scale is has some construct overlap with mindfulness and thought suppression, but not enough for the scale to be considered redundant. This suggests that perhaps people who are more connected and committed to their values are more present in their lives and more accepting of negative thoughts. The Values-Commitment Scale also moderately correlated with the Outcome Questionnaire total and subscale scores, ranging from $-.52$ to $-.69$. This suggests that a higher degree of values clarity

and commitment on the AAQ-D correlates with lower degrees of distress on the OQ. This indicates that the Values-Commitment Scale does overlap with measures of distress, satisfaction with interpersonal relationships and social roles but not enough to be considered redundant. The Values-Commitment Scale had significant but low correlations (ranging from -.12 to -.42) with all subscales of the Reasons For Depression Questionnaire which indicates that it measures something very different from reasons people associate for their depression.

Divergent validity for the Mindfulness-Defusion Scale is supported by its moderate to high correlations to the Outcome Questionnaires total and subscale scores, with correlations ranging from -.67 to -.86. This suggests that the Mindfulness-Defusion Scale measures a construct that is related to distress, satisfaction with interpersonal relationships and social roles but is different enough from these constructs to not be considered redundant.

The Psychological Flexibility Scale also showed divergent validity, as it had low to moderate correlations with all subscales of the Reasons for Depression Questionnaire, with correlations ranging from -.03 to -.58. This indicates that the Psychological Flexibility Scale measures a construct distinct from the reasons people associate with why they are or have been depressed. However, this scale did produce moderate to high correlations with the scale of the Outcome Questionnaire, with correlations ranging from -.62 to -.83. This suggests that the Psychological Flexibility Scale measures a construct which is related to distress, satisfaction with interpersonal relationships and social roles but is also different enough from these constructs to not be considered redundant. Overall, it can be stated that the AAQ-D Scales of Psychological Flexibility, Mindfulness-Defusion, and Values-Commitment all demonstrate adequate convergent and divergent validity. Refer to Table 3.3 for a summary of the convergent and divergent correlations for all of the AAQ-D subscales.

Table 3.3
Convergent and Divergent Correlations of the AAQ-D

	Mindfulness- Defusion	Values- commitment	Psychological Flexibility
WBSI	-.75**	-.53**	.64**
MASS	.69**	.50**	-.72**
ATQ- Believability	-.77**	-.70**	-.80**
Outcome Questionnaire			
Total	-.86**	-.69**	-.83**
Subjective Discomfort	-.86**	-.68**	-.83**
Interpersonal Relationships	-.75**	-.66**	-.73**
Social Roles	-.67**	-.52**	-.62**
Reasons for Depression			
Existential	-.47**	-.26**	-.42**
Character	-.55**	-.33**	-.50**
Interpersonal conflict	-.31**	-.20**	-.26**
Intimacy	-.46**	-.34**	-.42**
Achievement	-.61**	-.42**	-.58**
Childhood	-.26**	-.16*	-.25**
Relationships	-.03	.07	-.03
Physical	-.36**	-.12**	-.30**
Biological	-.44**	-.30**	-.42**

Note. * Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Criterion relationships

Correlations with criterion measures were conducted to determine if the Psychological Flexibility, Mindfulness-Defusion and Values-Commitment Scales were related to depression (BDI-II; Beck et al., 1996) and general psychological flexibility (AAQ-II; Bond et al., Submitted). The Psychological Flexibility, Mindfulness-Defusion and Values-Commitment scales all showed moderate to high correlations with the BDI-II (-.82, -.81 and -.70 respectively). This means that there is an inverse relationship between the scales of the AAQ-D and depression. More specifically, the more depressed an individual is the less mindful, accepting and committed to their values they are (see Table 3.4).

There were strong positive correlations between the AAQ-II and the Mindfulness-Defusion ($r = .89$) and Values-Commitment ($r = .71$) Scales (see table 3.4 below). This suggests that the subscales of the AAQ-D are related to general psychological flexibility as measured by the AAQ-II. As noted above the Psychological Flexibility Scale also produced a significant high correlation with the AAQ-II ($r = .88$). However, the overlap between the AAQ-II and AAQ-D is not high enough for the constructs to be considered redundant. It may also suggest that the AAQ-D measures something unique compared to the AAQ-II

Table 3.4

Criterion Correlations

	Mindfulness- Defusion	Values- Commitment	Psychological Flexibility
BDI II	-.81**	-.70**	-.82**
AAQ II	.89**	.71**	-.88**

Note. ** Correlation is significant at the 0.01 level (2-tailed)

In order to determine if the AAQ-D has a unique relationship with scores on the BDI-II above the information accounted for by the AAQ-II a linear regression was performed. The BDI-II was the criterion and the predictors were entered in order of the AAQ-II then AAQ-D. Results of evaluations of assumption were satisfactory. The results of the regression analysis indicate that the AAQ-D does provide a unique contribution in predicting depression (BDI-II scores) above the contribution predicted by the AAQ-II, $R = .87$, $R^2 = .75$, adjusted $R^2 = .75$, $F(2,230) = 352.84$, $p < .001$.

Difference between Depressed and Non-Depressed Samples

Independent sample t -tests were carried out in order to determine if there was a significant difference on AAQ-D scales (time 1) between people currently depressed and people who are not depressed. Assumptions of normality and homogeneity of variance were met for the Mindfulness-Defusion Scale but not for the Values-Commitment and Psychological Flexibility Scale. Therefore, the t -test for unequal variance was computed for the Values-Commitment and Psychological Flexibility Scales (see Table 3.5). All t -tests were conducted with a Bonferroni adjusted α of .01.

The t -test conducted for Mindfulness-Defusion Scale indicated a statistically significant difference between depressed and non depressed samples, $t(239) = 19.18$, $p < .05$, 95% confidence interval of the difference, 7.15 to 8.78. The mean score for the depressed group ($M = 12.06$, $SD = 3.55$) on the Mindfulness-Defusion Scale was significantly lower than the mean score for the non-depressed group ($M = 20.02$, $SD = 2.87$), indicating that depressed subjects reported being significantly less mindful than non-depressed subjects.

The t -test conducted for Values-Commitment Scale indicated a statistically significant difference between depressed and non-depressed samples, $t(225.62) = 13.17$, $p < .05$, 95% confidence interval of the difference, 5.19 to 7.02. The mean score for the depressed group ($M = 17.96$, $SD = 4.00$) on the Values-Commitment Scale was significantly lower than the mean score for the non depressed group ($M = 24.07$,

$SD = 17.96$), indicating that depressed subjects reported significantly less values clarity and ability to move toward these values than non-depressed subjects.

The t -test conducted for Psychological Flexibility Scale indicated a statistically significant difference between depressed and non-depressed samples, $t(228.53) = 18.12$, $p < .05$, 95% confidence interval of the difference, 21.00 to 26.07. The mean score for the depressed group ($M = 60.43$, $SD = 11.00$) on the Psychological Flexibility Scale was significantly lower than the mean score for the non-depressed group ($M = 83.94$, $SD = 9.00$), indicating significantly less self-reported psychological flexibility in depressed versus non-depressed subjects.

Table 3.5

Results of t-test comparing depressed vs non-depressed on AAQ-D Subscales

Scale	M	SD	t	df	Sig	95% CI
Mindfulness-Defusion						
Non-depressed	20.02	2.87	19.18	239	<.01	7.15 – 8.78
Depressed	12.06	3.55				
Values-Commitment						
Non-depressed	24.07	3.15	13.17	225.62	<.01	5.19 – 7.02
Depressed	17.96	4.00				
Psychological Flexibility						
Non-depressed	83.94	9.00	18.12	228.53	< .01	21.00 – 26.07
Depressed	60.43	11.00				

Note. Non-depressed ($n = 121$); Depressed ($n = 120$)

A secondary aim of the study was to provide support for the ACT model for depression. Therefore group differences on mindfulness (MAAS), thought suppression (WBSI) and fusion (ATQ-B) measures were calculated by independent sample *t*-test (see Table 3.6). Assumptions of normality and homogeneity of variance were met for the MAAS and ATQ-B but not for the WBSI. All *t*-tests were conducted with a Bonferroni adjusted α of .01.

The *t*-test conducted for the WBSI indicated a statistically significant difference between depressed and non-depressed samples, $t(-228.84) = -13.02, p < .01$, 95% confidence interval of the difference, -20.90 to -15.40. The mean score for the depressed group ($M = 62.00, SD = 9.57$) on the WBSI was significantly higher than the mean score for the non-depressed group ($M = 43.85, SD = 11.88$). This indicates that the depressed group reported using more thought suppression strategies than the non-depressed group.

The *t*-test conducted for MAAS indicated a statistically significant difference between depressed and non depressed samples, $t(237) = 11.02, p < .01$, 95% confidence interval of the difference, 14.05 to 20.16. The mean score for the depressed group ($M = 46.49, SD = 11.05$) on the MAAS was significantly lower than the mean score for the non-depressed group ($M = 63.60, SD = 12.85$). This indicates that the depressed group reported being less mindful than the non depressed group.

The *t*-test conducted for ATQ-B indicated a statistically significant difference between depressed and non depressed samples, $t(236) = -16.21, p < .01$, 95% confidence interval of the difference, -51.67 to - 40.47. The mean score for the depressed group ($M = 91.74, SD = 25.92$) on the ATQ-B was significantly higher than the mean score for the non-depressed group ($M = 45.67, SD = 17.20$). This indicates that the depressed group reported being more fused with negative thoughts when they showed up than the non depressed group.

Table 3.6

Results of t-test comparing depressed vs non-depressed on WBSI, MAAS and ATQ-B

Scale	<i>M</i>	<i>SD</i>	<i>t</i>	<i>Df</i>	Sig	95% CI	<i>ES</i>
WBSI							
Non-depressed	43.85	11.88	-13.02	228.84	<.01	-20.90 –15.40	-1.90
Depressed	62.00	9.57					
MAAS							
Non-depressed	63.60	12.85	11.02	237	<.01	14.05 – 20.16	1.55
Depressed	46.49	11.05					
ATQ-B							
Non-depressed	45.67	17.20	-16.21	236	<.01	-51.67 – 40.47	-1.78
Depressed	91.74	25.92					

Note. Non-depressed (n = 121); Depressed (n = 120)

In order to confirm that the groups differed in regards to their level of depression and general psychological flexibility as measured by the AAQ-II independent sample *t*-test were calculated (see Table 3.7). Assumptions of normality and homogeneity of variance were not met for both the BDI-II and AAQ-II. All *t*-tests were conducted with a Bonferroni adjusted α of .01.

The *t*-test conducted for the BDI-II indicated a statistically significant difference between depressed and non-depressed samples, $t(171.963) = -25.85, p < .05$, 95% confidence interval of the difference, -27.67 to -23.75. The mean score for the depressed group ($M = 31.53, SD = 9.74$) on the BDI-II was significantly higher than the mean score for the non-depressed group ($M = 5.82, SD = 4.83$). This indicates that the depressed group reported more symptoms of depression than the non-depressed group.

The *t*-test conducted for the AAQ-II indicated a statistically significant difference between depressed and non-depressed samples, $t(224.85) = 20.08$, $p < .01$, 95% confidence interval of the difference, 21.11 to 25.70. The mean score for the depressed group ($M = 31.61$, $SD = 9.66$) on the AAQ-II was significantly lower than the mean score for the non-depressed group ($M = 55.02$, $SD = 8.15$). This indicates that the depressed group reported less psychological flexibility as measured by the AAQ-II than the non-depressed group.

Table 3.7

Results of t-test comparing depressed vs non-depressed on BDI-II and AAQ-II

Scale	<i>M</i>	<i>SD</i>	<i>t</i>	<i>Df</i>	Sig	95% CI	<i>ES</i>
BDI-II							
Non-depressed	5.82	4.83	-25.85	171.96	<.01	-27.67 to -23.75	-2.64
Depressed	31.53	9.74					
AAQ-II							
Non-depressed	55.02	8.15	20.08	224.85	<.01	21.11 – 25.71	2.42
Depressed	31.61	9.66					

Note. Non-depressed (n = 121); Depressed (n = 120)

Zettle (2004, 2007) suggested that fusion with reasons for depression contributed to the development and maintenance of depression. Therefore, group differences on the Reasons For Depression Questionnaire (RFD; Addis et al., 1995) were calculated by independent *t*-test (see Table 3.6). Assumptions of normality and homogeneity of variance were met for all the RFD subscales except for Biological. All *t*-tests were conducted with a Bonferroni adjusted α of .005.

Significant group differences were found for all subscales except for the Relationship subscale, with the depressed group scoring higher than the non-depressed group. This indicates

that the participants in the depressed group reported fusing with more reasons for depression (or sadness) than the non-depressed group.

Table 3.8

Results of t-test comparing depressed vs non-depressed on the RFD

RFD	<i>M</i>	<i>SD</i>	<i>t</i>	<i>Df</i>	Sig	95% CI	<i>ES</i>
Existential							
Non-depressed	1.82	.69	-5.4	235	<.005*	-.71 –	-.66
Depressed	2.34	.79				-.33	
Character							
Non-depressed	1.65	.56	-8.52	235	<.005*	-.80 –	-1.05
Depressed	2.29	.61				-.50	
Interpersonal Conflict							
Non-depressed	1.62	.71	-3.94	235	<.005*	-.54 –	-.56
Depressed	2.00	.68				-.18	
Intimacy							
Non-depressed	1.87	.80	-6.00	235	<.005*	-.85 –	-.75
Depressed	2.51	.85				-.43	
Achievement							
Non-depressed	2.10	.75	-7.78	235	<.005*	-.93 –	-1.03
Depressed	2.84	.72				-.55	
Childhood							
Non-depressed	1.83	.99	-3.32	235	<.005*	-.66 –	-.45
Depressed	2.24	.92				-.17	

Table 3.8 (continued)

RFD	<i>M</i>	<i>SD</i>	<i>t</i>	<i>Df</i>	Sig	95% CI	<i>ES</i>
Relationship							
Non-depressed	1.56	.87	-.96	235	.347	-.34 –	-.13
Depressed	1.68	.93				-.12	
Physical							
Non-depressed	1.71	.79	-6.00	235	<.005*	-.85 –	-.75
Depressed	2.35	.85				-.43	
Biological							
Non-depressed	1.51	.68	-7.81	212.60	<.005*	-1.05 –	-.88
Depressed	2.34	.94				-.62	

Note. * $p < .005$, Non-depressed ($n = 121$); Depressed ($n = 120$)

Discussion

The aim of this study was to develop a self report measure assessing the core processes of ACT as they apply to depressed individuals, in the interest of further assessing the role of these processes in mediating depression. The results of this study suggest the AAQ-D is a reliable and valid measure of ACT processes relevant to depression. Although the AAQ-D did not yield a six factor solution corresponding to the six major processes proposed in ACT, it did yield a general factor reflecting psychological flexibility, as well as Mindfulness-Defusion and Values-Commitment factors. These findings can be considered empirical support for the ACT model of depression. This is because the six core ACT processes work together to establish psychological flexibility by balancing between behaviour change strategies (i.e., committed action, value based living) when change is possible or needed (e.g., overt behaviour) and acceptance and mindfulness in areas when change is not possible or necessary (e.g., thoughts and feelings) (Hayes et al., 2006), therefore two broad factors incorporate the six core processes.

The original 16 item version of the AAQ and several of the modified versions of the AAQ have also resulted in a two factor structure with scales measuring acceptance and action based processes. Examples include, the Acceptance and Action scales of the Voices Acceptance and Action Scale (Shawyer et al., 2007), and the Activities Engagement and Pain Willingness scales of the Chronic Pain Acceptance Questionnaire (McCracken et al., 2004). These results can be interpreted in one of two ways. Firstly, perhaps the six core processes of ACT are simply useful in guiding practical intervention decisions rather than faithfully and parsimoniously reflecting actual processes of change underlying ACT. ACT processes may be best represented by a general acceptance/mindfulness component and action/valued behaviour component which interact to create greater psychological flexibility. However, the factor structure of the AAQ-D may also

reflect the difficulty in measuring core ACT processes, such as self as context, using pen and paper instruments. It may also indicate that some of the six core processes, such as mindfulness, can be adequately assessed with generic measures, whereas depression specific measures are needed in evaluating other processes, such as acceptance and defusion. A further interpretation of the results is that perhaps the six core processes interact and overlap rather than being six individual core processes, and so may not be able to be separated well enough to be measured as individual processes. For example, Fletcher and Hayes (2005) suggested that a working definition of mindfulness involves acceptance, cognitive defusion, self as context and being in the present moment. Therefore, it may not be possible to assess each of these components of Mindfulness separately but only obtain an overall measure of how they interact to create mindfulness.

The overlap between factors of the AAQ-D provides empirical evidence and at least partial support for the theoretical speculation that some of the ACT processes overlap. This theory is also reflected in the diagram of the ACT model of psychological flexibility (represented in Figure 1.2), which illustrates that commitment and change processes involve values and committed action as well as self as context and being present. ACT theory speculates that self as context and being present are components of both acceptance and action areas because “all psychological activity of conscious human beings involves the now as known” (Hayes et al., 2006, p. 10). This is also reflected in the AAQ-D, as one item which was originally designed to fall into the self as context factor (“I feel connected to the people and things around me”) loaded with items which conceptually measured values and committed action such as “I know what matters most even when I feel they don’t”.

Further support for the suggestion that ACT processes are related is the high inter-scale correlation between the Mindfulness-Defusion and Values-Commitment scales. This result indicates that if a person is less mindful and more fused with their thoughts, they are also likely

to be less aware of their values when they are depressed. The Mindfulness-Defusion and Values-Commitment scales also correlated highly with the global scale of Psychological Flexibility. This suggests that an individual's ability to be mindful and defused as well as their awareness and commitment to their values influences how flexible they are in responding to their depression (i.e., psychological flexibility). That is, if a person obtains a high score on Psychological Flexibility, then they are also likely to score highly on the Values-Commitment and Mindfulness-Defusion scales.

Not only did the three scales demonstrate good inter-scale reliability (i.e., high inter-scale correlations), each of the scales also demonstrated excellent internal consistency as well as moderate convergent and divergent validity. The Mindfulness-Defusion scale converged well with other measures of mindfulness and acceptance/defusion including the MAAS (Brown & Ryan, 2003), WBSI (Wegner & Zanakos, 1994), and ATQ-B (Hollon & Kendall, 1980; Zettle & Hayes, 1986). This suggests that the scale measured what it is intended to measure: the degree to which an individual is able to be aware of the present moment (i.e., mindfulness) and see their thoughts as just thoughts. The Psychological Flexibility Scale showed good convergent validity with the AAQ-II, and so can be considered a good measure of psychological flexibility. The Values-Commitment Scale showed sound divergent validity, as it only showed moderate correlation with measures of reasons for depression and distress (RFD; Addis, Truax & Jacobson, 1995), and satisfaction with interpersonal relationships and social roles (OQ; Lambert, Morton, Hatfield, Harmon, Hamilton, Reid et al., 2004). This suggests that the Values-Commitment Scale measures something related to these things but is also significantly different from them. Therefore, these outcomes appear to allow the AAQ-D to be considered a reliable and valid measure of the ACT model of depression.

In addition to sound internal and inter-scale reliability, all scales of the AAQ-D demonstrated excellent test re-test reliability. Therefore, the AAQ-D appears to be a stable measure of psychological flexibility, mindfulness and defusion, and values and commitment over a two week period.

Criterion relationships of AAQ-D, Depression and AAQ-II

One of the primary goals of this study was to develop an ACT process measure which was specific to people experiencing depression. According to the ACT model, the Psychological Flexibility, Mindfulness-Defusion and Values-Commitment scales would be expected to show significant negative correlations with depression, as measured by the BDI-II (Beck et al., 1996). This hypothesis was supported by the results of this study as all scales produced a high negative correlation with the BDI-II. This indicates that the more depressed an individual is: the less they are able to accept their inner experiences in order to produce effective action (psychological flexibility); the less they are able to be in the present moment and see their thoughts as just thoughts and not the content of what they advertise themselves to be; and the less clear they are on their values and more ineffective in their action towards their values.

The correlation between the BDI-II and the scales of the AAQ-D are consistent with Zettle's (2007) model of depression in which he claims that depression is caused and/or maintained by fusion with inner experiences, avoidance (experiential avoidance), attachment to a negative evaluation of self and the future, rumination about past events and depression, reason giving for being depressed, lack of clarity of values, and inaction towards those values. The Psychological Flexibility Scale of the AAQ-D reflects the positive processes or 'flip side' of all of Zettle's factors working together (namely, acceptance, defusion, mindfulness, self as context, values and committed action). The Mindfulness-Defusion Scale reflects the reverse of evaluation,

reason giving, rumination and avoidance while the Values-Commitment Scale reflects the opposite of incongruent values and inaction or failure to pursue value based goals. Therefore, a high score on the AAQ-D reflects the positive processes thought to reflect greater psychological flexibility and hence less depression.

The high correlation between the BDI-II and the AAQ-D could mean that psychological inflexibility is largely the same thing as or a “symptom” of depression. Or it could mean that psychological inflexibility is a process that leads to depression (as hypothesised). Although there is mounting evidence that psychological inflexibility leads to depression, the only way these interpretations can be discriminated is by using the AAQ-D as a process measure in ACT outcome studies with depressed individuals and observing whether or not changes in the AAQ-D precede changes in the BDI-II, or simply co-vary. That is, the AAQ-D should be used in an ACT outcome study to determine if it mediates changes in depression following ACT treatment.

The cross-sectional nature of this study does not allow for any inferences as to the causal nature of the relationship between the ACT processes and depression. However, the magnitude of the correlations shown between the scales (ACT processes) and depression suggests that longitudinal and treatment outcome research to examine the relationship between the ACT processes and depression is warranted.

Another important relationship which needed to be explored was that between the scales of the AAQ-D and the AAQ-II (the most recent measure of general psychological flexibility; Bond et al., submitted). The original AAQ was developed with the understanding that,

If the theory underlying ACT and similar approaches was correct then a measure of experiential avoidance should correlate with a broad range of measures of psychopathology, life satisfaction, and behavioural health, and should add something to

move above and beyond more specific dimensions that are part of experiential avoidance, such as thought suppression” (Hayes, Strosahl, Wilson et al., 2004, p. 556).

Following further exploration of the AAQ, it is now considered to reflect general psychological flexibility rather than just experiential avoidance. As noted earlier, the original AAQ produced inconsistent correlations with measures of depression while preliminary analysis of the AAQ-II only had moderate correlations with the Beck Depression Inventory and the Depression Anxiety and Stress Scale. These correlations, along with Lillis and Hayes (2008) suggestion that disorder-specific versions of the AAQ be developed to increase sensitivity to change during ACT treatment, contributed to the decision to create the AAQ-D. Therefore, the AAQ-D scales were expected to show significant positive correlations with the AAQ-II. The AAQ-D was developed to be a more specific and sensitive measure of ACT processes for depression, all of which theoretically contribute to Psychological Flexibility (i.e., the AAQ-II). As predicted, all scales of the AAQ-D demonstrated a significant positive relationship with the AAQ-II. Thus both Mindfulness-Defusion and Values-Commitment processes are related to psychological flexibility as suggested by the factor structure of the AAQ-D and the relationship between the Mindfulness-Defusion and Values-Commitment factors of the AAQ-D with the AAQ-II.

The results of the regression analysis with depression (BDI-II scores) as the criterion and the AAQ-D and AAQ-II as the predictors indicates that both the AAQ-D and AAQ-II both explain unique variance of depression. More specifically, the AAQ-D has a unique relationship with the BDI-II above the information accounted for by the AAQ-II. This suggests that the AAQ-D measures something slightly different than AAQ-II. This may be interpreted as the AAQ-D being a more specific measure of the ACT process for people with depression than the AAQ-II. However, this cannot be concluded from this study. The best way to determine whether the AAQ-D adds anything over the AAQ-II as an ACT process measure of depression would be to

conduct ACT treatment outcome studies with depressed clients using the AAQ-II and AAQ-D as process measures. This would indicate if the AAQ-D is more sensitive to change and more predictive of reductions in depression than the AAQ-II. Although this is beyond the scope of this study, it does provide evidence that such a study would be worthwhile.

Group differences on the AAQ-D

In order to determine whether or not the AAQ-D reflects the ACT model of depression, a significant difference in mean scores of each of the AAQ-D scales was required between the depressed and non-depressed samples. The results consistently found that the depressed group scored significantly lower than the non-depressed group on Psychological Flexibility, Mindfulness-Defusion and Values-Commitment. As noted earlier, the ACT model can be examined from the perspective of pathological core processes, such as fusion and avoidance, or positive core processes which create psychological flexibility (refer to Figures 1.1 and 1.2). The Mindfulness-Defusion Scale examines the ACT model from this positive perspective. Therefore, lower scores for the depressed group on the Mindfulness-Defusion Scale could be thought of as evidence of the pathological processes which Zettle (2004, 2007) has suggested contribute to depression. More specifically, the items on the Mindfulness-Defusion scale provide support for the theory that fusion, reason giving and rumination are related to the development and/or maintenance of depression. Detailed exploration of the items on the Mindfulness-Defusion Scale (some of which are reverse-scored) illustrate this point further. Items like “I spend a lot of time thinking about how bleak the future is” and “I spend a lot of time thinking about what has gone wrong in my life” are reflective of rumination and even reason giving. However, items such as “It seems as if I am running on “automatic pilot” without much awareness of what I am doing” and “When I am sad my sadness completely consumes me” could be considered to reflect the process

of being present or mindful, while “When I am sad my thoughts and feelings completely define who I am” suggests the process of self discrimination, fusion or attachment to a damaged self. Therefore these results provide further support that a ruminative approach to thoughts and feelings are associated with experiences of depression. Several researchers have found that rumination leads to more severe and chronic experiences of depression (Morrow, 1991; Nolen-Hoeksema et al., 1994). When we explore the collection of items that make up this scale, it appears that it provides more support of Zettle’s (2007) statement that rumination leads to “even more fusion with a verbally constructed world” (p. 26) and away from contact with the present moment and toward a negatively viewed past or future. The difference in scores on this scale also reflects that people who are depressed are less mindful and present focused than those who are not depressed.

In order to provide a more thorough exploration of the ACT model of depression, the depressed and non-depressed groups were compared for their scores on a measure of thought suppression, the WBSI (Wegner & Zanakos, 1994), and a measure of mindfulness, the MAAS (Brown & Ryan, 2003). As expected there was a significant difference between the depressed and non-depressed groups on both the measures of thought suppression and mindfulness, with depressed people scoring on average significantly lower than non-depressed people. This means that depressed individuals were found to rely on greater suppression of unwanted thoughts and to be less present focused than non- depressed people.

Group differences were also explored for scores on the ATQ-B (Hollon & Kendall, 1980; Zettle & Hayes, 1986), and the Reasons For Depression Questionnaire (RFD; Addis et al., 1995). The ATQ-B is considered to be a measure of fusion with negative thoughts, while as the name suggests, the RFD questionnaire examines how strongly people believe specific domains have caused their depression or sadness. These differences were analysed as Zettle (2004, 2007)

suggests that people experience depression because they are fused with their unhelpful thoughts and their reasons for being depressed. As expected, there was a significant difference between the depressed and non-depressed groups on the ATQ-B. This provides support for the ACT supposition that depressed individuals are more likely to be fused with their negative thoughts. A significant difference was also found between depressed and non-depressed samples on the different domains of the RFD, except for the relationship domain. This supports the ACT supposition that depressed individuals are more likely to fuse with their reasons for being depressed. However, the exception may suggest that since relationships are a significant part of most people's lives, they may be a more common contributor to distress regardless of level of depression.

The group differences on the Mindfulness-Defusion Scale, MAAS, WBSI, ATQ-B and RFD provide further support to existing research suggesting that thought suppression, avoidant coping styles, lack of contact with the present moment or attachment to a conceptualised past or future (rumination), and reason giving contributes to people experiencing more severe and chronic depression and negative thoughts (Beevers & Meyers, 2004; Brewin et al., 1998; Rosenthal et al., 2005; Wenzlaff & Eisenberg, 2001; Wenzlaff & Bates, 1998). These results also help to explain why acceptance and mindfulness based treatments for depression such as ACT and Mindfulness Based Cognitive Therapy (Segal, Williams & Teasdale, 2002) have been found to produce positive results (Folke & Parling, 2004; Foreman et al., in press; Pellowe, 2007; Teasdale, Segal, Williams et al., 2000; Zettle & Hayes, 1986, 1989). If relying on avoidant coping strategies such as rumination and thought suppression and being less present focused contribute to greater severity and chronicity of depression, then treatment approaches that assist people in reducing reliance on these coping strategies and provide them with more adaptive alternative coping techniques are likely to lead to an improvement in depression.

The significant difference between the depressed and non-depressed groups on the Values-Commitment Scale suggests that depressed people are less aware of their values when they are depressed. These results also suggest that, for depressed people, their feelings (especially sadness) affect their ability to act in line with their core values. This provides evidence for Zettle's (2004, 2007) suggestion that depression is associated with the pursuit of value-incongruent goals and/or failure to pursue value congruent goals. It is easy to see how this might contribute to the vicious cycle of depression: Disconnection from values, contributes to dissatisfaction with life and a sense that life has lost meaning, hence people start to experience depression and further reduce their action towards their values.

As hypothesised, the depressed group scored significantly lower than the non-depressed group on the AAQ-D Psychological Flexibility Scale, suggesting that depressed individuals demonstrate greater psychological inflexibility than those who are not depressed. In other words, the depressed group showed reduced "ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends" (Hayes et al, 2006, p. 7) compared to the non-depressed group. This supports existing research that found the original version of the AAQ (a measure of experiential avoidance and psychological flexibility) was associated with symptoms of depression (Tull et al., 2004), and mediated both the severity of depression (Tull & Gratz, 2008) and a prolonged experience of depression (Campbell-Sills et al., 2006). Therefore, this further highlights why ACT may be effective in treating depression as it focuses on developing greater psychological flexibility for individuals, rather than just trying to change the content of their depression and inner experiences (Zettle & Hayes, 2002).

Strengths, Limitations and Future directions

There were several limitations in the studies research design, in particular a relatively small sample size for a factor analytic study. The main limitation of the sample size was that it was insufficient to allow separate factor analyses for depressed and non-depressed samples. However, the sample size for the pooled factor analysis was large enough according to Floyd and Widaman (1995), who recommended a subject to variable ratio of at least 4:1 as being sufficient for factor analysis. In addition to sample size, another limitation is that the control sample was comprised of first year psychology students and so may not be representative of the general population or an ideal comparison group for the depressed sample due to age and education differences. Therefore, it is not certain whether differences on the AAQ-D can be attributed to depression as opposed to other factors such as age. That said, this group was chosen as the control sample due to accessibility to a large number of people who were not depressed. Future research with a larger sample size and a control group from the general population would assist in confirming the factor structure of the AAQ-D. A further limitation of this study is that the control and depression samples were not compared to a third sample of people with different psychopathology to ensure that differences on the AAQ-D between the groups was due to depression and would not be present when comparing a student sample to any clinical sample. This could be addressed through future research. However, this may be unrealistic due to the high rates of co-morbidity of depression with other psychopathologies such as anxiety, drug and alcohol and personality disorders. Therefore, despite the limitations on using a student sample the depressed sample in the study is probably a realistic reflection of how depression is manifested in the general population.

Another limitation was that the study did not include a values measure. This would have been a valuable addition to the study to assess the validity of the Values-Commitment Scale of

the AAQ-D. However, at the time this study was designed there was not an existing standardized values measure which was practical to include. Future explorations of the AAQ-D should include a values measure to explore this area further.

As this study relied on people experiencing major depression, some of who were admitted to a psychiatric hospital, it was difficult to complete the two week follow up. This was due in part to the participants being discharged from hospital before they could be contacted for the follow up. Therefore, future studies exploring the test-retest reliability of a depressed sample with the AAQ-D and controlling for changes in mood would be of great benefit. Another challenge of studying people with major depression was controlling for exposure to other treatment approaches prior to the study. This was mainly due to the fact that some of the participants were experiencing recurrent episodes of depression and had received previous treatment, usually medication and/or CBT. However, the participants from the psychiatric hospital were recruited during the first week of their admission and generally had not commenced attending individual or group therapy at that point in time during their admission. Although some participants have received CBT in the past, no participants had reported past experience with ACT. The depressed participants recruited from the private practice had either been on medication (recruited by the Psychiatrist) or attending their initial psychology assessment session when they were recruited. Hence, these participants had not been exposed to previous psychological treatment but some had been on medication for depression. Future research using the AAQ-D should explore the impact of previous treatment on responses. However, one of the main aims of developing the AAQ-D was to assist clinicians and researchers in determining the impact of ACT on depressed clients and to track changes in the responses to the ACT process being targeted. For example if a client was highly avoidant and had difficulty being present-focused, then it would be expected that they would demonstrate changes in scores on the Psychological Flexibility and Mindfulness-Defusion

scales following ACT interventions. Therefore, the depressed population used in this study are likely to reflect the clinical sample for which the AAQ-D was intended to be used with.

Whilst it was suggested previously that inferences as to the causal nature of the relationship between the ACT processes and depression cannot be made due to the nature of the studies cross-sectional design. The preliminary results of the current study provide support for the substantial investment required to conduct longitudinal research into the relationship between ACT processes and depression.

A strength of this study is that the depressed sample consisted of people currently in a Major Depressive Episode. This is a strength as often studies into depression and the development of questionnaires (including the AAQ) rely on students who may or may not report dysphoric symptoms or adjustment disorders, rather than people seeking treatment for Major Depression (Hayes, Strosahl, Wilson et al., 2004; Ottenbreit & Dobson, 2004). Further, the participants in the depressed sample were assessed and diagnosed by experienced Psychiatrists and Clinical Psychologists following a clinical interview and assessment measures. The use of experienced practitioners is a strength of this study, as often studies into depression solely rely on self-report measure of depression such as the BDI or the DASS to guide group selection. These tools were developed for assessing symptoms of depression not as diagnostic tools (Beck et al., 1996; Lovibond & Lovibond, 1995). The diagnosis of participants in this study could have been improved by having the practitioners use the Structured Clinical Interview for DSM Disorders (SCID; First, Spitzer, Gibbon., & Williams, 1997), however, this is not always practical in a clinical setting. The use of the diagnostic procedure in this study suggests the depressed sample is more likely to be representative of the depressed population for which the AAQ-D will be administered to in clinical and research settings. This means that although the AAQ-D may not be generalised to a broader non-depressed population, due to the use of a student sample for the

control group, the measure can be used as an ACT process measure for people suspected of experiencing a Major Depression Episode.

Summary

This study makes a substantial contribution to the existing literature on ACT, depression and ACT theory regarding the development and maintenance of depression. The results produced a 22- item self-report measure of the ACT processes as they present in people experiencing depression. Although the factor structure did not reflect the more fine-grained six core process delineation suggested by Hayes and Stroschal (2004), it did produce two core factors and a general factor which appear to measure Mindfulness-Defusion, Values-Commitment and Psychological Flexibility. Therefore, the outcome of this study provides support for the overall ACT model of depression, as the factors produced appear to reflect the overall processes involved in creating psychological flexibility and are considered to be made up of the six core processes.

Given the steps taken to produce the instrument and the face validity of the items, the AAQ-D can be considered a reasonable measure of ACT processes for people experiencing depression. This study confirms that the instrument is psychometrically valid and reliable. Therefore, the AAQ-D is considered appropriate to be used as a guide for exploring depression and ACT processes in a research setting as it was intended to be. Furthermore, it could be used as a tool to assist therapists in a clinical settings to gather information during the initial assessment and formulation and as measure of progress on the overall ACT processes being targeted, primarily Mindfulness-Defusion (or avoidance, reason giving, rumination), Values-Commitment Scale (or inaction and lack clarity in values) or general Psychological Flexibility/Inflexibility.

In conclusion, this study achieved its aim of developing a self report measure of ACT processes as they apply to depressed individuals that can be used to aid future research and

therapy. It also achieved the aim of providing some support for the ACT model of depression, and hence limited evidence to why ACT may be a suitable treatment for depression. However, further research is needed to confirm the factor structure of the AAQ-D. Future research should also attempt to clarify if difficulty confirming the six core processes of ACT is due to difficulty wording appropriate items or is a reflection of the factors overlapping in the actual model. Most importantly, the AAQ-D should be used as a process measure in ACT treatment studies to see if the ACT model for depression can be empirically supported. This could be concluded if the AAQ-D was found to mediate changes in depression.

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Appendix A – Subscales of the AAQ-D

Acceptance

1. It is ok to feel sad
2. I avoid doing things that might make me feel sad or anxious
3. It's ok to have negative thoughts
4. Feeling sad is a problem

Cognitive Fusion

5. I don't take my sad thoughts too seriously when they come up
6. My self critical thoughts are just thoughts, not facts
7. Just because I think things are hopeless doesn't mean they are
8. If I could just get my thinking straight, I wouldn't feel so sad

Being Present

9. I spend a lot of time thinking about what has gone wrong in my life
10. It seems as if I am often running on 'automatic pilot' without much awareness of what I am doing
11. I spend a lot of time thinking about how bleak the future is
12. I can really get lost in the moment

Self As Context

13. I feel connected to the people and things around me.
14. I can allow my thoughts and feelings to come and go without getting attached to them
15. When I am sad, my thoughts and feelings completely define who I am
16. When I am sad, my sadness completely consumes me

Core Values

17. I know what matters most to me even when I am sad
18. Things can still matter to me even when I feel they don't
19. Nothing in life is really important to me
20. I can live a meaningful purposeful life even when I'm feeling sad

Committed Action

21. When I feel down I cannot do the things I want to do
22. I do things which are important to me regardless of how I feel
23. My mood determines what I will be able to do each day
24. I act according to how I am feeling at the time

Appendix B – Consent and Information Forms



2 Greenwich Road, GREENWICH NSW 2065
Ph: 02 9433 3555 Fax: 02 9433 3599
ABN 38000841056

Development of an Acceptance and Avoidance questionnaire for Depression
Consent Form

Introduction

You are invited to take part in a research study to develop a new self report questionnaire to be used in therapy and research with people experiencing depression. The aim of developing this questionnaire is to gain a better understanding of the emotional and cognitive processes underlying depression and to assist psychologists and psychiatrists in monitoring an individual's progress in therapy.

The study is being conducted within this institution by Elizabeth Cooper (Clinical Psychologist and Doctorate student at the University of Wollongong) and Dr John T Blackledge (Clinical Psychologist and lecturer at the University of Wollongong)

Study Procedures

If you agree to participate in this study, you will be asked to sign the Participant Consent Form. You will then be asked to:

- 1) Complete a set questionnaires which look at symptoms of depression, ways of coping with stress and depression as well as other psychological and behavioural experiences. The questionnaires should take approximately 30 to 45 minutes to complete.
- 2) Complete 2 of the questionnaires two weeks following the completion of the first set of questionnaires. The follow up questionnaires should take 15 to 20 minutes to complete.

An example of questions in the set of questionnaires some people might find sensitive include: "Nothing is really important to me", "Nothing in life is really important to me", "I feel worthless".

Voluntary Participation

Participation in this study is entirely voluntary. You do not have to take part in it. If you do take part, you can withdraw at any time without having to give a reason. Whatever your decision, please be assured that it will not affect your treatment or your relationship with the staff who are caring for you.

Confidentiality

All the information collected from you for the study will be treated confidentially, and only the researchers named above will have access to it. The study results may be presented at a conference or in a scientific publication, but individual participants will not be identifiable in such a presentation.

Risk or Discomfort

Emotional discomfort is not expected to occur while completing the set of questionnaires. You will have more time if you need it, you can take a break and refreshments will offered. However, if you do experience distress or discomfort then please inform the researcher present (who is a Clinical Psychologist) so that she can help reduce your distress. Please note that you are free to withdraw from this study at anytime without impacting on your relationship or treatment at the Northside Clinic or the University of Wollongong.

Further Information

When you have read this information, Elizabeth Cooper, Brian Kearney (Senior Clinical Psychologist, Northside Clinic) or Patrick Sheehan (Research Assistant, Northside Clinic) will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact Elizabeth Cooper or J.T Blackledge on 02 4221 4457.

This information sheet is for you to keep.

Ethics Approval

This study has been approved by the Ramsay Sydney Psychiatric Hospitals Ethics Committee. Any person with concerns or complaints about the conduct of this study should contact the Paul Dolan at Northside Clinic on (02) 9433 3522 and quote protocol number 134. This research has also been reviewed and ethically approved by the University of Wollongong Human Research Ethics Committee. If you have any inquiries regarding the conduct of the research please contact the secretary of the University of Wollongong Human Research Ethics Committee on 02 4221 4457.



2 Greenwich Road, GREENWICH NSW 2065
Ph: 02 9433 3555 Fax: 02 9433 3599
ABN 38000841056

Development of an Acceptance and Avoidance questionnaire for Depression

CONSENT FORM

I, [name]
of.....[address]

have read and understood the Information for Participants on the above named research study and have discussed the study with Elizabeth Cooper.

I have been made aware of the procedures involved in the study, including any known or expected inconvenience, risk, discomfort or potential side effect and of their implications as far as they are currently known by the researchers.

I freely choose to participate in this study and understand that I can withdraw at any time.

I also understand that the research study is strictly confidential.

I hereby agree to participate in this research study.

NAME:

SIGNATURE:

DATE:

Appendix C - Questionnaire Package

Demographics and Mood History

Date: _____

Subject Demographics

Surname: _____ **First Name:** _____

Gender: M/ F **Date of Birth:** _____ **Age:** _____

First Language: _____ **Country of Birth:** _____

Contact Number: _____ **Best time to contact you by phone:** _____

Education

Grade (age) completed school: _____

Country where you attended High School: _____

Formal Education after schooling (TAFE/business/trade qualification): Y / N

Tertiary Qualifications: Y / N

Postgraduate Qualifications: Y / N

If answered YES, please list your Qualifications: _____

Total number of years studying (school plus after school): _____

Occupation

Major life-time occupation: _____

Present occupation: _____

Current Employment Status: (please tick one that applies to you most)

Employed & attending work **Retired due to age** _____

- Full-time work _____

- Part-time work _____

Employed but not attending work _____

Retired due to health _____

Student

- Full-time _____

- Part-time _____

Unemployed & seeking work _____

Unemployed & not seeking work _____

Full-time home duties _____

Current Marital Status (Please tick only one)

Married _____ **Never Married** _____ **Divorced** _____ **Widowed** _____ **Separated** _____

Divorced, remarried _____ **Defacto relationship** _____ **Widowed, remarried** _____

Number of children: _____

History of Illness

Age at onset of first mood episode (depression or mania): _____

Number of past episodes of depression in lifetime: _____

Date (month/year) when you were first diagnosed with a Mood Disorder (Depression or Bipolar): _____

Number of times admitted to hospital for treatment of depression: _____

Start date (month/year) of current depressive episode: _____

In the last 2 weeks has your mood been at the same level as when it was at its worst? (Yes or No): _____

If no, when was it last at its worst level: Month: _____ Year: _____

Bipolar Patients to fill out this box also:

First mood episode (Mania or Depression): _____

Number of past episodes of mania in lifetime: _____

Number of times admitted to hospital for treatment of mania: _____

Number of times admitted to hospital for treatment of hypomania: _____

Current Medication

Please tick any of the following medications you are currently taking:

ANTIDEPRESSANTS

Lerivon/Lumin/Tolvon _____
 Prozac _____
 Luvox _____
 Aropax _____
 Zoloft _____
 Efexor _____
 Endep/Tryptanol/Tryptine _____
 Anafranil _____

 Dothep/Prothieden _____
 Deptran/Sinequan _____
 Allegron _____
 Melipramine/Tofranil _____

Aurorix _____
 Nardil _____
 Parnate _____
 Cipromil _____

MOOD STABILISERS

Lithicarb _____
 Tegretol _____
 Epilim _____
 Valproate _____
 Carbamazepine _____

BENZODIAZEPINES

Alprax/Kalma/Xanax _____
 Lexotan _____
 Frisium _____
 Chlorazepam _____
 Valium/Valpam/Antenex _____
 Flunitrazepam _____
 Ativan _____
 Alodorm/Mogadon _____

Alepam/Murelax/Serepax _____
 Temaze/Temtabs _____

ANTIPSYCHOTICS

Aldazin/Melleril _____
 Chlorpromoine/largactil _____
 Risperdal _____
 Zyprexa _____

Thank you for taking the time to complete this survey.

Please do NOT fill out.

Admission date:	
Discharge date:	
Axis I:	
Axis II:	

The Acceptance and Avoidance Questionnaire for Depression

Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following scale to make your choice.

1	2	3	4	5
Never true	Seldom true	Sometime true	Frequently true	Always true
1. It is ok to feel sad			1 2 3 4 5	
2. I avoid doing things that might make me feel sad or anxious			1 2 3 4 5	
3. It's ok to have negative thoughts			1 2 3 4 5	
4. Feeling sad is a problem			1 2 3 4 5	
5. I don't take my sad thoughts too seriously when they come up			1 2 3 4 5	
6. My self critical thoughts are just thoughts, not facts			1 2 3 4 5	
7. Just because I think things are hopeless doesn't mean they are			1 2 3 4 5	
8. If I could just get my thinking straight, I wouldn't feel so sad			1 2 3 4 5	
9. I spend a lot of time thinking about what has gone wrong in my life			1 2 3 4 5	
10. It seems as if I am often running on 'automatic pilot' without much awareness of what I am doing			1 2 3 4 5	
11. I spend a lot of time thinking about how bleak the future is			1 2 3 4 5	
12. I can really get lost in the moment			1 2 3 4 5	
13. I feel connected to the people and things around me.			1 2 3 4 5	
14. I can allow my thoughts and feelings to come and go without getting attached to them			1 2 3 4 5	
15. When I am sad, my thoughts and feelings completely define who I am			1 2 3 4 5	
16. When I am sad, my sadness completely consumes me			1 2 3 4 5	
17. I know what matters most to me even when I am sad			1 2 3 4 5	
18. Things can still matter to me even when I feel they don't			1 2 3 4 5	
19. Nothing in life is really important to me			1 2 3 4 5	

ACT Process Measure for Depression 110

1	2	3	4	5	
Never true	Seldom true	Sometime true	Frequently true	Always true	
20. I can live a meaningful purposeful life even when I’m feeling sad	1	2	3	4	5
21. When I feel down I cannot do the things I want to do	1	2	3	4	5
22. I do things which are important to me regardless of how I feel	1	2	3	4	5
23. My mood determines what I will be able to do each day	1	2	3	4	5
24. I act according to how I am feeling at the time	1	2	3	4	5

White Bear Suppression Inventory (WBSI)

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Mindfulness Attention Awareness Scale (MAAS)

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ACT Process Measure for Depression 113

Outcome Questionnaire (OQ 45.2)

Instructions: Looking back over the last week, including today, help us understand how you have been feeling. Read each item carefully and mark the box under the category which best describes your current situation. For this questionnaire, work is defined as employments, school, housework, volunteer work and so forth. Please do not make any marks in the shaded areas.

		Never	Rarely	Sometimes	Frequently	Almost Always
1	I get along well with others	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
2	I tire quickly	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
3	I feel no interest in things	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
4	I feel stressed at work/school	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
5	I blame myself for things	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
6	I feel irritated	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
7	I feel unhappy in my marriage/significant relationship	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
8	I have thoughts of ending my life	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
9	I feel weak	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
10	I feel fearful	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
11	After heavy drinking, I need a drink the next morning to get going. (if you do not drink, mark "never")	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
12	I find my work, school satisfying	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
13	I am a happy person	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
14	I work/study too much	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
15	I feel worthless	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
16	I am concerned about family troubles	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
17	I have an unfulfilling sex life	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
18	I feel lonely	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
19	I have frequent arguments	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
20	I feel loved and wanted	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
21	I enjoy my spare time	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
22	I have difficulty concentrating	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
23	I feel hopeless about the future	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
24	I like myself	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
25	Disturbing thoughts come into my mind that I cannot get rid of	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
26	I feel annoyed by people who criticize my drinking or (drug use). If not applicable mark "never"	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
27	I have an upset stomach	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
28	I am not working/studying as well as I used to	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
29	My heart pounds too much	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
30	I have trouble getting along with my friends and close acquaintances	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
31	I am satisfied with my life	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
32	I have trouble at work/school because of drinking or drug use (if not applicable, mark "never")	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
33	I feel that something bad is going to happen	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
34	I have sore muscles	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
35	I feel afraid of open spaces, of driving, or being on buses, subways, and so forth	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
36	I feel nervous	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
37	I feel my love relationships are full and complete	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
38	I feel that I am not doing well at work/school	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
39	I have too many disagreements at work/school	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
40	I feel something is wrong with my mind	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
41	I have trouble falling asleep or staying asleep	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
42	I feel blue	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
43	I am satisfied with my relationships with others	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
44	I feel angry enough at work/school to do something I might regret	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
45	I have headaches	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

AAQ-2

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

1. Its OK if I remember something unpleasant.	1	2	3	4	5	6	7
2. My painful experiences and memories make it difficult for me to live a life that I would value.	1	2	3	4	5	6	7
3. I'm afraid of my feelings.	1	2	3	4	5	6	7
4. I worry about not being able to control my worries and feelings.	1	2	3	4	5	6	7
5. My painful memories prevent me from having a fulfilling life.	1	2	3	4	5	6	7
6. I am in control of my life.	1	2	3	4	5	6	7
7. Emotions cause problems in my life.	1	2	3	4	5	6	7
8. It seems like most people are handling their lives better than I am.	1	2	3	4	5	6	7
9. Worries get in the way of my success.	1	2	3	4	5	6	7
10. My thoughts and feelings do not get in the way of how I want to live my life.	1	2	3	4	5	6	7

REASONS FOR DEPRESSION

This questionnaire presents you with a number of reasons why you might be depressed. Each reason is given as a statement in the form of, “I am depressed because...” followed by a specific reason. For each statement, consider whether or not this particular reason causes you to be depressed. If you are not currently depressed, think of a time in the past when you were depressed and answer the questionnaire according to what the reasons were at that time.

Have you ever been depressed? (Circle One) YES NO

If you don’t think you’ve ever been depressed, think back to a time when you were extremely sad and it lasted more than just a little while.

Are you reporting on a current or past experience of depression?

(Circle One) Current Past

In a few sentences please describe what you think causes or caused your depression.

Now, turn the page and rate each reason for depression.

Rate each reason on the following scale:

1 = definitely not a reason

2 = probably not a reason

3 = probably a reason

4 = definitely a reason

I AM DEPRESSED BECAUSE....

1. I see the world the way it really is.....	1	2	3	4
2. I can't accomplish what I want to.....	1	2	3	4
3. I don't feel loved.....	1	2	3	4
4. that's just the type of person I am.....	1	2	3	4
5. no one really cares about me.....	1	2	3	4
6. I can't decide what to do with my life.....	1	2	3	4
7. this is the way I've learned to be.....	1	2	3	4
8. I haven't resolved some issues with my family.....	1	2	3	4
9. I think about things in a depressing way.....	1	2	3	4
10. no one really understands me.....	1	2	3	4
11. my family treated me poorly as a child.....	1	2	3	4
12. my spouse/partner treats me poorly.....	1	2	3	4
13. I have not become the person I set out to be.....	1	2	3	4
14. other people isolate me.....	1	2	3	4
15. of certain things that happened to me as a child.....	1	2	3	4
16. I haven't done anything important in my life.....	1	2	3	4
17. other people criticize me.....	1	2	3	4
18. I'm not living up to my personal standards.....	1	2	3	4

1 = definitely not a reason

2 = probably not a reason

3 = probably a reason

4 = definitely a reason

I AM DEPRESSED BECAUSE...

19. I choose to be depressed.....	1	2	3	4
20. I haven't worked through things that happened to me as a child.....	1	2	3	4
21. there is no one to share my innermost thoughts and feelings with.....	1	2	3	4
22. I had a difficult childhood.....	1	2	3	4
23. I'm not active enough.....	1	2	3	4
24. I don't take care of myself physically.....	1	2	3	4
25. I have a chemical imbalance	1	2	3	4
26. I am a pessimist.....	1	2	3	4
27. I inherited it from my parents.....	1	2	3	4
28. it's a biological illness.....	1	2	3	4
29. I don't eat well enough.....	1	2	3	4
30. I am not fulfilling my potential.....	1	2	3	4
31. other people don't like me.....	1	2	3	4
32. I don't know who I am or what I stand for.....	1	2	3	4
33. I don't get enough exercise.....	1	2	3	4
34. I have always been this way.....	1	2	3	4
35. my nervous system is just wired this way.....	1	2	3	4
36. I've failed to achieve a specific goal I set for myself.....	1	2	3	4

- 1 = definitely not a reason
- 2 = probably not a reason
- 3 = probably a reason
- 4 = definitely a reason

I AM DEPRESSED BECAUSE...

37. I can't make friends.....	1	2	3	4
38. I can't get done the things I should be able to.....	1	2	3	4
39. I have set no specific goals in my life.....	1	2	3	4
40. people treat me poorly.....	1	2	3	4
41. people don't give me the respect I deserve.....	1	2	3	4
42. this is the way I respond when things get tough.....	1	2	3	4
43. it's basically caused by genetics.....	1	2	3	4
44. I'm stuck where I am in life, nothing ever changes.....	1	2	3	4
45. I pay more attention to the bad things in my life than the good things	1	2	3	4
46. I'm stuck in a bad marriage or love relationship.....	1	2	3	4
47. my spouse/partner doesn't understand me.....	1	2	3	4
48. I'm not good at expressing my innermost feelings.....	1	2	3	4

Please see print copy for appendix

Please see print copy for appendix

ATQ

Listed below are a variety of thoughts that pop into people's heads.

First, please read each thought and indicate how **frequently**, if at all, the thought occurred to you **over the last week**. Please read each item carefully and circle the appropriate answer on the answer sheet according to the answer key.

Second, please indicate how strongly, if at all, you tend to **believe** that thought when it occurs. Please read each item carefully and circle the appropriate answers according to the answer key.

1. I feel like I'm up against the world.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

2. I'm no good.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

3. Why can't I ever succeed?

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

4. No one understands me.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

5. I've let people down.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

6. I don't think I can go on.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

7. I wish were a better person.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

8. I'm so weak.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

9. My life is not going the way I want it to.

Frequency: Not at All	Sometimes	moderately often	often	all the time
Believe: not at all	Somewhat	moderately	Very much	totally

10.	I'm so disappointed in myself.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
11.	Nothing feels good anymore.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
12.	I can't stand this anymore.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
13.	I can't get started.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
14.	What's wrong with me?				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
15.	I wish I were somewhere else.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
16.	I can't get things together				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
17.	I hate myself.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
18.	I'm worthless.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
19.	I wish I could just disappear.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
20.	What's the matter with me?				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
21.	I'm a loser.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time

ACT Process Measure for Depression 123

Believe:	not at all	Somewhat	moderately	Very much	totally
22.	My life is a mess.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
23.	I'm a failure.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
24.	I'll never make it.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
25.	I feel so helpless.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
26.	Something has to change.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
27.	There must be something wrong with me.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
28.	My future is bleak.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
29.	It's just not worth it.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally
30.	I can't finish anything.				
Frequency:	Not at All	Sometimes	moderately often	often	all the time
Believe:	not at all	Somewhat	moderately	Very much	totally

Appendix D - Final version of the AAQ-D after factor analysis

The Acceptance and Avoidance Questionnaire for Depression

Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following scale to make your choice.

1	2	3	4	5
Never true	Seldom true	Sometime true	Frequently true	Always true
1. It is ok to feel sad			1 2 3 4 5	
2. It's ok to have negative thoughts			1 2 3 4 5	
3. Feeling sad is a problem			1 2 3 4 5	
4. I don't take my sad thoughts too seriously when they come up			1 2 3 4 5	
5. My self critical thoughts are just thoughts, not facts			1 2 3 4 5	
6. Just because I think things are hopeless doesn't mean they are			1 2 3 4 5	
7. If I could just get my thinking straight, I wouldn't feel so sad			1 2 3 4 5	
8. I spend a lot of time thinking about what has gone wrong in my life			1 2 3 4 5	
9. It seems as if I am often running on 'automatic pilot' without much awareness of what I am doing			1 2 3 4 5	
10. I spend a lot of time thinking about how bleak the future is			1 2 3 4 5	
11. I feel connected to the people and things around me.			1 2 3 4 5	
12. I can allow my thoughts and feelings to come and go without getting attached to them			1 2 3 4 5	
13. When I am sad, my thoughts and feelings completely define who I am			1 2 3 4 5	
14. When I am sad, my sadness completely consumes me			1 2 3 4 5	
15. I know what matters most to me even when I am sad			1 2 3 4 5	
16. Things can still matter to me even when I feel they don't			1 2 3 4 5	
17. Nothing in life is really important to me			1 2 3 4 5	
18. I can live a meaningful purposeful life even when I'm feeling sad			1 2 3 4 5	
19. When I feel down I cannot do the things I want to do			1 2 3 4 5	

ACT Process Measure for Depression 125

1	2	3	4	5	
Never true	Seldom true	Sometime true	Frequently true	Always true	
20. I do things which are important to me regardless of how I feel	1	2	3	4	5
21. My mood determines what I will be able to do each day	1	2	3	4	5
22. I act according to how I am feeling at the time	1	2	3	4	5