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The self and psychotherapy: are the predictions ACT makes about self-as-content accurate?

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Thesis Abstract

Objectives: The evidence base for Acceptance and Commitment Therapy's (ACT) overall effectiveness is highly promising. However, the extent to which the six processes comprising ACT have been investigated is extremely variable. In particular, the process regarding the self and therapeutic change is in need of validation, having never been subjected to empirical investigation The objective of the present study was to achieve this by testing whether the predictions ACT makes regarding the self and therapeutic change are supported by quantitative data. The specific prediction to be tested were that a) those with a fixed sense of self and low psychological flexibility will display high therapeutic resistance and b) those with a fluid sense of self and high psychological flexibility will display a strong tendency towards value-based behaviour.

Method: Data from 171 non-clinical participants was subjected to a two-way between subjects ANCOVA, with self-theory and psychological flexibility as independent variables and therapeutic reactance as the dependent variable, co-varying out the effects of gender.

Results: A significant interaction effect between psychological flexibility and sense of self was found. Post-hoc tests revealed two specific findings: Firstly, people with low psychological flexibility and a fixed sense of self displayed therapeutic reactance that was likely to impede therapeutic change. Secondly, people with high psychological flexibility and a fluid sense of self displayed therapeutic reactance that was more likely to be consistent with value-driven, goal-oriented behaviour.

Conclusions: These findings are consistent with ACT's theorised process regarding the self and therapeutic change. Thus, ACT's predictions regarding the self and therapeutic change have received their first empirical validation. Clinically, the overarching psychotherapeutic focus is on the client's process of relating to their self-concept, rather than altering its contents.

Statement of contribution

The trainee contributed to the design of this project, applying for ethical approval, writing the review of literature, recruiting participants, data collection, entering data and data analysis.

Kerry Beckley, Roshan das Nair, Michael Rennoldson, David Dawson and Aidan Hart are acknowledged for their contribution to this project. The people who participated in the study are also thanked.

I. JOURNAL ARTICLE

This article is written in the form required for submission to The Journal of Social and Clinical Psychology, apart from when course guidelines stipulate differently. The guidelines provided by this journal may be found in Appendix A.

The self and psychotherapy: are the predictions ACT makes about self-as-content accurate?

The evidence base for Acceptance and Commitment Therapy's (ACT) overall effectiveness is highly promising. However, the extent to which the six processes comprising ACT have been investigated is extremely variable. In particular, the process regarding the self and therapeutic change is in need of validation, having never been subjected to empirical investigation The objective of the present study was to achieve this by testing whether the predictions ACT makes regarding the self and therapeutic change are supported by quantitative data. The specific predictions to be tested were that a) those with a fixed sense of self and low psychological flexibility will display high therapeutic resistance and b) those with a fluid sense of self and high psychological flexibility will display a strong tendency towards value-based behaviour. Data from 171 non-clinical participants was subjected to a two-way between subjects ANCOVA, with self-theory and psychological flexibility as independent variables and therapeutic reactance as the dependent variable, co-varying out the effects of gender. A significant interaction effect between psychological flexibility and sense of self was found. Post-hoc tests revealed two specific findings: Firstly, people with low psychological flexibility and a fixed sense of self displayed therapeutic reactance that was likely to impede therapeutic change. Secondly, people with high psychological flexibility and a fluid sense of self displayed therapeutic reactance that was more likely to be consistent with value-driven, goal-oriented behaviour. These findings are consistent with ACT's theorised process regarding the self and therapeutic change. Thus, ACT's predictions regarding the self and therapeutic change have received their first empirical validation. Clinically, the overarching psychotherapeutic focus is on the client's process of relating to their self-concept, rather than altering its contents

Acceptance and Commitment Therapy (ACT) is a form of psychotherapy defined by its function of fostering psychological flexibility (Luoma, Hayes & Walser, 2006). Psychological flexibility is defined as fully contacting the thoughts, feelings and other contents of the present moment without defence, and acting adaptively in it to achieve valued goals (McCracken & Vellerman, 2010). Increasing psychological flexibility is equivalent to reducing experiential avoidance, which is the unwillingness to remain in contact with aversive thoughts, memories, images or emotions (Hayes et al., 2004). ACT's function is fulfilled through six interacting processes, represented by the 'hexaflex' in

Figure 1. Each processes serves to increase psychological flexibility and reduce experiential avoidance.

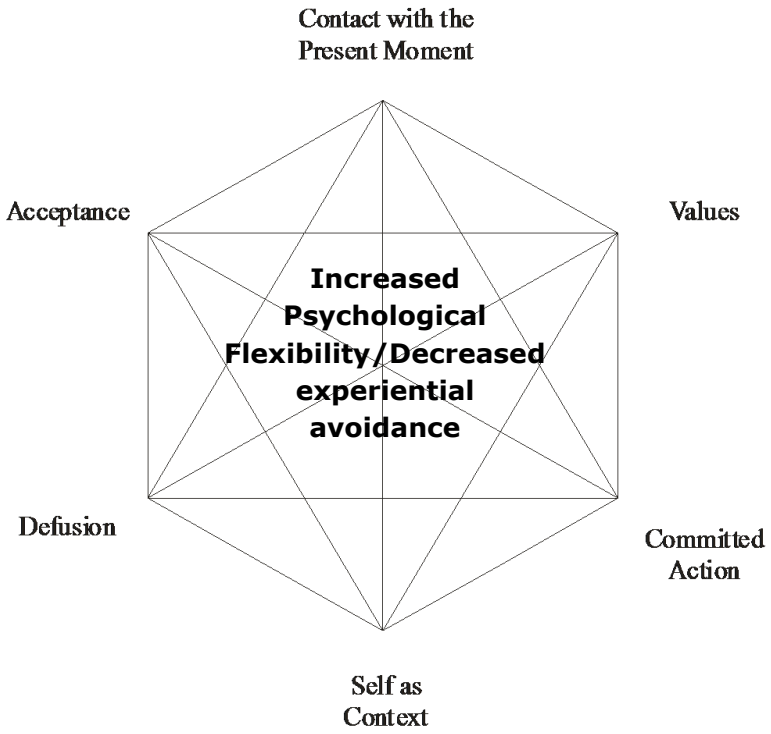

Figure 1: The ACT Hexaflex – six psychotherapeutic processes facilitating psychological flexibility (after Hayes et al, 1999).

Repeated meta-analyses have found that, as an overall therapeutic package, ACT is potentially at least as effective as traditional cognitive-behavioural therapy (Hayes, Luoma, Bond, Masuda & Lillis, (2006; Öst, 2008). However, within this overall model, the specific process regarding the self has never been empirically investigated. This is a particular oversight, as it is the fundamental theoretical position from which the model of ACT first sprang (Hayes, 1984). The lack of empirical investigation is even more surprising, given Hayes et al.'s (2006) recommendation that studies into each ACT process, are vital for validating the overall model.The current study seeks to fulfil this need by empirically testing whether the predictions that the ACT model makes about the self and therapeutic change are accurate. it *[See Extended Background 1.1. for a discussion of the ACT's evidence base and 1.2 for the controversy in comparing ACT to Cognitive-Behavioural Therapy (CBT). Further discussion of behaviourism and the self is taken up in the Extended Discussion.]*

The self and ACT

The self as an object of study in psychology is defined as the cognitive and affective representation of oneself as the subject of experience, such a representation being vital in motivation and existence within society (Sedikes & Spencer, 2007). Ontologically, ACT regards the self as an ongoing action within a context rather than a separately existing entity: they are verbs rather than nouns (Hayes et al., 1999). Skinner (1974) provided an operational definition of self as the behaviour of verbally discriminating one's behaviour. That is, an individual's ability to know one's self. From a behavioural perspective the self exists as a mental experience; it does not exist as a mental entity. This avoids the need to posit the existence of a 'homunculus,' a concept found to logically flawed (Kanter, Parker & Kohlenberg, 2001).

Theories of the self within social and personality psychology do not tend to share this ontological position (Kanter et al., 2001). Instead, they often seek to define the self based on the assumption that there is an existing mental entity that is in need of definition (Lewis, 1992). Perhaps as a consequence of this assumption, there is wide disagreement about how the self should be defined, making it "frustrating and difficult…for those who wish to come up with a meaningful picture of the self" (Brinthaupt & Lipka, 1992). The emphasis of social psychology approaches tend to be upon the cognitions and evaluations an individual has about themselves which provide the contents of their self-concept. This has led to an emphasis on self-esteem as the major variable connecting the self to psychological well-being, the rationale being that increasing the positive valance of one's self-concept will reduce the propensity for psychological distress (Baumeister, 1999) *[See Extended Background 1.3 regarding the self from the perspective of social psychology]*.

Because ACT does not define the self as a separately existing entity it constructs the connection between self and psychological wellbeing rather differently. Instead, it equates increased psychological flexibility with increased mental health, this correlation being found consistently over a range of quality of life outcomes (see Hayes et al., 2006). A lack of psychological flexibility is increasingly being recognised as a core pathogenic process underlying diverse

forms of psychological distress (Gird & Zettle, 2009; Kashdan and Rottenberg, 2010). How this relates to the self in ACT will now be discussed. *[See Extended Background 1.3 for the role of psychological flexibility and experiential avoidance in human suffering].*

The self in ACT

Within the connection between self and psychological flexibility, current ACT theory focuses on two senses of the self: self-as-context and self-as-content. Self-as-context is proposed to facilitate increased psychological flexibility and decreased experiential avoidance, whereas self-as-content is proposed to be an obstacle to them. Self-as-context will be briefly described in order to contextualise self-as-content, as defining one helps to define the other. *[Extended Background 1.4 describes a third sense of self in ACT]*

Self-as-context. Self-as-context arises from perspective taking relations (e.g. 'I' versus 'You,' 'Here' versus 'There' or 'Now' versus 'Then') therefore defining the self in relation to the environment in which it exists (Hayes & Berens, 2004). These deictic relationships provide a perspective, or locus, (subject) from which the world (object) is perceived. This perspective provides a constant and stable place from which the outside world, which is inherently inconstant and unstable, can be experienced. It is this process of conscious experiencing, rather than the content of conscious experience, that supports self-as-context Indeed, the observing self cannot, by definition, be content or object or 'thing' because for objects and things to exist they need to have perceivable boundaries; self-as-context, by contrast, is boundless (Hayes, 1985). This being the case, it provides a standpoint from which content can be experienced without attachment or avoidance. As attachment and avoidance of desired or aversive content are seen to inhibit psychological flexibility, self-as-context fosters psychological flexibility.

Self-as-content. If self-as-context arises from the perspective from which phenomena are experienced, self-as-content arises from the specific content of that phenomena. This sense of self is also referred to as 'self-as-concept,' (Luoma et al., 2006) or the 'conceptualised self' (Hayes et al., 1999) within the literature. The current study seeks to investigate whether self-as-content

involves the properties that ACT and related literature theorise it to possess. If so, ACT's understanding of the self would gain empirical validation. If not, questions regarding this aspect of its theoretical framework would be raised. Either way, this study seeks clarification and greater understanding of this issue.

Before the properties of self-as-content can be investigated, they must first be defined. Hayes et al. (1999) define the self-as-content as the product of verbal abilities. We use these verbal abilities to understand external events, and link them to other verbal knowledge to form a coherent picture. This picture is then presented to the social-verbal community, who affirm or deny whether it is correct. Their feedback leads to further modifications in order to attain correctness and consistency, attributes that are positively regarded. In order for our picture to remain coherent and correct, for it to keep making sense, we have a powerful cognitive propensity to distort the world around us so that it is consistent. The image of one's self that arises from this process is termed the self-as-content. Self-as-content must be consistent and coherent. To maintain such qualities, a tendency to ignore disconfirmatory and exaggerate confirmatory evidence is necessary.

Identity and self-as-content

ACT proposes that the extent to which we identify with self-as-content is more important than its content. Being strongly or weakly attached ('fused' or 'de-fused') is said to have different clinical implications (Hayes & Gregg, 2000; Hayes et al., 1999). These differing implications form two distinct hypotheses which can be tested through measures found outside ACT. They will now be considered in turn.

Fusion with self-as-content. When one's sense of being is fused to self-as-content, Hayes and Gregg (2000) write that three tendencies arise: a) a distorted, dishonest self-image is adhered to, b) it is fixed, rigid and hostile to change, and c) it will be defended and protected, even if it is negative and detrimental. Such tendencies will be most apparent when the individual has very low levels of psychological flexibility (Luoma et al., 2006). According to these characteristics, in conditions of low psychological flexibility ACT would expect individuals with rigid self-concepts to act more defensively.

Findings outside ACT. Research suggests that self-defensiveness can take the form of 'psychological reactance' (Beutler, Moleiro & Talebi, 2002; Beutler, Rocco, Moleiro & Talebi, 2001). Reactance is a distinctive type of resistance. It is defined as those behaviours which function to preserve threatened personal freedoms, or preserve lost ones. Dowd and Siebel (1990) assert that such behaviour can function as a means of protecting and defending one's self-concept. Johnson and Bulboltz (2000) found that reactance can fulfil a need to differentiate one's self from others, and it has been associated with autonomy and identity (Dowd & Wallbrown, 1993; Dowd, Wallbrown, Sanders & Yesenosky, 1994).

Similar conclusions have been reached in implicit self-theory literature. In a review of two decade's research into the area, Dweck (2000) summarised that people with a rigid sense of self tend to be more pre-occupied with defending and protecting a positive self-image, and avoid situations in which this self-concept is challenged. They are less open to self-growth, development and positive change than those with a less fixed self-theory. *[See Extended Background 1.5 for further discussion of reactance literature. Further discussion relating to the implicit self-theory literature can be found in section 1.6]*

Specific hypothesis 1. Therefore, it would appear that ACT's characterisation of a person fused to their self-concept as rigid and defensive when psychologically inflexible is supported by relevant literature. If so, then constructs from this supportive literature could be used to test ACT's assertions regarding a fused self-as-content. These assertions are summarised in the following hypothesis:

When individuals have a rigid sense of self, they will display higher reactance when they have low levels of psychological flexibility. This reactance functions as a means of self-defence.

This hypothesis seeks to test ACT's claim that when a person is strongly fused with self-as-content, psychological inflexibility and rigidity correlate with defensiveness. Clinically, these characteristics would present as resistant to treatment, as therapeutic change would fragment a brittle sense of identity that is not conducive to being altered. Maintaining such a way of being may lead to

appearing incongruent with the prevailing context, leading to difficulty maintaining a warm and appropriate therapeutic relationship, a significant amount of anxiety, and difficulty accepting help with it. Such high levels of defensiveness would only become active when psychological flexibility was low *[see Extended Background 1.6 for a critique of how ACT's self-as-content and may relate to aspects of the identity in social psychology]*

De-fusion with self-as-content. The first hypothesis investigates the effects of a person strongly fused with self-as-content. ACT also makes predictions about when a person is de-fused from self-as-content (Masuda, Hayes, Sackett & Twohig, 2004). Firstly, they will have a less rigid more flexible, dynamic, sense of self as they are not attached to a particular self-conceptualisation. An ossified self-concept limits and constrains behaviours only to those which are consistent with it, being hardened and opposed to change, becoming set in a rigid pattern of behaviour (Hayes & Gregg, 2000). Freedom from a static self-image affords greater liberty to act unhindered and autonomously as the situation affords, not as one's internal self-image dictates. Such liberty increases the likelihood that this person will engage in independent, autonomous behaviour that is aimed at achieving desired goals (Hayes and Gregg, 2000). Such behaviour would be most apparent under conditions of psychological flexibility, when the individual is in open, honest and full contact with the present moment, acting adaptively in alignment with their values and goals (Bond et al., submitted).

Findings outside ACT. Research into psychological reactance and self-theories have come to similar conclusions. Dowd and Siebel (1990) state that although reactance may be used negatively in therapy by those seeking to defend a fixed self-concept, increased reactance may actually be a sign of improvement for those with a highly labile sense of self. It would reflect an increased ability to pursue values and goals they deem important in the face of opposition. Arnow et al. (2003) found that reactance positively predicted treatment outcome for depressed clients undergoing CBT. Similarly, Dykman (1998) has found that pursuing goals in order to grow and develop an evolving, changing sense of self negatively predicts depression. This was in contrast to the finding that pursuing goals in order to gain validation for a static self-concept

positively predicted depression. The dichotomy between a flexible and fixed sense of self in predicting indicators of mental distress was also found by Zhao, Dweck and Mueller (1998), as cited in Dweck (2000). *[Extended Background 1.5 discusses reactance, 1.6 discusses the distinctions found between flexible and fixed self-theorists.]*

Specific hypothesis 2. If ACT's theorised relationship between the self and psychological flexibility were valid, it would also accurately predict certain tendencies of those who are de-fused from self-as-content. Such people would have a flexible sense of self and, under conditions of psychological flexibility, would be more likely to assertively and confidently pursue personally valued goals (Hayes et al., 1999). Such behaviour could take the form of reactance, assuming such behaviour to be in the service of valued goals rather than protecting self-as-content. Therefore a second hypothesis can be put forward to test ACT's theory of the self:

When they have high levels of psychological flexibility, individuals with a flexible sense of self will show high levels of reactance. This reactance functions as a means of pursuing valued ends.

This hypothesis tests ACT's prediction that de-fusion from self-as-content will lead to a flexible sense of self that assertively pursues valued ends when psychologically flexible. These characteristics would be conducive to therapeutic change, although individuals exhibiting them may not often feel the need for psychotherapy as they are likely to have minimal amounts of distress and a strong propensity to act in a present oriented, value-based and adaptive manner. Other characteristics may include a lack of pre-occupation with self-image and an interest and openness to challenging experiences that present an opportunity for self-growth. The requisite level of psychological flexibility needed for such value-based reactance means it would only arise when psychological flexibility is high.

Aims of the present research

This study seeks to investigate one of the six processes currently considered central to ACT. This aspect of ACT is logically coherent and receives indirect

support through ACT's promising and burgeoning evidence base (Hayes et al., 2006). However, ACT's hypotheses regarding the self and therapeutic change have not, to our knowledge, received any specific empirical support. The current study aims to fulfil this need by testing the predictions ACT makes about self-as-content. In doing so it draws together psychological reactance and implicit self-theory literature. Such synthesis may help ground ACT in other, seemingly pertinent, branches of psychology. It should be noted that this study tests only one process amongst six in ACT. As they all interact to facilitate psychological flexibility, singling out the current process for specific analysis seeks to understand it in greater depth, but is limited in scope.

Method

Participants

172 individuals took part in the study, 108 (63%) female and 63 (37%) male). The modal age category was 25 to 29 (78 participants) , the mean 35-39. Ages ranged from between 18 and 24 to over 85. 137 (80%) participants described themselves as 'Caucasian,' 14 (8%) as 'Mixed,' 12 (7%) as 'Asian,' 2 (1%) as 'Black' and 1(1%) as 'Chinese.' 60 (35%) reported having no specific religious beliefs, 47 (27%) reported being Christian, 31 (18%) Atheist and 27 (16%) holding other religious beliefs. 141 (82%) of the sample were born within the UK. *[See Extended Method 2.1. for discussion of sample size, demographics and inclusion/exclusion criteria.]*

Procedure

Ethical approval for the study was obtained from a University Ethics Panel (see Appendices). Participants were contacted via email or poster from Universities, a public library, workplaces and retail outlets in the East Midlands, United Kingdom, as well as a social networking website. They completed an internet-based questionnaire, after verifying they were over 18 and giving informed consent. After providing demographic information they completed the following measures in turn, before being thanked and re-presented with contact details. *[See Extended Method 2.2. and 2.3. for further details on procedure and ethical considerations.]*

Measures

Instruments listed below measured rigidity of self, psychological reactance and psychological flexibility respectively. *[See Extended Methods 2.4 for further psychometrics and justification of the measures used]*

Kind of Person 'Implicit' Theory – 'Self' Form for Adults. (Dweck, 2000). This eight-item measure is responded to on a 6-point scale, ranging from "strongly agree" to "strongly disagree." Four items referred to a fixed self-concept (e.g. "You can do things differently, but the important parts of who you are can't really be changed"), four a flexible one (e.g. "All people can change even their most basic qualities"). Reverse scoring 'fixed self-concept' items meant higher scores reflected greater endorsement of a flexible sense of self. 'Fixed,' 'Mixed' and 'Flexible' groups were constructed by dividing at +/- 1 standard deviation. Levy and Dweck (unpublished manuscript) report high internal reliability (α from .93 to .95) and test-retest reliability (.82 over 1-week, .71 over four weeks). In the current study Cronbach's α=.93. Dweck, Chiu and Hong (1995) carried out validity investigations into the measure in terms of convergent, divergent and construct validity. Dweck (2000) summarising that the measure taps into assumptions about the self that are distinct from other cognitive and behavioural constructs, but have behavioural, emotional and cognitive consequences. Although the authors of this measure label it as iimplicit,' it seems that the measure itself fits an extremely loose definition of 'implicit,' if at all *[See Extended Paper 2.4.1.1. for further information and discussion]*

Therapeutic Reactance Scale (TRS). (Dowd, Milne & Wise, 1991). The TRS contains 28 items (e.g. "if I am told what to do, I often do the opposite"), responded to on a four-point scale (ranging from 'strongly disagree' to 'strongly agree'). High scores indicate greater reactance. Dowd et al. (1991) reported a test-retest reliability of .59 over three weeks, and an internal consistency of .84. In the current study Cronbach's α=.76. In terms of validity, correlations with the Minnesota Multiphasic Personality Inventory (MMPI) K-scale (negative correlation of -.27, p<.005) and the Rotter External Locus of Control Scale measuring defensive responding (correlation with internality of .35, p<.0005)

suggest convergent validity. The Counselor Rating Form-Short, the State Trait Anxiety Inventory and the Beck Depression Inventory provide evidence for divergent validity (Dowd et al., 1991). There is consistent evidence that the TRS measures resistance in psychotherapy (Beutler et al., 2002), suggesting strong predictive validity. *[See Extended Paper 2.4.2.1. for further information]*

Acceptance and Action Questionnaire – II (AAQ-II). (Bond et al., submitted). The AAQ-II contains ten items (e.g. "I'm afraid of my feelings"), responded to with a 7-point scale (ranging from "never true" to "always true"), keyed so that low scores indicate greater psychological flexibility. 'High,' 'Moderate' and 'Low' groups were constructed by dividing at +/- 1 standard deviation. Bond et al. (submitted) established satisfactory internal and test-retest reliability (.80 after 3 months, .78 after 1 year). In the current study Cronbach's α=.83.

Convergent and divergent validity was established through correlating the AAQ-II to a range of measures of psychological distress (see Hayes et al., 2006). Bond et al. (submitted) found it to have ecological validity in terms of work performance, including at one year follow-up. However, they also found that the three positively valenced items added no predictive validity. *[See Extended Paper 2.4.3.1. for further information].*

Results

After demographic and descriptive statistics were generated the assumption of normality was assessed, only age needing to be manipulated to meet it. Two outliers on the self-theory measure were found and corrected. Reverse items were transformed. The Kind of Person Self-Theory Form and AAQ-II scores were grouped. A Pearson Correlation Co-efficient matrix revealed that gender correlated with the dependent variable, but did not correlate with the independent variables. In order to partial out its effect on reactance it was appropriate to treat it as a co-variate in the main analysis. Principal components analysis suggested a slightly different factor structure for reactance than found by Bulboltz, Thomas and Donnell (2003), but this was treated with scepticism as *n* was not adequate for reliable factor analysis to be performed (Tabachnick & Fidell, 2001). Other variables had previously been found to be uni-dimensional.

[See Extended Results 3.1 – 3.4 for descriptives, tests of normality, Pearson correlational analysis and factor analysis.]

Prior to the main analysis assumptions of normality, linearity, homogeneity of variance, homogeneity of regression slopes and reliability of co-variate measurement were evaluated and found to be satisfactory. The original sample of 172 was reduced to 171 as one individual did not provide their gender. No other data in the sample was missing. *[See Extended Results 3.5 for tests of ANCOVA assumptions.]*

In line with the stated hypotheses, a 3 by 3 between-subjects analysis of covariance (ANCOVA) was performed to assess if a) individuals with a rigid sense of self displayed more reactance when psychological inflexible and b) individuals with a flexible sense of self were highly reactant when high in psychological flexibility. Independent variables consisted of self-theory (Rigid, Mixed, Flexible) and psychological flexibility (Low, Moderate, High). The dependent variable was psychological reactance. The co-variate was gender. Analyses were performed using SPSS 16, weighting cells for their sample size in order to adjust for unequal *n*.

After adjusting for the effect of gender, there was a significant interaction effect between self-theory and psychological flexibility [F (4, 161) =2.91, p=.02], with a moderate effect size (partial eta squared=.07). This interaction is summarised in Figure 2, adjusted and unadjusted means for each combination of interacting groups provided in Table 2. Neither of the main effects were statistically significant [Self-theory: F (2,161) =.209, p=.81; Psychological flexibility: F (2, 161) =1.11, p=.331]. There was a significant main effect for the co-variate, gender [F (1, 161) =16.47, p<.001].

Table 1: Sense of Self x Psychological flexibility Group, Mean Overall Reactance

Sense of Self	Psychological flexibility	N	Unadjusted Mean	Std. Deviation	Mean adjusted for *n* & gender	Standard Error
Fixed	Low	4	74.25	.957	75.65	2.99
	Moderate	22	66.55	5.91	66.56	1.27

	High	4	69.75	5.44	69.25	2.98
	Total	30	68.00	5.99		
Mixed	Low	17	70.82	6.91	69.54	1.48
	Moderate	81	68.84	6.48	68.93	.67
	High	20	66.20	4.15	66.46	1.33
	Total	118	68.68	6.31		
Flexible	Low	5	67.20	2.95	67.84	2.67
	Moderate	14	68.14	7.88	68.46	1.59
	High	4	74.00	6.38	73.50	2.98
	Total	23	68.96	7.04		

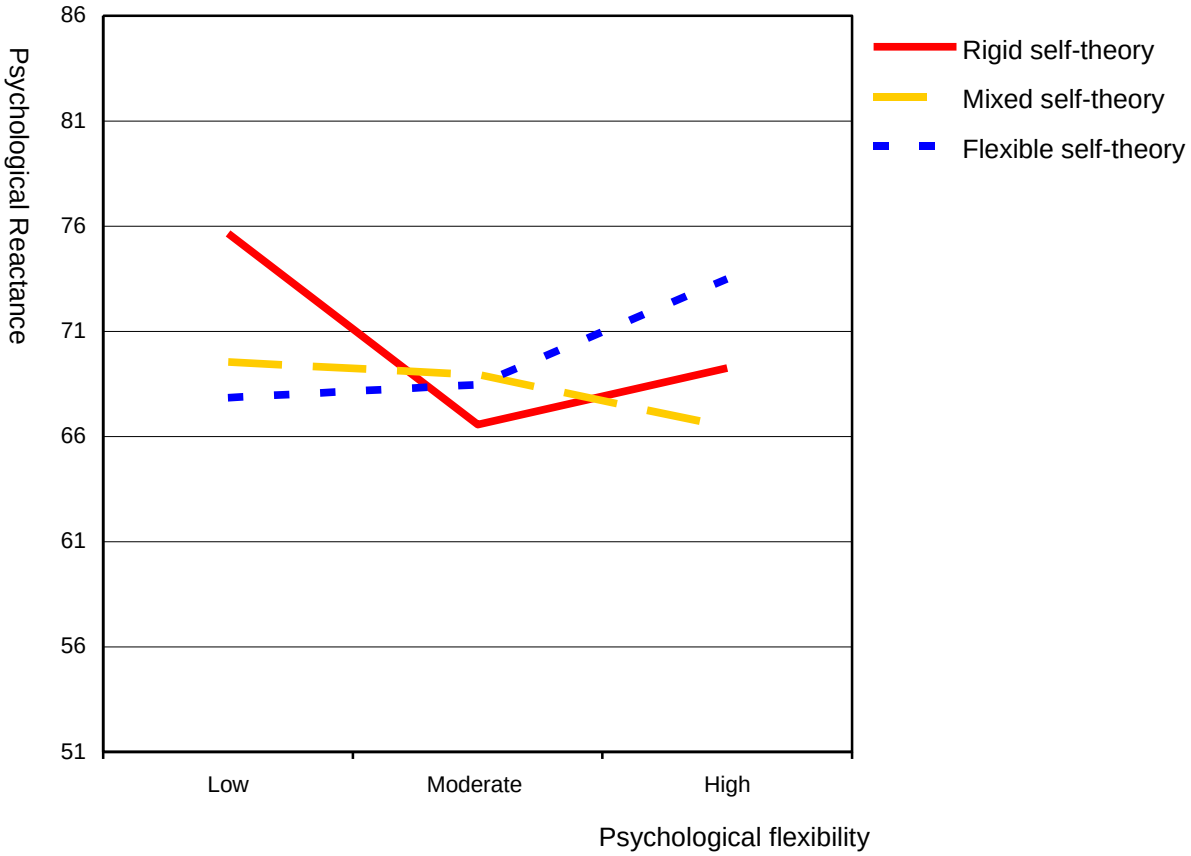

Figure 2: Psychological reactance varies depending upon interaction between self-theory and psychological flexibility

To identity which specific groups had significantly different levels of reactance, this overall interaction effect was investigated using post-hoc pairwise comparisons (see Tables 3 and 4).

Hypothesis One

When individuals have a rigid sense of self, they will display higher reactance when they have low levels of psychological flexibility.

When individuals endorsed a rigid self-theory, those in the 'low' end of the psychological flexibility spectrum were significantly more reactant than those within the 'moderate' range (see Table 2). Therefore the null hypothesis was rejected.

Table 2: Post-hoc pairwise comparisons for individuals with a rigid self-theory (dependent variable: Psychological Reactance)

(I) Psychological flexibility	(J) Psychological flexibility	Mean Difference (I-J)	Std. Error	Significance
Low	Moderate	7.89	3.17	.019*
Moderate	High	-3.13	3.08	.32
High	Low	-4.76	4.14	.26

* = significant at <.05 level, ** = significant at <.01 level.

Hypothesis Two

When they have high levels of psychological flexibility, individuals with a flexible sense of self will show high levels of reactance.

Amongst those at the 'high' end of the psychological flexibility spectrum, people with a flexible self-theory were significantly more reactant than people with a mixed self-theory (see Table 4).

Table 3: Post-hoc pairwise comparisons for individuals with high psychological flexibility (dependent variable: Psychological Reactance)

(I) Implicit Self-Theory	(J) Implicit Self-theory	Mean Difference (I-J)	Std. Error	Significance
Rigid	Mixed	-2.93	2.47	.25
Flexible	Mixed	7.18	2.47	.008**
Flexible	Rigid	4.25	3.16	.19

* = significant at <.05 level, ** = significant at <.01 level.

Distinguishing defensive from value-based reactance

Bulboltz and Johnson (2003) established four sub-factors of psychological reactance. Three of these appeared consistent with being used for either self-defence or pursuing values ('preservation of freedom,' 'avoidance of conflict,' 'lack of susceptibility to influence'). The other however ('resentment of authority'), seemed to function largely as a means of protecting one's self against perceived threat, rather than a means of achieving valued goals. Therefore this sub-factor was used to differentiate between these two functions of reactance: if individuals were high in 'resentment of authority' this was interpreted as defensive behaviour. Therefore, for hypotheses 1 and 2 to be met, those in hypothesis 1 should show significantly higher levels of resentment of authority. This was investigated using the same experimental design described above, only substituting overall reactance for the resentment of authority sub-factor.

After adjusting for the effect of gender, there was a significant interaction effect between self-theory and psychological flexibility [F (4, 161) =4.43, p=.002], with a large-to-moderate effect size (partial eta squared=.10). This interaction is summarised in Figure 3, adjusted and unadjusted means for each combination of interacting groups provided in Table 5. There was a significant main effect for psychological flexibility [F (2,161) = 6.21, p = .003; partial eta squared = .07] and the co-variate gender [F (1,161) = 18.32, p < .0001; partial eta squared = .10], but no main effect for self-theory [F (2,161) = 1.07, p = .35; partial eta squared = .01]

Table 4: Sense of Self x Psychological flexibility Group, Mean Resentment of Authority

Sense of Self	Psychological flexibility	N	Unadjusted Mean	Std. Deviation	Mean adjusted for *n* & gender	Standard Error
Fixed	Low	4	15.50	1.29	16.01	1.04
	Moderate	22	11.00	2.20	11.01	0.44
	High	4	11.25	2.99	11.07	1.04
	Total	30	11.63	2.65		
Mixed	Low	17	12.65	2.71	12.18	0.52
	Moderate	81	11.22	2.09	11.25	0.23
	High	20	10.05	1.54	10.14	0.47
	Total	118	11.23	2.21		
Flexible	Low	5	12.58	2.00	10.23	0.93
	Moderate	14	11.13	2.67	10.90	0.55
	High	4	10.46	1.50	11.57	1.04
	Total	23	11.24	2.31		

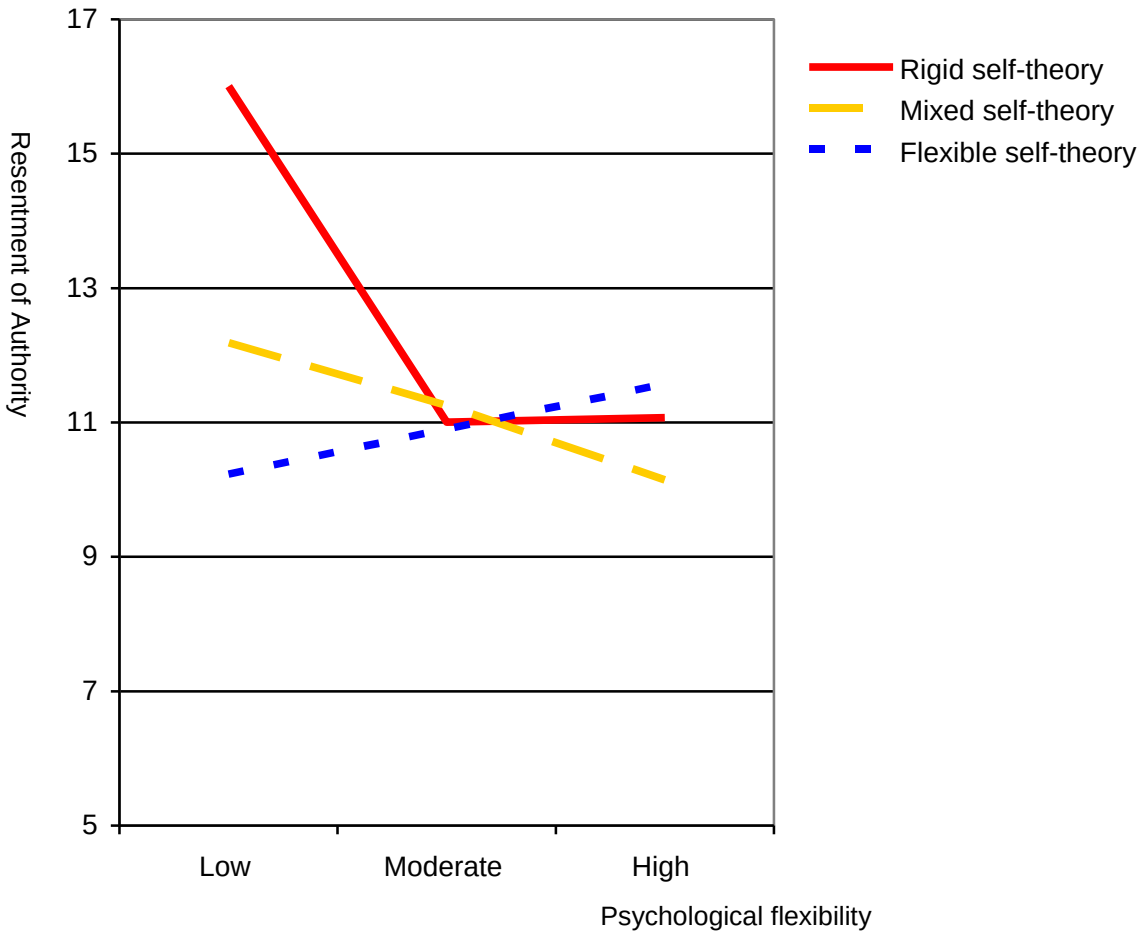

Figure 3: Resentment of authority varies depending upon interaction between self-theory and psychological flexibility

Post-hoc tests revealed that when psychological flexibility was low, individuals with a rigid self-theory were significantly showed higher levels of resentment of authority than either that with a mixed or flexible self-theory. Furthermore, flexible self-theorists were significantly less resentful of authority than mixed self-theorists at low levels of psychological flexibility (see Table 6). There were no significant differences at moderate or high levels of psychological flexibility.

Table 5: Post-hoc pairwise comparisons for individuals with low psychological flexibility (dependent variable: Resentment of authority)

(I) Implicit Self-Theory	(J) Implicit Self-theory	Mean Difference (I-J)	Std. Error	Significance
Rigid	Mixed	2.85	1.18	.025*
Rigid	Flexible	5.50	1.43	.001**
Flexible	Mixed	-2.65	1.08	.02*

* = significant at <.05 level, ** = significant at <.01 level.

Discussion

This study explored whether ACT's hypotheses regarding fusion to and de-fusion from self-as-content were accurate. Two predictions were made to test this:

1. That low psychological flexibility and a rigid self-concept would correlate with high reactance; such reactance being a form of identity defence. Self-defensiveness would not be necessary at higher levels of flexibility. This prediction was supported by the results, which showed that those with a rigid self-concept were significantly more reactant when psychologically inflexible than when moderately flexible. Moreover, this reactance tended to be of a more self-defensive rather than values-developing type.

2. That high psychological flexibility and a flexible self-concept would correlate with higher reactance. However, this reactance would be an expression of value-driven behaviour rather than self-defence. Highly adaptive reactance would not be consistent with lower levels of psychological flexibility. This prediction was also supported. Results indicated that at high levels of psychological flexibility those with a flexible self-theory were significantly more reactant than those with a mixed self-theory. Furthermore, this reactance was not of self-defensive kind, suggesting it to be of a value-based nature.

These findings provide the first specific empirical validation of ACT's theory of self-as-content that we know of. In validating this theory concepts from outside

ACT have been used, helping to ground it in other currents of research which may prove pertinent. As the findings of hypothesis 1 better characterise clinical problems they will be discussed first, before findings from hypothesis 2 are used to illustrate how they may be approached constructively.

Clarifying clinical challenges

Hayes and Gregg (2000) suggest that those identified by hypothesis 1 would find it hard to maintain an objective or balanced view of themselves, being more pre-occupied with trying to construct a consistent self-concept, searching out confirmatory evidence and trying to ignore or avoid disconfirmation. Such tendencies build up a rigid self-concept which endorses certain behaviour patterns and censures others. These patterns would tend to be fixed and loathe to change, making the person less able to adapt to changing situations or spontaneously take advantage of opportunities which arise. Such opportunities for self-growth or satisfaction may be rejected on the grounds that 'I'm just not that type of person.' Failures and setbacks would cause cognitive dissonance on the same grounds (Festinger & Carlsmith, 1959).

This self-concept will be defended and protected, even if it negates the possibility of developing a new, more adaptive way of being. Therapy would be a prime candidate for provoking such identity defence. This would be especially so if it explicitly targeted realigning the client's negative self-concepts to increase their consistency with reality. As Hayes et al. (1999) state, if 'Me = conceptualisation' and 'therapeutic change = eliminate conceptualisation' then 'eliminate conceptualisation = eliminate Me.' Unsurprisingly, such therapeutic efforts would naturally be feared and resisted. Thus, hypothesis 1 uncovers tendencies which are very challenging for psychotherapy: the obvious solution to the problem (changing maladaptive self-as-content) will be met with hostile rejection (defending self-as-content). How these challenges may be approached will now be considered through a discussion of the clinical implications of hypothesis 2. *[Extended Discussion 4.1 discusses this theme of identity resistance through previous findings, and highlights other areas of the extended paper to which this matter is relevant.]*

Presenting clinical resolutions

Process over content. The broadest clinical implication of these findings are to work at the level of personality (Giesen-Bloo et al., 2008), i.e. self-as-content. Crucially, this does *not* mean working to change personality content; what it does mean is working with the process of how the person *relates* to this content. This fundamental distinction is clarified by Rogers' (1958) exploration of the process by which behaviour and personality change occurs. What he found was unexpected and revealing. As he expressed this finding with great lucidity and precision, it will be quoted at length:

> "I was thinking of change as an entity and searching for its specific attributes. What gradually emerged…was a continuum of a different sort…Individuals move…not from a fixity or homeostasis through change to a new fixity, though such a process is indeed possible. But much the more significant continuum is from fixity to changingness, from rigid structure to flow, from stasis to process." (p.143)

At the fixed end of this continuum Rogers (1958) noted that personal constructs are held rigidly; they are not even recognised as constructs but thought of as facts. From an ACT perspective, subjective relational frames have become confused with the objective state of things: the map is mistaken for the territory (Hayes et al., 1999). As the therapeutic process unfolds, Rogers (1958) found that the client's conception of the self as object tends to disappear, as they feel cut loose from their previously stabilised framework. In ACT terms, this equates to reduced fusion to self-as-content (Hayes & Gregg, 2000). In its stead, Roger (1958) notes, a sense of self arises from the subjective and reflexive awareness of experience. It arises out of confidence in evolving process, personal constructs becoming loosely held and subject to re-negotiation in the light of new experience. Such contact with present moment experience, without defence, has similarities with psychological flexibility (Bond et al., submitted).[1]

[1] Roger's (1958) use of the word 'confidence' is particularly striking when considering Hayes et al.'s (1999) analysis of the term, deriving from the Latin 'with fidelity.'

This process, Rogers (1958) concludes, necessitates change in the self. Rather than perceiving their self as an object distinct from experience, the self becomes the subjective awareness of experience – self and experience are synonymous. Rogers (1958; p.149) ends with the statement that "the person becomes a unity of flow, of motion. He has changed; but what seems most significant, he has become an integrated process of changingness." This sense the self, which is unitary and stable despite the perpetual motion of experienced content, is akin to self-as-context (Hayes, 1984).

It appears that concept of the change process in psychotherapy is consistent with ACT's understanding of the process of self-as-content/context, to which the current findings add empirical support. This is consistent with ACT's assertion that elements of its approach can be found across a broad spectrum of modalities, from gestalt to Rogerian and existential. *[see Extended Discussion 4.2.1. regarding cross-theoretical support for this model of therapeutic change, 4.4 regarding cultural considerations.]*

As the current findings support this model of therapeutic change regarding the self, it suggests that therapeutic work to change how the client relates to self-as-content, rather than explicitly targeting content change, would be most beneficial in dealing with the difficulties delineated above. Work of this kind would involve a movement from fixity to fluidity, from rigidity to flexibility, moving attention from the *content* of the self to the *process* of relating to it. ACT suggests a number of specific techniques to facilitate this. Three categories of these are described below.

De-fusion from self-as-content. ACT does not seek to change the content of self-as-content. It reasons that this very process of evaluating what is and is not wanted within the client has contributed to their difficulties in the first place (Luoma et al., 2006). ACT suggests that these difficulties can be better approached through de-fusing with this self-concept. Healy et al. (2008) used prefixes in negative self-statements to identify the impact of defusion (e.g. Is the statement "*I am having the thought that* I am stupid' experienced differently to 'I

am stupid'?). They found this defusion technique to increase participants' willingness to think about these statements, and decrease their discomfort when doing so. Unexpectedly, they also found that when participants de-fused from negative self-statements, they rated them as more believable. Linking this study explicitly to the current matter of self and psychotherapy, increased ability to think about and consider aversive self-elements seriously, *and* finding this process less aversive, would decrease experiential avoidance and fusion to a distorted self-concept.

Crocker, Niiya and Mischkowski (2008) corroborate this and validate another technique. They found that writing about important values decreases defensiveness, facilitating positive attitudes towards personal change (e.g. smokers becoming more accepting of information that smoking harms health). Importantly, they found that this occurred because participants became more concerned about others and less concerned with their self-integrity (i.e. self-image or self-worth). That is, their relationship to self-as-content had changed, not the contents of self-as-content. Reduced defensiveness from writing about important values was not due to increased self-worth, but increased 'self transcendence' (Crocker et al., 2008). *[see Extended Results 4.2.2. regarding the juxtaposition of self-esteem with flexibility.]*

Connection with self-as-context. Equivalent to de-fusing with self-as-content is connecting with self-as-context. Primary techniques to validate this are metaphor and mindfulness. Hayes and Gregg (2000) give the example of *the chessboard metaphor.* Here, the client's battle between their 'dark side' (e.g. depression, self-harming, substance abuse) and 'better nature' is portrayed as the battle between the black and white pieces on a chessboard. It is discussed how thinking of one's self as a player in this battle is tiring, hopeless and never-ending. One can gain respite from this struggle by thinking of one's self as the board itself: the context in which the battle unfolds, but a place from which it can be watched in safety and security.

Mindfulness interventions involve bringing attention into the present moment and can be taught through a variety of meditation exercises (e.g. Segal, Williams & Teasdale, 2002). Baer's (2003) review of mindfulness interventions

concluded that despite flaws in methodology, such interventions help to improve psychological functioning and alleviate mental health difficulties. Effect sizes ranged from 0.15 to 1.65 at post-treatment, with a mean effect size collapsed over 15 studies (weighted by sample size) being 0.59, representing a healthy moderate effect.

The therapeutic alliance. The therapeutic alliance has been found to interact with specific techniques and facilitate the change process underlying clinical improvement for those with personality disorder (Spinhoven, Giesen-Bloo, van Dyck, Kooiman & Arntz, 2007). The importance of the therapeutic alliance is common to cognitive-behavioural (Leahy, 2008) and dynamic traditions (Malan,1979). Reactance studies suggest that highly reactant clients will meet directive therapeutic styles with resistance, and that they have poorer outcomes than non-directive, client led therapeutic relationships (Karno & Longabaugh, 2005, 2007). Resistant clients have been found to react well to greater autonomy in the therapeutic relationship (Newman, 2002). Paradoxical interventions have also been found to be effective for this client group (Hunsley, 1997). Techniques such as free association, in which the client autonomously comes into contact with aspects of themselves that a rigid self-as-content has hidden, at a pace that they control, may also be appropriate (Kanter et al., 2001). It may facilitate a process of overcoming experiential avoidance, a key aspect of fostering psychological flexibility, which has been long recognised by a number of traditions (Hayes et al., 2006). Hayes et al. (1999) emphasise close non-evaluative attention to the experiences of the unfolding dynamic between therapist and client, and engaging with these experiences as honestly and without defence as possible. These aspects of the therapeutic relationship aim to move the client away from rigid fusion to self-as-content towards the process of relating to these contents in a looser, more accepting manner, increasing the ability pursue value-based behaviour.

Limitations and difficulties

From the outset, we should heed Kanter et al.'s (2001) caveat that direct observation of anything so private and non-observable as the self is quite impossible. Therefore empirical investigation into the matter of selfhood is

always limited. Another a priori limitation of the study is that it does not measure Hayes and Gregg's (2000) first tendency of a fused self-as-content, which is a distorted and dishonest sense of self. Such a tendency may be implied with low levels of psychological flexibility, but direct measurement would provide further empirical testing of ACT's predictions. Beyond these limitations which were inherent within the study at the outset, three other difficulties in interpretation are immediately apparent.

One complication within these findings was that reactance increased for those with a rigid as well as flexible self-theory when highly psychologically flexible. Although this trend was not significant, it was unexpected. It may reflection the population studied. Alternatively, it may be that although these individuals are strongly fused with self-as-content, this self-image is an accurate reflection of their personal values. Therefore acting in accordance with it is to act in congruence with these goals. As ACT focuses on a clinical population this congruence is rarer – when people are suffering, their rigid self-concepts tend to conflict with the life they want to lead, and the values they wish to embody (Hayes & Gregg, 2000). It is worth noting that, from an ACT perspective, a traditional cognitive approach would wish to fuse the client with such an adaptive and constructive self-concept, rather than de-fuse from any self-conceptualisation per se (Hofmann & Asmundson, 2008).

A second potential issue with these findings was that significant differences in reactance occurred between low and moderate psychological flexibility for those fused to self-as-context, and between flexible and mixed self-theorists amongst those who were highly flexible. In short, no significant differences between the extremes were detected, only differences between one extreme and the average. This is perhaps understandable given the small sample size of each extreme group. Statistical corrections were used to accommodate this inequality, which increased the standard error. Increased error would make differences in adjusted mean less likely to be significant. This limitation of the current study may be rectified by future research which focuses specifically on these extreme groups in greater numbers, rather than in the context of a normally distributed population. However, a significant difference between the extreme groups was found at low psychological flexibility when predicting resentment of authority.

This finding suggested that the reactance used by fixed self-theorists is potentially more maladaptive form of self-defence, whereas for flexible self-theorists reactance is more likely to be based on the pursuit of values.

A third and related, limitation lies in the dual function of psychological reactance. These findings suggest that reactance, as behaviour which exercises personal freedom, may protect the self-as-content or be used to pursue valued ends (or, in the case of those whose self-as-content embodies those ends, perhaps do both). Although there is no logical reason why reactance cannot perform both functions, mainly self-defence has been posited in the literature (e.g. Dowd, Pepper & Seibel, 2001). An explanation may be that this body of research has not been exposed to the distinction between self-as-context and self-as-concept. Whilst reactance may function to protect self-as-content in hypothesis 1, it can function as an adaptive means to valued goals in hypothesis 2. Here, behaviour which is topographically similar has dissimilar functions. Delineating topography from function is an important part of ACT (Hayes et al., 1999), and future research would need to clarify how this distinction applies to reactance. The current findings suggest it may have two functions, which may compliment or contradict. *[Extended Discussion 4.3 provides an in-depth critique of strengths and limitations.]*

Future directions

Other variables. This study focuses on a person's relationship to self-as-content. Mindfulness is a variable which was not included, but may well be highly relevant to this relationship. Not only is there a wealth of literature relating it to the ability to tolerate aversive private events (e.g. Segal et al., 2002) and some indications this can specifically relate to the self (Farb, 2007, 2010), it can also be measured as a relatively stable trait (Baer et al., 2008). This would bring in self-as-context, providing a fuller picture of ACT's process of relating to the self. A second variable not included in the current study is the extent to which an individual is prone to distorting their self-image despite contradictory evidence. Although lower psychological flexibility implies an increased propensity for distortion (Hayes et al., 1999), direct measurement of this would

usefully investigate the third characteristic of self-as-content fusion listed by Hayes and Gregg (2000).

Clinical populations. As these findings relate largely to the process of therapy and rigid identity as a source of therapeutic resistance, a clear means of developing it would be to investigate these processes in situ. People with Borderline Personality Disorder (BPD) have been found to express higher than average levels of reactance, Siebel and Dowd (2001) reporting a mean of 72.71 on the TRS, the measure used in the current study. People with BPD have also been known to suffer extensive difficulties surrounding the issue of selfhood (APA, 2004; Jorgensen, 2006). Considering the prevalence of BPD in the general population (2%) (APA, 2004) and the proportion of the present non-clinical sample fitting the criteria for hypothesis 1 (2.4%), these findings may be worth investigating within the context of BPD.

An interesting aspect of this application would be the adaptive and maladaptive understandings of flexible self-theory. Whilst it has been investigated positively here, in terms of the belief in the potential for positive change, self-growth and development, DSM-IV's (2004) definition of BPD refers to a persistently unstable sense of self as something distressing and damaging. There are two distinctions between these different concepts of self-flexibility which may be investigated by clinical studies. Firstly, self-flexibility in the positive sense is anchored by the consistent pursuit of personal certain values (Lampinen, Odegard & Leding, 2004), bound together by a coherent narrative (McAdams, 2001). The negative sense is not bound by such values, therefore is not integrated in the same sense. Kanter et al. (2001) suggest this type of identity-flexibility is externally controlled – the person is reacting to the influence of outside agents – whereas Rogers (1958) suggests the other is internally directed. Fuchs (2007) emphasises this point, pointing to the fragmentary nature of BPD in modern society, which contrasts with Rogers (1958) equating of self-flexibility with wholeness and congruence. These proposed distinctions would be usefully investigated by future research.

Psychotherapy and the self. A final direction would be to further pursue the psychotherapeutic implications of a behavioural understanding of the self.

This is especially intriguing as a behavioural understanding of the self denies that it exists as a separately existing entity. It is simply a psychological construct of the same ontological status as emotions and thoughts (Kanter et al., 2001). This view has also gained prominence amongst neuroscientists and philosophers (Flanagan, 1996). Parfit (1984) argues that there is no separately existing 'doer' behind the deed or 'thinker' behind the thought, only deeds being done and thoughts being thought. Personal identity, he concludes, is not what matters.

Blackmore (1999) cites evidence of this from a neuropsychological point of view, pointing out that even through psychotherapy deals in the self and its substance (or lack of) it is not based on sound scientific principles regarding these matters. A behavioural treatment of the self, such as that found in ACT, is consistent with these empirical foundations. An interesting avenue for further research would be how this research on the self could be synthesised, and what implications such a theoretically and empirically coherent model would have for psychotherapy, and its relationship to the self.

Conclusions

These findings are consistent with ACT's predictions regarding the self and psychotherapy, which assert that a) a rigid sense of self functions as a defence when distressed, impeding therapeutic change and b) a flexible sense of self facilitates value-based behaviour when psychologically well. Clinically, these findings implicate the importance of a focus on process over content when clients present with personality-based difficulties. Specific means of achieving this emphasis include thought defusion, validation of important values, mindfulness interventions, free association and the therapeutic alliance. The overarching psychotherapeutic focus is on the client's process of relating to their self-concept, rather than altering its contents. Theoretically, these findings help to contextualise ACT within associated streams of literature which have not been previously synthesised.

Journal article word count: 8,814 approx. (including references) *n.b. See appendices regarding journal stipulations (no more than 10,000 words including references).*

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II. EXTENDED PAPER

1. Extended background

1.1. ACT's evidence base

To strike a balance between clarity, brevity and rigour, this overview focuses on two major meta-analyses of ACT's empirical base: Hayes et al. (2006), who are themselves proponents of ACT, and Öst (2008), who appears not to be.

1.1.1. Correlational studies. Hayes et al. (2006) review 32 studies which correlate psychological flexibility (the variable which ACT wishes to increase in clients) with a range of quality of life outcome measures. These include those measuring psychopathologies (e.g. Beck Depression Inventory (BDI) for depression, Beck Anxiety Inventory for Anxiety (BAI) for anxiety, the Post-Traumatic Diagnostic Scale for PTSD), general quality of life measures (e.g. General Health Questionnaire, Quality of Life Inventory) or sub-clinical issues such as job performance, negative affect or stress. Psychological flexibility was measured by the Acceptance and Action Questionnaire (AAQ) (Hayes et al., 2004), or variants which hone in on specific difficulties, such as chronic pain. Meta-analysis of this data set found that as psychological flexibility increased, so did quality of life outcomes. 74 correlations produced a weighted effect size of .42 (.41 - .43 representing a 95% confidence interval). These results indicate a moderately sized positive relationship between psychological flexibility and a range of quality of life indicators. This finding is congruent with the ACT model of human distress.

However, Bond et al. (submitted) note that the AAQ on occasion exhibits problems with internal consistency, to the extent that they found it necessary to develop a new version (the AAQ-II, which is used in the current study). Bond et al. (submitted) suggest that although the results of studies using the AAQ are still relevant, this measure is less psychometrically safe than its replacement, the AAQ-II. As the AAQ – or variants of it – were used by all the correlational studies reviewed by Hayes et al. (2006), the overall findings of their meta-analysis should not be disregarded, but treated with some caution.

1.1.2. Component studies. Hayes et al. (2006) go on to emphasise the importance of conducting micro-studies on each key ACT process (i.e. contact with present/dominance of past; values/lack of values; committed action/inaction or impulsivity; self-as-context/self-as-concept; fusion/defusion; acceptance/experiential avoidance). These studies are essential in establishing whether each component process is a) psychotherapeutically active and b) consistent with theory.

Hayes et al. (2006) found evidence supporting acceptance and de-fusion processes, and that these appeared to fulfil the functions given above. However, they concluded that other aspects of the ACT model had not been specifically tested. The current study is an example of this need identified in the literature being met, as it seeks to establish whether self-as-context/self-as-content is consistent with theory. This has not yet been established. After doing so, the next logical step would be to establish its therapeutic efficacy. This follows the scientific sequence of establishing the coherence of a therapeutic model before testing its efficacy. If this sequence is reversed it is impossible to tell which aspects of the theory are effective (Popper, 1963/2002).

1.1.3. Outcome studies. Although Hayes et al. (2006) urge caution they report encouraging evidence from the treatment outcome literature. From 13 studies, meta-analysis revealed an *n*-weighted average effect size for ACT v. waiting list control (WCL), placebo or treatment as usual (TAU) as *d*=.99 post-treatment (overall *n*=248), and *d*=.71 (n=176) at follow-up. The total weighted average effect size, combining these results with ACT v. structured interventions designed to impact the presenting problem, was *d*=.66 post-treatment (*n*=704) and *d*=.66 at follow-up (*n*=580). Follow-up ranged between 8 and 52 weeks, the mode being 12 weeks (in 6 of the 13 studies).

1.1.4. Review of Randomised Controlled Trials (RCTs). Öst (2008) reviewed 13 RCTs and concluded that the mean effect size was moderate. The Controlled Effect Size (ES) he reported was derived from calculating Cohen's *d*, then transforming it to Hedge's *g* as the former "suffers from a slight upward

bias when based on small samples" (p.307). The mean ES for ACT was 0.68 (z=5.11, p<.0001, with a 95% confidence interval of 0.42 – 0.94).

However, Öst (2008) critiques that the research methodologies of these RCTs were significantly less stringent than comparable CBT studies. The use of waiting list controls instead of placebo, for instance, is less desirable. Some studies combined ACT with other methodologies, making it impossible to know the specific effect of the ACT component on the outcome. Similarly, other RCTs provided little information regarding the number of therapists used, therapist adherence to the model or level of competence and experience. This lack of clarity makes it hard to partial out the effectiveness of the therapist from the effectiveness of the model used. Because of these deficiencies, Öst (2008) concluded that ACT did not fulfil the criteria for an empirically supported treatment, as defined by the guidelines proposed by an APA Division 12 Task Force in 1995.

1.1.5. Summary. This overview suggests that ACT's evidence base is promising. However, greater development in a variety of areas is necessary for it to become defined as 'empirically validated' by those APA criteria put forward in Öst. One way to make greater sense of this position is to put it in historical context; Guidano (2009) alludes to this, and it is discussed in 1.2.

1.2. Comparing ACT to CBT

Comparing ACT with CBT is a prominent theme of the literature, and one which is hotly debated (e.g., Gaudiano, 2009; Hayes, 2008; Hofmann & Asmundson, 2008). Lappalainen et al. (2007) finding ACT to be more effective when used by psychotherapy trainees. The controversies around comparison are both empirical and theoretical.

1.2.1. Empirical comparisons. In Öst's (2008) meta-analysis, the methodology of ACT RCTs was compared to those of CBT and found wanting. Guidano (2009) offers two main defences of ACT regarding this conclusion. Firstly, ACT and CBT were mismatched in terms of treatment populations, making direct comparisons problematic. This distribution is given in Table 6.

Table 6: Target clinical populations of ACT and CBT randomised controlled trials, showing ACT to have targeted a wider spread of clinical populations than CBT (after Öst 2008).

Target Clinical Populations	ACT	CBT
Anxiety or stress	3	11
Depression	2	2
Chronic medical conditions	2	0
Psychosis	2	0
Pain	1	0
Addiction	2	0
Personality disorder	1	0

Secondly, 38% of ACT's RCTs were funded compared to 80% of CBT's. This statistically significant difference, Gaudiano (2009) suggests, allowed more advanced and costly methodological procedures for CBT. He concludes that the limitations which Öst (2008) so scrupulously discerned in ACT are characteristic of any emerging psychotherapy. Comparing its RCTs to CBT's is akin, the title of his article suggests, to comparing apples and oranges. ACT's research programme must be given time to mature if it is to be directly compared to CBT.

1.2.2. Theoretical comparisons. See Hofmann and Asmundson (2008) for a discussion of ACT's critique of CBT that stretches beyond the scope of this thesis. For the purposes of the current study, the element of most interest is ACT's critique of CBT's emphasis on altering the content of cognitions, in order to alter behaviour and affect. This line of argument is exemplified by Longmore and Worrell's (2007) review of the empirical literature addressing the efficacy of challenging and realigning client's thinking so that it is more consistent with reality. They found little evidence suggesting that this component of CBT is

effective, raising the question, do thoughts need to be challenged for effective CBT?

From an ACT perspective the answer would be a resounding ‘no’ (Hayes et al., 1999). Its own basic research base (discussed in 1.3) suggests that cognitive patterns have been learned; they cannot be ‘unlearned’ and replaced with alternative cognitions (Hayes & Berens, 2004). ACT utilises the alternative approach of mindfulness. Mindfulness does not seek to alter the contents of cognitions. More simply, it trains the client to notice them as being what they are: cognitions and nothing else (Kabat-Zinn, 1991).

This distinction between a) being mindful of cognitions and b) seeking to challenge and replace them relates to the current study’s focus on identity. Clients are not asked to change their core beliefs about themselves, the equivalent of altering the cognitive content of self-as-content. Rather, they are asked to hold this conception of themselves more lightly (Luoma, Hayes & Walser, 2006). As they associate themselves less with this self-concept, they are less prone to defend it. Thus, they have a more flexible sense of self rather than a more realistic or positive one (Hayes & Gregg, 2000). Such reduction in attachment to one’s self-concept, or the need to defend it, facilitates engagement in therapeutic change and increased psychological flexibility (Hayes et al., 1999).

1.2.3. Summary. More generally, Hayes (2008) argues that meaningful comparisons between ACT and CBT are doomed to intellectual failure as the latter is amorphous and difficult to tie down to specific principles, theories and processes. Therefore, it is better to measure ACT against its own goals. The current study seeks to keep within these parameters by investigating the internal consistency of ACT’s process concerning the self.

1.3. Relational Frame Theory (RFT): a linguistic explanation of human suffering

ACT explains the connection between behaviour and human suffering through RFT, a departure from social psychology, which posits the self as the cause of

behaviour. Social psychological considerations of the self will first be provided, follwed by an alternative explanation from RFT.

1.3.1. Social psychological considerations of self. Baumeister (1999) summarises that, beyond being a physical body, three universal experiences form the basis of selfhood. The first is the experience of 'reflexive consciousness': the ability to be self aware. That is, one cannot directly perceive one's 'self,' but can infer that it exists from observation. Psychologically, self-evaluation, self-consciousness and self-esteem are considered within this aspect of self. The second universal experience of self in interpersonal being. The self arises in terms of its relationships with others, both through how it is connected and similar, and how it is distinct and different. Psychologically, this aspect of self involves interactions with others and concepts such as pride and shame. The third seemingly universal experience of selfhood is that of executive functioning: the self as the agent and originator of its action. Constructs such as volition, autonomy, decision-making and self-regulation all fall under this aspect of selfhood. As argued by Kanter et al., (2001), this approach to the self assumes that it exists as a separately existing entity, evoking the homunculus fallacy.

1.3.2. As ACT cannot posit an independently existing self in the same way that other approaches such as social cognitive traditions might (see Extended Discussion), it has to rely upon an alternative explanation for what causes behaviour. This is provided by Relational Frame Theory (RFT). RFT suggests that the same verbal abilities that underpin human achievement also underpin much human suffering (Hayes et al., 1999). Using these abilities to attempt to escape suffering can, in practice, often exacerbate it. In these instances, letting go of verbal abilities and trying to experience the suffering fully without defence may be more therapeutic. Hayes et al. (1996) identify various therapeutic models – both traditional and 'third wave' CBT – which focus on this process. The following sections work through these elements in greater detail.

1.3.3. Relational framing facilitates verbal knowledge. RFT suggests that we understand stimuli by classifying and ordering them in relation to each other. This is achieved through use of relational terms such as 'before-after,'

‘better-worse,’ ‘bigger-smaller’ or ‘the same as,’ and so on. Relational frames are a highly efficient means of structuring and making sense of the world without having to directly experience all permutations of it (Hayes & Berens, 2004). For instance, being explicitly told two facts: that Alan is taller than Bob, and Bob is taller than Charles, four other facts can be inferred: Bob is shorter than Alan, Charles is shorter than Bob, Alan is taller than Charles and Charles is shorter than Alan. Therefore you may be directly taught 2 facts, but by relational framing you actually learn 6. Hundreds of relations can be derived from being taught a relational network of only twelve (Hayes et al., 1999).

Each individual, through their experiences, constructs their own unique idiosyncratic relationship frame. These unique frames transform the functions of stimuli in unique ways, so that each person can derive different meaning from the same group of phenomena. This ability to construct verbal knowledge through relational frames has given human beings a large adaptive advantage over other animals. However, this evolutionary advantage is not without its costs (Luoma et al., 2006).

1.3.4. Relational framing facilitates psychological pain. The mind is composed of elaborate and interconnected derived stimulus relations. Hayes et al. (1999) suggest these relations explain uniquely human suffering. Such suffering occurs because relational frames are bi-directional. This means that the verbal representation of an aversive state will itself contain unpleasant emotion, whereas for animals they do not.

For instance, a pigeon may be trained to ‘report’ when it has experienced a shock by pecking a button. This relationship between the event (shock) and its verbal representation (peck button) is uni-directional: the aversive event (shock) evokes a symbolic representation (peck), but the symbolic representation does not evoke an aversive event. The pigeon does not re-experience the shock when it pecks the button. In humans, however, relational framing means that such relationships are bi-directional. When a person reports having been sexually abused by her father, the past abuse (aversive event) does not just evoke the reporting of it (verbal representation), the verbal representation (report) evokes a re-experiencing of the aversive event (past abuse). Because

both sit within a relational frame eliciting one elicits the other. Thus, verbalising the report is functionally related to the event, causing the associated feelings to be re-encountered (or encountered for the first time, if suppressed).

ACT and RFT explain much human suffering through the relational frames which provide us an evolutionary advantage. Such suffering can be exacerbated by our attempts to escape it (Gird & Zettle, 2009). These attempts are termed 'experiential avoidance.'

1.3.5. Experiential avoidance. As relational frames are bi-directional, verbal self-knowledge induces current psychological re-experiencing of past aversive events that we would naturally wish to avoid. However, attempts to avoid this suffering through suppression and avoidance of thoughts associated with it may actually increase its saliency (Hooper, Saunders & McHugh, 2010). Fledderus, Bohlmeijer and Pieterse (2010) found that people prone to avoiding such aversive experiences, or have learnt to use experiential avoidance in high-stress situations have a higher risk of poor mental health and psychopathology.

A review by Hayes, Wilson, Gifford, Follette and Strosahl (1996) cited experiential avoidance as a means of functionally understanding diagnoses together when traditionally they have been tried to be comprehended apart, with limited success. Such an approach would address current difficulties surrounding co-morbidity and the inaccurate imposition of a physical illness medical paradigm onto mental health (Bentall, 2003). Similarly, Kashdan, Barrios, Forsyth & Steger's (2006) findings suggest experiential avoidance to be a diathesis underlying a generalised tendency towards psychological vulnerability. Regarding the present study, ACT regards self-as-content (to be discussed) as a key vehicle by which experiential avoidance can be exacerbated and maintained, depending on one's relation to it. The reverse of experiential avoidance, which this study also seeks to investigate, is psychological flexibility.

1.3.6. Psychological flexibility. Experiential avoidance is seen to occur when individuals use their verbal abilities, which are so adaptive when interacting with external events, to control internal private events. In opposition to this ACT encourages clients to experience "ordinary human unhappiness"

(quoting Freud in Chodoff, 2002; p.627) as it occurs, without avoidance. To do so is painful, but does not compound the pain into “neurotic misery.” Such a process is inherently painful, but that reflects the realities of human existence, a reality we use many means to habitually conceal ourselves from (Chodoff, 2002). Gird and Zettle (2009) clarify this contrast between normal unhappiness and neurotic misery by referring to ‘clean pain’ and ‘dirty pain,’ clean pain being the psychological reaction to events experienced as unpleasant, dirty pain being the distress arising from failed attempts to escape the experiencing of clean pain.

1.3.7. Psychotherapeutic approaches. Overcoming experiential avoidance (equivalent to facilitating psychological flexibility) has been recognised as a means of reducing psychological distress within various therapeutic schools including psychoanalytic, Rogerian, existential and more recent ‘third wave’ cognitive-behavioural approaches (Hayes et al., 1996; summarised in Table 7).

1.4. Ongoing self-awareness

Ongoing self-awareness is a third sense of self considered in ACT (e.g. Hayes, 1995). However, it is not emphasised in the more current literature (e.g. Luoma et al., 2006). Therapeutically, it sits between self-as-content and self-as-context. ACT’s understanding of self-awareness is analogous to the metaprocess of reflection, or ‘objective self-awareness.’ It involves becoming objectively aware of ourselves and our operating systems (Lewis, 1992). Hayes and Gregg (2000) assert self-aware ness is a dual-edged sword: potentially helpful and harmful. It may have a positive role in facilitating self-control and the ability to plan and direct one’s life course. However, it also encourages engagement with self-as-content. Such engagement can be counter-productive, Hayes and Gregg (2000) argue, as it increases the possibility of fusion with such content, decreasing awareness of present moment experience.

Table 7: Experiential Avoidance focused cognitive-behavioural therapies

Model	Diagnosis targeted	Therapeutic modality	Key text
Mindfulness-Based Stress Reduction (MBSR)	Anxiety & chronic pain	Groups	Kabat-Zinn (1991)
Mindfulness-Based Cognitive Therapy (MBCT)	Depression	Groups	Segal, Williams & Teasdale, (2002),
Acceptance & Commitment Therapy (ACT)	Non-specific	Individual	Hayes, Strosahl & Wilson, 1999)
Dialectical Behavioural Therapy (DBT)	Borderline Personality Disorder	Individual & Group	Linehan (1993)
Schema Focused Therapy (SFT)	Personality Disorder	Individual & Group	Young (1990)

1.5. Reactance

Reactance (i.e., those behaviours which function to preserve threatened personal freedoms, or preserve lost ones) is an essential construct of the current study, because it is a class of behaviour by which a person can defend their self-image (as ACT would predict would happen when fused with self-as-content) or pursue personal values (as ACT would predict to happen when de-fused from self-as-content). However, it derives from a quite separate research tradition than ACT. Therefore to fully explore reactance, it needs to be discussed in its own right. This section seeks to do so by evaluating its relationship to therapeutic outcome, its status as an intra-psychic trait and/or interpersonal state, and the development and personality variables it has been found to correlate with. Before this, a brief background is given. Overall, this

section is intended to gain greater depth regarding a concept central to the current study.

1.5.1. Background of reactance. Reactance was defined behaviourally in the journal article to maintain consistency with an ACT framework. Many theorists define reactance cognitively as a 'motivational force to restore lost or threatened freedoms' (Dowd & Siebel, 1990; p.460). Dowd and Siebel (1990) emphasise its characterological quality and argue that resistance and reactance are separate concepts. Whereas resistance is generally situation-specific and used to protect core cognitive schemas, reactance is a more stable trait used to maintain an autonomous identity. As RFT argues that such identity may actually distil down to no more than behavioural schemata (see Extended Discussion 1.3.), this distinction is questionable from an ACT perspective. Similarly, more recent studies and reviews (e.g. Beutler et al. 2002) suggest reactance is a specific sub-type of resistance.[2]

1.5.2. Reactance and therapeutic change. A large body of literature relates findings on resistance directly to clinical practice, it being broadly accepted that a negative relationship exists between resistance and prognosis (e.g., Arnow et al. 2003; Beutler et al., 2002; Frank et al., 1998). It has been found that clients with higher levels of resistance benefit more from non-directive and self-directed interventions, whereas low resistance clients profit from structured and more directive methods. This trend has especially been studied within an alcoholic population (Karno, Beutler & Harwood, 2002; Karno & Longabaugh, 2005). Karno and Longabaugh (2007) found that mismatching resistance with intervention style significantly predicted more post-treatment alcohol consumption, partial matching led to less frequent alcohol use and resistance-intervention matching optimised good outcomes.

Paradoxical interventions, or defiance-based symptom prescriptions, are used for highly reactant clients. These involve the therapist actively encouraging the problem behaviour, hypothesising that a highly reactive client will reject this

advice and do the opposite. Hunsley (1997) found little evidence to support these interventions and that their acceptability depended on therapist orientation (Hunsley & Lefebvre, 1991). Beutler et al. (2002) more recently reported that a growing number of studies confirm they can be effective. Beutler and Consoli (1993) report, with case illustration, that these adaptations can be carried out through the therapist modifying their interpersonal stance. This seemed to be governed largely by directiveness v. client-led spectrum of the therapeutic relationship.

1.5.3. Intrapsychic or interpersonal? Reactance has been found to fit both of these categories. Interpersonal conceptualisations tend to correspond with cognitive (Arnoff, 2000; Newman, 2002), behavioural (Tompkins, 2002) and developmental (Buboltz et al., 2003; Johnson & Buboltz, 2000) literature, whereas intrapsychic ideas are more aligned to psychodynamic (Schuller, 1991) and personality (Buboltz et al., 2002; Dowd & Wallbrown, 1993) research. However, in exploring these differences it should not be insinuated that a dichotomous 'either/or' situation exists between interpersonal and intrapsychic understandings of resistance. As Beutler et al. (2002) conclude in their review, both interpersonal and intrapsychic factors are included in resistance and both must be considered in treatment decisions. However, Beutler et al. (2002) do not go on to suggest how these factors might interact or how they might relate to the inconsistencies outlined above. This research is necessary in order to ground this field of research more coherently and comprehensively.

A possible solution to this problem is to fit interpersonal and intrapsychic approaches into a *stress-diathesis* model: there are individual variations in underlying intrapsychic reactance traits (diathesis), which are triggered by certain contexts (stress) that lead to states of interpersonal reactance. One such context could be therapy. Research to test this or similar hypotheses would be beneficial, as it would help lay more solid conceptual foundations for this area of study.

1.5.4. Correlates of reactance. Literature in this area fits broadly into two categories: research that considers the developmental and relational variables that contribute to the aetiology of reactance, and research exploring which

personality variables correlate with it. This literature explains how reactance develops and is maintained, and describes the characterological variables that relate to it. Findings are summarised in Table 1, Appendix A. However, these findings do not appear to test the theorised function of reactance (Dowd & Siebel 1996), which may be considered a gap in the research. One aim of the current study is to help fill this gap.

1.5.4.1. Developmental correlates. Johnson and Buboltz (2000) examined the relationship between differentiation of self and psychological reactance. Differentiation of self refers to the ability to have "a separate and distinct sense of self without reactively cutting off from significant others" (Johnson & Buboltz, 2000, p.93). It was hypothesised that low levels of differentiation would correspond with high reactance, as both involve 'reactive decision-making and an inability to find a healthy balance in intimate relationships' (Johnson & Buboltz, 2000, p.93). Multiple regression analysis revealed that as intergenerational individuation, peer intimacy and peer individuation decreased psychological reactance increased. The full model significantly predicted reactance as measured by the TRS (*Rsqu.*=.17, *F*(2,276)=27.84, *p*<.001) and QMPR (*Rsqu*.=.17, F(2,276)=28.17, *p*<.001).

Buboltz, Johnson and Woller (2003) hypothesised that family dynamics that disrupt this balance will relate to the development of psychological reactance. Multiple regression showed that five family-of-origin variables had unique effects on high reactance: low levels of family conflict (*F*(1,296)=12.13, *p*<.001), high family cohesion (*F*(1,296)=10.60, *p*<.001), high achievement orientation (*F*(1,294)=38.03, *p*<.001) high family independence (*F*(1.294)=38.03, *p*<.01) and high levels of moral-religious emphasis (*F*(1,294)=51.37, *p*<.001). Finally, a *t*-test revealed that higher reactance, as measured by TRS, existed in divorced families (*M*=53.80, *SD*=15.55) than intact ones (*M*=49.19, *SD*=14.19), *t* (298) =2.15, *p*<.05.

1.5.4.2. Personality correlates. Various studies have looked at what personality characteristics are associated with psychological reactance, and tacitly assume that that these characteristics provide the motivation, or drive, for psychological resistance. For instance, Dowd and Wallbrown (1993)

operationalised the pattern of human motivation with the Personality Research Form (PRF), and found that highly resistant individuals tend to be aggressive, dominant, defensive, autonomous and less concerned with how they are perceived by others. Buboltz et al. (2003) correlated personality characteristics measured by the Myers Briggs Type Indicator (MBTI) with reactance, and found a significant relationship with an interaction effect: 'thinkers' were more resistant than 'feelers' and within the former category 'intuitive-thinkers' were more resistant than 'sensing-thinkers.' Similar results can be found in Table 8.

These studies suggest that certain aspects of personality character motivate resistance. Moreover, Siebel and Dowd (2001) showed that the relevance of personality characteristics to resistance can generalise to a clinical personality disorder population, Frank (1998) showed that these trends hold in adolescents as well as adults and Seibel and Dowd (1999) demonstrated that these findings could be replicated using behavioural rather than cognitive measures.

However, there are numerous issues that need to be addressed with these studies. The majority of studies were carried out on an undergraduate population and the information from this sample was used to draw inferences about a clinical population. This may not necessarily be valid. Some studies use clinical samples thereby overcoming this problem, although one such study relates specifically to adolescents (Frank et al., 1998) and another is hampered by a small sample (Siebel & Dowd, 2001). Secondly, Arnow et al. (2003) investigated the correlation between chronic depression and reactance and results showed the opposite pattern of what they had hypothesised: reactance positively predicted treatment outcome for chronically depressed patients undergoing a cognitive-behavioural analysis system of psychotherapy. This suggests that in some instances increased reactance may be conducive to mental health, which contradicts findings discussed in 1.8.2.

Thirdly, different types of personality measures have been used in different studies and have never been tested together. Therefore it could be argued that we do not know the extent to which personality characteristics are actually accounting for the same variation, meaning that different personality characteristics do not have a unique relationship with resistance. If so, new

studies may not actually be expanding upon, but replicating, previous knowledge. However, this criticism may be invalid. Buboltz et al. (2003) highlight the fact that evidence in the literature for trait-like aspects of reactance is promising but limited, signifying the need to continue to identify and clarify the nature of the construct by investigating how it relates to other variables. Both they and Dowd and Wallbrown (1993) argue that this methodology is in line with that proposed by Cronbach and Meehl (1955), who assert that one way to establish construct validity is to establish that construct's 'nomological network,' i.e. 'how a newer construct relates to other established constructs' (Dowd & Wallbrown, 1993, p.533).

1.5.5. Summary. This overview suggests that, from an ACT perspective, the distinction between reactance and resistance is less clear, although the literature generally sees reactance as a form of resistance anyway. Findings which show reactance to correlate with poorer treatment outcomes and psychosocial health validate this view. Exploring reactance as both intrapsychic and interpersonal is valid, although applying a stress-diathesis model may facilitate exploration of the interactions between these two understandings. Developmental and personality correlates of reactance have also been found, which grounds it within other concepts and enriches understanding. Limitations of this research are also noted.

Regarding the current study, the major limitation of the reactance literature is that its postulated function has not yet been tested. This is, reactance is driven by a desire for autonomy. This cardinal element of reactance theory remains implicitly assumed. This matter is addressed by the current study, which measures reactance within an ACT context. ACT predicts that reactance will be used to defend a rigid self concept under conditions of psychological inflexibility, and used to pursue valued goals for those with flexible self concepts under conditions of high psychological flexibility. Therefore, it hopes to contribute to the reactance literature as well as ACT.

Table 8: Correlates of reactance and resistance research – findings.

Key:

Measures of resistance used:

QMPR=Questionnaire Measuring Personal Resistance

TRS=Therapeutic Reactance Scale

TRS-A=Therapeutic Reactance Scale-Adolescent Version

Measures of personality used:

CPI-R= California Psychological Inventory-Revised

M-BTI= Myers-Briggs Type Indicator

MMPI-A= Minnesota Multiphasic Personality Inventory-Adolescent version

PRF= Personality Research Form

Other measures used:

FES= Family Environment Scale

HAMD=Hamilton Rating Scale for Depression

PAFSQ= Personal Authority in the Family System Questionnaire

WAI=Working Alliance Inventory

(Table continues over next two pages)

Study	Population	Design	Measures	Correlates of reactance	Other findings
Johnson and Buboltz, 2000	College Students (n=279)	Regression	PAFSQ, TRS, QMPR	Levels of individuation from family-of-origin, peer intimacy and peer individuation predict the development of psychological reactance	
Dowd and Wallbrown, 1993	Undergraduate students (n=251)	Regression	TRS, QMPR, PRF	Aggressive, dominant, defensive, quick to take offence, and autonomous personality variables correlate with high psychological reactance	TRS a 'tighter measure' of reactance than QMPR
Siebel and Dowd, 2001	Axis II Personality Disorders (PD) (n=80)	ANOVA	TRS, QMPR	Personality Disorders (PDs) related to fear of separation correspond to low reactance, PDs related to fear of engulfment (or vacillation between fear of separation and fear of engulfment) correspond to high reactance	Individuals without a PD diagnosis showed moderate, indicating a balance between separation and engulfment issues
Buboltz et al., 2003	Undergraduate students (n=285)	ANOVA	M-BTI, TRS	'Thinker' personality types more reactant than 'feelers', 'Intuitive-thinkers' personality type interaction more reactant than 'sensing-thinker' interaction	
Buboltz, Johnson and Woller, 2003	Undergraduate students (n=311)	Regression	FES, TRS	Family relationship variables (expressed conflict, family cohesion), personal growth variables (achievement orientation, independence, moral-religious emphasis) and family break-up predict the development of psychological reactance	
Seibel and Dowd (1999)	Psychotherapy client-therapist dyads (*n*=90)	Regression, factor analysis	Therapist/client improvement rating, TRS,	Reactance is negatively associated with global improvement, positively with premature termination and not related with medication compliance. Reactance is associated with resistant in-session behaviours	

Frank et al.(1998)	Study 1: 76 inpatients, aged 12-18	Regression	TRS-A, MMPI-A	Relationships between reactance and personality are similar for adolescents as they are for adults. Significant differences between male and female reactance profiles	Reactance predicts therapeutic change in middle but not early adolescence.
Dowd, Wallbrown, Sanders & Yesenosky (1994)	Undergraduate students (n=326)	Regression	CPI-R, TRS, QMPR	Reactant individual characterised by lack of interest in making a good impression on others, being somewhat careless about meeting obligations, less tolerant of other's beliefs, resisting rules and regulations, more concerned about problems and the future, more inclined to express strong emotions.	Correlation between reactance and concerns about problems and future not found in women. Reactant women more decisive, sociable and self-assured than non-reactant women.
Arnow et al. (2003)	Patients with chronic depression (*n*=347)	Factor Analysis, multiple regression	Structured clinical interview for DSM-IV, HAMD, TRS, WAI	Reactance positively predicted treatment outcome for those undergoing CBT on 2 of 4 scales.	Quality of therapeutic alliance positively correlated with outcome, reactance not correlated with therapeutic alliance. Reactance did not predict outcome in medication alone or in combination with CBT groups.

1.6. Identity literature relating to ACT

ACT hypothesises that fusion to a maladaptive self-as-content a) provides a sense of comfort that a client may be unwilling to give up, b) will vary from person to person and have different consequences depending on this variation. Literature outside ACT relates to both of these claims, and they will now be considered in turn.

1.6.1. Self-continuity provides a sense of security. ACT's position implies self-esteem is not the only motive in identity construction, as it can be forfeited by clients who defend the continuity of a self-concept that does them harm. Vignoles, Regalia, Manzi, Golledge and Scabini (2006) used multilevel regression analysis to explore this possibility. They found that people perceive as central to their identity those aspects of themselves that provide a greater sense of self-esteem, continuity, distinctiveness and meaning. Secondly, they found people were happiest with those aspects of themselves that best satisfied motives for self-esteem and efficacy. These results were replicated at individual, relational and group levels of identity.

These findings suggest that a person may not be happy with an aspect of themselves, but still think of it as central to their self-as-content because it provides a sense of self-continuity. Relating this to the current study, this supports the ACT position that therapeutic change (which presumably would increase happiness) can be forfeited to protect self-as-content, as it fulfils motives other than self-esteem.

1.6.2. Individual differences in attachment to self-as-content results in different consequences. Previous research from a social-cognitive perspective indirectly supports ACT's hypotheses in this area. Dweck (1999) and colleagues have found that people tend to implicitly hold one of two theories about the self, despite neither having been formally taught. These theories conceptually map onto self-as-content and the observer self. The first is 'entity' theory, which corresponds to fusion with self-as-content. Entity theorists hold that who one is is fixed. They portray the self as an entity that dwells within us, that cannot be changed. This essence is innate, biological or 'God given.' Entity theorists tend to seek confirmatory evidence

for a positive self-concept, and avoid or find it hard to deal with evidence for a negative self-concept (such as failure, setbacks or criticism).

The second type of self-theorists are labelled 'incrementalists,' or more recently 'growth-based' theorists, which corresponds to de-fusion from self-as-content. Incrementalists believe that the self is fluid, subject to cultivation and development. It is not so much of a 'thing,' but more akin to a process. One's self can be positively changed through one's efforts, so that who one is now will not necessarily be who one is in the future (in a conceptualised sense). For incrementalists, difficulties, setbacks and failures are potential sources of learning, development and self-improvement. Dweck's (1999; p.4) statement that, for incrementalists, "errors are routes to mastery" echoes the ACT principle that aversive events provide "an opportunity…through suffering…to learn something" (Hayes et al., 2003; p.79).

The most pertinent findings for the current study come from Zhao, Mueller and Dweck (1998). They found that entity theorists who were not depressed (as measured by the BDI) reacted to failure in the same way as a group who were depressed. Comparing to incremental-theorists, both depressed and entity-theorist groups were more likely to see failure as a measure of the self, had a more extreme negative reaction to it, and were more likely to let these feelings govern their behaviour (e.g. quitting a difficult task). Incremental-theorists, on the other hand, were more likely to persist in value-led behaviour despite their negative emotions. This is despite the fact they were equally non-depressed than the entity-theorist group. If endorsement of an entity self-theory is equivalent to fusion with a conceptualised sense of self, this help corroborate ACT's findings that greater fusion leads to greater negative affect when presented with aversive stimuli, and decreased propensity to think about it or take seriously (Healy et al., 2008).

1.6.3. Summary. In sum, belief in self as a fixed entity (an essential aspect of self-as-content) correlates with self-validation and psychopathology, phenomena that ACT links to fusion with self-as-content. Belief that the self is a changeable entity (a necessary facet of de-fusion from self-as-content) correlates with goal-driven action and predicts the absence of psychopathology. Therefore, self-theory research appears consistent with ACT, and the concepts of fixed and flexible self-theories

map on to rigid and flexible sense of self-as-content. If so, they provide an opportunity to empirically test ACT's hypotheses regarding the self. The current study seeks to take up this opportunity and build on it, by seeing if rigidity of self-concept correlates with defensiveness in the way proposed by Hayes and Gregg (2000).

1.7. Distinguishing between identity and personality. Identity and personality need to be distinguished for the ACT approach to be clear. The field of identity is large and confusing (Lewis, 1992), therefore it can only hope be hoped to make this distinction for the purposes of the current study, without claiming it to be a more objective clarification of the literature.

Fonagy and Higget (1984) acknowledge the lack of consensus within the literature when defining personality. They provide a three-fold definition in which these debates can be framed. For them, personality is defined as a) the most enduring characteristics of behaviour that facilitate a person being recognised as distinct from others, b) how these behavioural characteristics are internally organised so that they combine into a 'whole person' and c) how this internal organisation of characteristics interacts with the external world. For the purposes of the current study, identity can be defined as what gives someone the sense of being the same person over time (see Perry, 2008). Rather than personality's emphasis on what makes a person distinctive, identity is concerned with what makes them continuous.

It is natural for the problem of self-continuity, with which identity is concerned, to arise from personality: enduring characteristics provide a sense of being the same person over time. Although this is common sense, philosophers have found it to be an unsuitable criterion for identity (Parfit, 1984; Perry, 2008). Moreover, cross-cultural research have found it to be a culture-specific means of conceiving identity continuity (e.g. Chandler, Lalonde, Sokol, & Hallett, 2003).

ACT suggests that endorsing personality (which may fall under its notion of self-as-content) as the only means of identity continuity can lead to therapeutic resistance and psychological inflexibility. It suggests an alternative means of establishing identity continuity which is independent of personality. This will be returned to in a

discussion of ‘self-as-context.’ Thus, the ACT position on the self rests strongly on the ability to distinguish between personality and identity.

Extended Method

2.1 Participants

2.1.1. Sample Size. According to Stevens (1999), sufficient power is achieved with a ‘large’ sample size. Pallant (2005) suggests that at least 100 participants represents a large sample, assuming there is not an excessive amount of independent variables. A minimum sample size of 100 has been used in comparable studies into identity (e.g. Vignoles, 2010). Therefore, a sample size of 120 was targeted. However, Tabachnick and Fidell (2001) suggest this may not be an adequate sample size for factor analysis, 200 being ‘fair’ and 300 ‘good.’ Therefore, although a factor analysis was carried out on the Therapeutic Reactance Scale its results should be treated with extreme caution.

2.1.2. Demographics. Age, ethnicity and religious categories were derived from those used by the Office for National Statistics [ONS] (2008). This was in order to compare the current sample with the demographic distribution of the UK. The information gained would help inform matters of generalisability. As Grove (2005) recommends, data describing the sample should be gathered in order to evaluate for possible biases and to contrast with other samples. In order to aid such exploration, each demographic question utilised answer options derived from categories in official UK government demographic research (ONS, 2008). Additionally, participants were given the option to not respond to demographic questions if they did not wish to, so that they could maintain privacy if they wished.

Beliefs surrounding identity and mental health have been found to vary across generations and cultures (Kirmayer, 2007). The effect of gender on psychological reactance is an established finding within the literature (e.g. Dowd et al., 1994). Therefore gender, age, ethnicity, religion and country of birth were all considered suitable demographics to measure.

2.1.3. Inclusion criteria.

- Aged over 18 years. The study was aimed at an adult population, and it was thought that recruiting participants under 18 might introduce variables not accounted for by the study design. Research has shown that therapeutic reactance, for instance, correlates with certain developmental factors (Johnson & Buboltz, 2000).
- Ability to read English. Participants will be asked to complete a tick-box questionnaire, the questions and answer options will be in English. Therefore this ability is necessary for participants to accurately communicate the information being sought.
- Ability to give informed consent, as this is an ethical requirement for those participating in research (Royal College of Nursing [RCN], 2005).
- Access to the Internet, as the questionnaire was online. In theory, a population with Internet access may provide significantly different data from a postal-accessed population, although Ritter et al. (2004) compared a convenience sample of internet vs. mailed participation. The two groups showed no significant differences in response or reliability.

In order to assess the inclusion criteria, potential participants had to read an introductory page containing some brief information about the questionnaire and the options of confirming they were over eighteen and that they gave informed consent to take part, by ticking the appropriate boxes. Without confirming these options the questionnaire could not be accessed. It was assumed that by ticking the boxes participants were aware that they had given informed consent and were over eighteen. By being able to navigate this introductory page successfully, it was also assumed that participants had the ability to read English that was required to complete the main questionnaire.

2.1.4. Exclusion criteria

- Knowledge of the hypotheses being studied, as expectations of results based on this knowledge may serve to distort the responses given (North et al., 1999).
- Although not excluded from participation on an *a priori* basis, participants will be asked if they have ever trained or worked in clinical psychology. If this has a significant influence on results, it will be accounted for in the analysis.

In order to uphold the first exclusion criteria, individuals who had knowledge of the hypotheses being tested were not asked to participate. Additionally, a condition was written into the email, asking those who had knowledge of the study to not participate. Therefore, in these cases the exclusion criteria was relied upon to be upheld by the potential participants themselves.

To uphold the second exclusion criteria, as part of the questionnaire all participants were asked whether they had ever studied clinical psychology. This allowed them to then be excluded from further analysis if a t-test revealed they gave significantly different responses to the non-clinical psychology group. Analysis revealed that there was no significant difference between the psychology and non—psychology group. This was an important finding, as a significant result would have had repercussions for the previous research on which this study was based, as a large proportion of it relies upon data provided by psychology students (e.g. Dowd & Wallbrown, 2001).

2.2. Procedure

The procedure for the current study is summarized in Figure 4, conceptual stages indicated by the dashed boxes. Demographic questions and measures were compiled. Precise demographic questions and scale items can be found in the appendices. Details of the scales are provided in the journal paper and below. The three scales were placed with the longest (Therapeutic Reactance Scale (TRS), 28 items) in the middle, forming the main body of the questionnaire. Implicit Self Theory came before, and the Acceptance and Action Questionnaire-II was placed after. Precise details of the order, structure and content of the questionnaire may be found by consulting a copy of it in Appendix B.

A draft questionnaire was designed at www.surveymonkey.com, and then circulated to Kerry Beckley (clinical supervisor) and Roshan das Nair (research supervisor). A welcome page was constructed, with contact details, information, informed consent and age verification. Wording of demographic items was made more friendly and inviting. Items from the three scales were made compulsory, to reduce the risk of missing data. A copy of this questionnaire, the research proposal and other supporting documentation was then submitted to the Institute for Work, Health and

Organisations (I-WHO), University of Nottingham, Ethics Committee. These were found appropriate and ethical approval was granted. A poster was subsequently constructed to publicise the study and submitted to the Ethics Committee as an amendment. After minor corrections this was also approved. Detail of the poster, the questionnaire, informed consent and letters from the ethics committee approving these issues are provided in appendices D, B, B and E respectively.

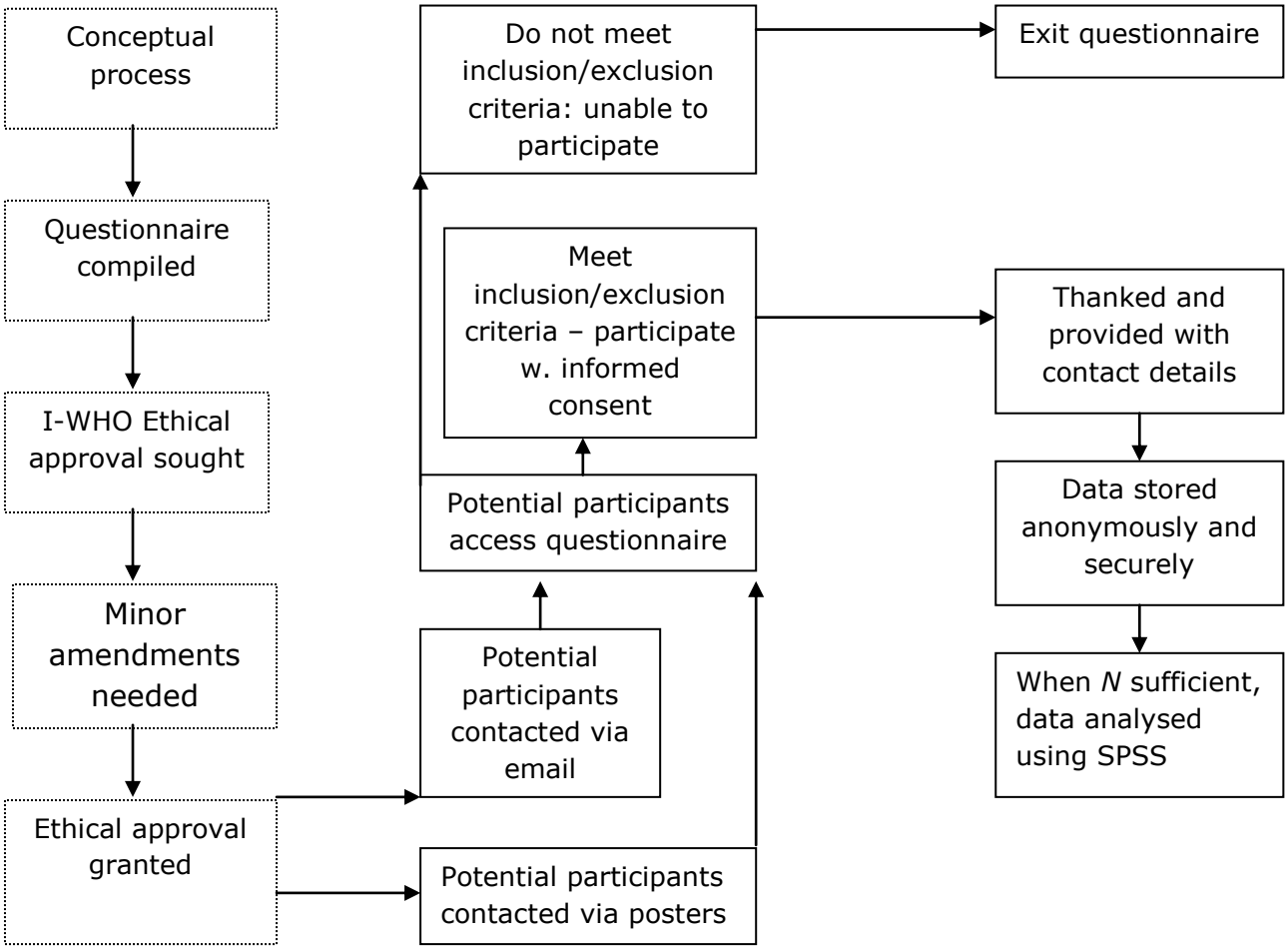

Figure 4. Procedure of study

When ethical approval for the study was granted, the questionnaire was then disseminated to potential participants through the means described in the journal paper. Contacted participants were asked to forward details of the study to potential participants unknown to the researchers. This snowballing technique was designed to access more participants, but also increase their heterogeneity. It was reasoned

that increasing heterogeneity should reduce bias. Lopes, Rodrigues and Sichieri (1996) have shown that this method leads to a lack of selection bias.

If participants did not confirm that they were over 18 and gave their informed consent they were unable to participate. Once participants had completed the questionnaire they were thanked for their time. Contact details were provided twice (at beginning or completion in the questionnaire) so that participants could ask the research team for further information or a copy of the results.

Responses were held on a secure, password-protected, online database at surveymonkey.com. All information was held anonymously, and could not be traced back to individual participants. When a sufficient amount of responses had been collected (which was calculated to be over 120), data was downloaded from the website in the form of an Excel spreadsheet. This spreadsheet was then converted into a database using the statistical software package SPSS 16. SPSS 16 was then used to analyse the data appropriately for the research question. Details and outcomes of this analysis can be found in the results section of the journal article and Section 3 of the extended paper.

2.3 Ethical considerations

Ethical approval for this study, after the amendments for the publicity poster had been made, was granted by the I-WHO Ethics Committee Review, at the University of Nottingham, on 26.07.201 0. A copy of the ethical approval letter can be found in Appendix E, and supporting documentation is located in Appendices B, C and D.

2.3.1. Informed consent. Informed consent was necessary for participation to be ethical (RCN, 2005). This matter could have presented a difficulty if the questionnaire was openly accessible on the internet. Such public open access would provide no way of guaranteeing that participants had given their informed consent. To overcome this difficulty it was compulsory for a statement of informed consent to be agreed to for the questionnaire to be accessed. By doing so, efforts were made to deal with this potential limitation, although it cannot be guaranteed completely, as there was no means of verifying that the appropriate boxes were ticked correctly.

On the introductory ‘Welcome’ page potential participants were thanked for considering taking part, and that the study was part of a Doctorate in Clinical Psychology from the University of Nottingham. It was explained that the questionnaire would ask for their views on a range of topics, particularly how they feel about themselves (referring to the Implicit Self-Theory and AAQ-II scales) and how they tend to behave when in specific situations (the nature of the TRS). Following the protocol of other research into identity (e.g. Vignoles, 2010) they were guided to not agonise over the ‘correct’ answer but go with initial reactions. It was stated that the questionnaire would take less than 10 minutes to complete (verified by distribution amongst research supervisors).

A necessary design of the study was for participants to remain unaware of the specific hypotheses. For instance, Dweck (1999) cites similar studies in which the Implicit Self-Theory measure has no rubric or title. Therefore information had to be brief enough to allow this, but enough to meet the standards of informed consent set by the I-WHO Ethics Committee. To compensate for this brevity of information, contact email addresses were provided, explaining that the research team would be happy to answer any further questions a potential participant may have before they provide their consent. By taking these measures, the issue of informed consent was deemed to have been met by the I-WHO Ethics Committee.

2.3.2. Risks, burdens and benefits. Risks to the participants were the distress that may have been aroused by answering emotionally pertinent questions. In order to address this they were reminded of their right to withdraw from the study at any time and were provided with the contact details of the researchers, both before and after the questionnaire.

A benefit for participants was an opportunity to take part in research that was designed to contribute to the field of clinical psychology, and to learn of its results if they wished. The questions provided an opportunity for self-reflection and thought that may not otherwise have been available.

Participants were burdened by the amount of time needed to complete the questionnaire, which had been estimated to be less than 10 minutes. Efforts were made to make the participation process as easy as possible, providing enough

information for informed consent but not too much as to be overly time consuming, attempting to make the questionnaire welcoming and user-friendly and providing a web address within invitational emails that could be clicked on to take the recipient straight to the questionnaire.

2.4 Measures

2.4.1.1. - 'Kind of Person' Implicit Theory – 'Self' Form For Adults. Heslin, Latham and Vandewalle (2005) found the internal consistency of this scale to be high (α=.94). Stroessner, Levy & Dweck (1998) found high across-item reliability (Cronbach's α = .90). The current measure has replaced a three-item scale that only measured entity theory. There was found to be a correlation between these items and the newer incremental items of between -.69 and -.86, which is consistent with the assumption that endorsement of entity theory is inconsistent with endorsement of incremental theory (Dweck, 1999).

Dweck, Chiu & Hong (1995) found that the self theory measure was related to other implicit theory measures in a conceptually meaningful way, but was not correlated to lay theories about the fixity v. malleability of the world (e.g. item: 'our world has basic or ingrained dispositions, and you can't really change them.'). This suggests that an acquiescence set is not a problem in when assessing lay theories overall. The measure was found to be independent of participant's age and gender. Regarding construct validity, the measure was not confounded by self-presentation concerns (measured by the Snyder (1974) Self-Monitoring Scale and Paulhus (1984) Social Desirability Scale). Discriminant validity was apparent through a lack of correlation with cognitive ability (Scholastic Aptitude Test scores), confidence in intellectual ability, self-esteem, optimism regarding the world or other people and social-political attitudes (i.e., right-wing authoritarianism, political conservatism, political liberalism). However, the self theory measure was not tested against locus of control subscales, although other implicit theory measures were. A criticism of Dweck et al.'s (1995) investigations into validity is that they do not explore ecological validity, restricting their concerns to pencil-and-paper studies. Dweck (2000) summarises that self theories represent assumptions about the self that have behavioural, motivational, emotional and cognitive consequences, but that they are distinct from other cognitive and motivational constructs.

The use of the term ‘implicit’ in the title of this measure is in need of clarification. Firstly, it does not seem that the measure fits the definition of being an implicit measure. De However, Teige-Mocigemba, Spruyt and Moors (2009, p.350) define implicit measures as those where the outcome is “causally produced by the to-be-measured attribute in the absence of certain goals, awareness, substantial cognitive resources, or substantial time.” Dweck’s (2000) measure, in contrast, is a pen-and-paper based, taking the form of what are usually referred to as explicit measures. It relies upon the participant being able to gain access to their psychological tendencies through conscious introspection, which cannot pick up information which the participant is unconscious of (Roefs et al., 2011). Therefore Dweck’s (2000) measure appears to be better defined as explicit rather than implicit, despite its title.

However, it is important to remember that a measure being implicit is not an all or none category, but one into which measures may fit to greater or lesser degrees (Roefs et al., 2011). Roefs et al. (2011) go on to specify that one aspect of the term ‘implicit’ refers to the sense in which a person is unaware of the origin of the association or does not control the process which leads to the outcome that is being measured. This appears to be the sense of ‘implicit’ to which Dweck (2000) refers in her measure. She asserts that she uses the term based upon George Kelly’s personal construct theory, whereby a person holds idiosyncratic and deep-seated assumptions about themselves and the world with no knowledge of how they acquired them, and having never been formally taught them. Therefore although the measure being used appears to be explicit, it seeks to tap into a construct that, from a Kellyian perspective, is traditionally referred to as implicit. In sum, it appears that the current measure cannot be defined as implicit, but that its use of the word implicit refers to the type of belief which it purports to measure.

2.4.1.2. Justification. This measure was used because it provides a possible means of linking the senses of self used in ACT to the wider literature, and investigating how they relate to psychological flexibility. Theoretically, a strong self-as-content fosters an entity theory of the self. It refers to a sense of self that is bound to a certain self-image, concept or belief that one is fused to (Luoma et al., 2006). Therefore it is strongly held, not easily subject to change over time, an attitude which should be reflected by an entity implicit theory of the self: fundamentally, one stays

the same over time. Conversely, a strong sense of observing self entails a flexible theory of the self. An observing self refers to a sense of self that arises from being aware of oneself in the present moment (Luoma et al., 2006). As the circumstances of the present moment are in perpetual flux, motion and evolution (Chandler et al., 2003), this should support a sense of self that is more fluid, open, flexible and contingent on present circumstances. These characteristics would chime with a flexible self-theory: one is capable of fundamental change over time (Dweck, 1999).

Moreover, using this measure is justified as it quantifies, within a self-report format, two concepts that have been subject to a large body of varied and wide-ranging research. Other measures of these concepts have either been qualitative (e.g. Verkuyten, 2005), more time-consuming thus compromising ability to reach requisite sample size (e.g. Chandler et al., 2003), focused on group rather than individual identity (e.g. Sani & Bowe, in press), or concentrated on entity theory alone, without an incremental counterpart (Rothi, Lyons & Chryssochoou, 2005). Moreover, Zhao, Mueller and Dweck (unpublished manuscript, cited in Dweck 1999) have shown that the current measures predict self-esteem loss and depressive reactions to negative events, implicating their potential relevance to clinical psychology and therapy in a way that other measures have not (e.g. Pehrson, Brown & Zagefka, 2009). The hypothesized relationships between SX, SC and psychological flexibility have not been empirically tested, and the current measure provides a unique opportunity to do so.

2.4.2.1 Therapeutic Reactance Scale. Dowd et al. (1991) report convergent validity established by correlating TRS scores with the Minnesota Multiphasic Personality Inventory (MMPI) K-scale (negative correlation of -.27, $p<.005$) and the Rotter External Locus of Control Scale (correlation with internality of .35, $p<.0005$). As well as correlations with overall TRS scores, the 'behavioural' factor appeared to have stronger correlations than the 'verbal' factor. Qualitatively, these findings suggest high TRS scores relate to a lessened desire to impress or be socially appropriate.

Divergent validity was supposedly established with a lack of correlation between the TRS and Counselor Rating Form-Short, the State Trait Anxiety Inventory (STAI) ($p=.11$ for State, $p=.06$ for Trait) and the Beck Depression Inventory (BDI) ($p=.11$).

However, considering the arbitrary nature of the $p<.05$ cut-off (Field, 2009), it is rather dubious to judge the Trait aspect of the STAI as wholly unrelated. Moreover, there was a significant correlation between the Counselor Attractiveness subscale and the behavioural reactance subscale ($r=.21$, $p<.05$) on the Counselor Rating Form-Short.

Construct validity was also reported in relation to directive therapeutic interventions and counseling supervision. Beutler, Moleiro and Talebi (2002; p.212) report that the TRS provides "predictive validity on the differential efficacy of directive and nondirective treatment." Beutler et al. (2002) conclude that the TRS is the best known-measure of resistant traits currently used in psychological research, and it is designed to reflect cross-situational traits rather than only situational states.

2.4.2.2. Justification. Beutler et al. (2002) conclude that the TRS is the best known-measure of resistant traits currently used in psychological research, and it is designed to reflect cross-situational traits rather than only situational states. Further to this, reactance is regarded as a mechanism for preserving one's sense of self (Dowd & Siebel, 1990). These reasons made it better suited to a study regarding people's longstanding sense of self.

The Questionnaire for Measuring Psychological Reactance (QMPR; Merz, 1983) was originally a German-language predecessor of the TRS, which has been translated into English. It has a single factor solution, with Dowd, Wallbrown, Sanders and Yesenosky finding a .53 correlation with the TRS. It is no longer as widely used as the TRS in current research; therefore it appeared more appropriate to use the latter in this study. The other specific measure of trait-like resistance (Systematic Treatment Selection Clinician Rating Form, STS-CRF, Fisher, Beutler & Williams, 1999) was for clinicians to fill in rather than self-report, which was not appropriate for the context of the current project.

Beutler et al. (2002) suggest another approach was to use a mixture of subscales drawn from various multidimensional personality tests whose content suggests they measure resistant traits. However, this approach seems more speculative, less coherent and without a surrounding research context to which this study could relate, therefore the TRS seemed more apt.

2.4.3.1. Acceptance and Action Questionnaire – II (AAQ-II). Bond et al. (submitted) established the AAQ-II's psychometric properties across a total of 3,280 participants from seven samples. The mean score for university students and community samples was 50.72 (SD=9.19), and for a sample seeking treatment for substance misuse it was 39.80 (SD=12.55). The mean alpha coefficient across the seven samples was .83 (.76 – .87). Factor analyses derived a single factor solution.

Bond et al. (submitted) then used data from 2, 816 participants across six samples to investigate the concurrent, predictive, discriminant and convergent validities of the AAQ-II. For the measure to have concurrent and predictive validities, low psychological flexibility should relate to greater emotional distress and poorer life functioning. Data supported this prediction, with low psychological flexibility being associated with depressive symptoms (using the Beck Depression Inventory-II and Depression Anxiety Stress Scales (DASS)), anxiety symptoms (Beck Anxiety Inventory, DASS), stress (DASS) and overall psychological ill-health (General Health Questionnaire-12 (GHQ) and Global Severity Index of the Symptom Checklist-90-Revised). Statistically significant variations between samples negated the possibility of common method variance explaining these results, rather than predictive validity. Furthermore, low psychological flexibility predicted greater psychological distress (GHQ) one year later, and more incidences of absence from work over that year, lower sales figures and less ability to learn a new computer software system (using absentee records rather than self-report). Using both objective behavioural and self-report measures further undermined a common method variance alternative explanation.

Regarding convergent validity, the AAQ-II was expected to correlate with measures of thought suppression (White Bear Suppression Inventory), but not so highly as to suggest they measure the same construct. Data suggested this to be the case, as well as evidencing divergent validity in that the AAQ-II was not significantly associated with social desirability. This suggests that participants did not feel compelled to answer the AA-II in a culturally acceptable or appropriate manner. Moreover, the AAQ-II was not associated with age, gender or ethnicity. It did correlate highly with its predecessor the AAQ-I (correlation of .97), suggesting they measure the same construct.

2.4.3.2. Justification. The AAQ-II was used because it was specifically designed to measure psychological flexibility, an understanding of mental health and its psychological treatment employed within ACT (Luoma et al., 2006). The only other measure of this construct, the Acceptance and Action Questionnaire-I (AAQ-II) (Hayes et al., 2004), had insufficient alpha levels, the reasons for which have been addressed by the AAQ-II. Thus, Bond et al. (submitted) recommend that using the AAQ-II is psychometrically 'safer.' However, as this measure is so new it has not been verified by researchers other than those responsible for developing it. As it becomes a more widely used tool Bond et al.'s (submitted) psychometric findings need to be replicated in order for its properties to become more well-established.

Extended Results

3.1 Descriptives and assumptions of normality

Z-scores for kurtosis and skew suggested that the assumption of normal distribution on each of the three variable scales was met (Self-theory: skew = 0.88 kurtosis = 0.35; Reactance: skew = 0.36, kurtosis = 1.01; Psychological Flexibility: skew = 0.04; kurtosis = 1.04), as did non-significant Shapiro-Wilk tests of normality. The Kolmogorov-Smirnov scores, however, were significant ($p<.05$) for implicit self-theory and psychological flexibility, suggesting a non-normal distribution. Pallant (2005) suggests that it is common for Kolmogorov-Smirov to report Type I errors for larger samples. Considering that the normal curve of the histograms suggested a normal distribution, along with the other indicators described, it was assessed that the assumption of normality was met. Descriptive statistics for each variable are provided in Table 9 overleaf.

Table 9: Descriptive statistics for three scales used.

Construct	N	Min.	Max.	Mean	Std. Deviation	Z-score Skew	Z-score kurtosis	Kolmogov-Smirnov	Shapiro-Wilk
Experiential Avoidance	172	29	68	48.56	7.77	0.04	1.04	.001	.13
Sense of Self	172	8	45	28.84	7.32	0.88	0.35	.06	.36
Reactance	172	51	86	68.52	6.39	0.36	1.01	.04	.52

3.2 Grouping variables

3.2.1. Sense of Self. Dweck (1995) and Levy, Stroessner and Dweck (1998) suggest two methods for creating categorical fixed v. flexible groupings from the continuous implicit self-theory measure: a) a median split and b) removing scores which lie 0.5 points or less above and below the mean. Method b) was found to be unsuitable for the current study. Dweck (1995) found this technique to remove only 10-15% of the sample. However, this technique removed 74 (43%) of the current sample, which had two unwanted consequences. It reduced power to below the intended level and, by systemic exclusion of a targeted segment of participants, produced an artificial representation of the sample. Therefore this method was not used.

Regarding method a), two reasons made it unsuitable for the current study. Firstly, median split techniques have received much criticism for falsely dichotomising continuous variables (e.g. Field, 2009), as they can inaccurately reflect differences between groups that are not naturally present. Secondly, the median split technique was used for research without a clinical focus (e.g. Levy et al., 1998), whereas the current study is clinically oriented. Clinical psychology tends to focus on more extreme cases of normally distributed phenomena (e.g. depression, obsessive-compulsive disorder, social phobia). Median split technique 'washes out' these more extreme points by grouping them with that half of the normal curve.

Therefore a more appropriate technique for grouping the implicit self-theory variable was to create three groups, divided by +/- 1 standard deviation from the mean. This grouping technique had three major advantages: a) it better reflected a normal distribution, b) supported a clinical focus c) retained the full sample. The three groups created were Fixed (n=30), Mixed (118) and Flexible (24) senses of self.

3.2.2 Experiential Avoidance. The same technique was used for creating experiential avoidance groups, using the same rationale. The three groups created were Low (27), Moderate (117) and High (28) Experiential Avoidance.

3.3 Correlational Analysis

Age and gender have been found to be relevant variables in relation to reactance. Therefore a Pearson product-moment correlation was performed to assess whether their effects would be needed to be partialled out in the main analysis. Knowledge of clinical psychology and religious beliefs were also thought to be potentially relevant in these matters. As other potential co-variates, they were also included in the correlational analysis. Experiential avoidance and self-theory were included in both continuous and grouped form, as correlational analysis is primarily geared towards assessing continuous variables (Pallant, 2005), and we wanted to assess what effect grouping may have had on the relation between these variables and the others in the study. Results of the Pearson product-moment correlation are shown below. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The only correction was for age, which was negatively skewed. A log transformation was completed to meet this assumption.

Correlational analysis showed predicted correlations between overall reactance and its sub-factors, as defined by Bulboltz et al. (2003). The predicted correlations also appeared for the continuous and grouped versions of the experiential avoidance (r=.86) and self-theory (r=.87) variables, both at $p<.01$ level. Beyond these, overall reactance and gender (r=-.30), resentment of authority and gender (r=-.30), resentment of authority and grouped self-theory (r=-.21) and resentment of authority and grouped experiential avoidance (r=-.24) were all significant at $p<.01$ level. Self-theory (continuous) and knowledge of clinical psychology (r=.17), resentment of authority and Self-theory (continuous) (r=-.16), susceptibility and self-theory (grouped) (r=.17) and conflict avoidance and gender (r=-.17) correlated significantly at $p<.05$ level. No correlation between the independent variables was found, affirming their suitability for ANOVA (Pallant, 2005). The correlation between gender and the dependent variable suggested that it should be treated as a co-variate. This would be necessary to partial out its effect on the dependent variable, in order to accurately detect the impact of the independent variables. Thus, an ANCOVA was deemed the most suitable method for the main analysis.

Table 10: Pearson product-moment correlation matrix [=significant at .05 level (2-tailed), **=significant at .01 level (2-tailed)]*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	1												
2. Gender	.11	1											
3.Religiousity	-.13	-.03	1										
4.Psych. knowledge	-.02	-.12	.04	1									
5.Self (continuous)	-.05	.01	-.10	.17*	1								
6.Self (grouped)	-.07	.01	-.03	.12	.87**	1							
7.Avoidance (continuous)	.03	.08	.13	-.01	-.03	-.03	1						
8.Avoidance (grouped)	-.06	.08	.06	-.07	-.05	-.04	.86**	1					
9.Reactance	-.07	-.30**	-.11	.06	-.03	-.10	.02	-.10	1				
10.Resent Authority	.07	-.30**	-.07	.08	-.16*	-.21**	-.11	-.24**	.73**	1			
11.Susceptibility	.07	-.06	-.03	-.03	-.08	.17*	-.04	.13	.47**	.11	1		
12.Conflict avoidance	.11	-.17*	-.07	.01	-.01	.03	.05	.02	.27**	.17*	.14	1	
13.Freedom preservation	-.13	.11	-.06	-.03	-.11	-.01	-.06	-.02	.48**	.21**	.26**	-.07	1

3.4 Factor Analysis

The 28 items of the Therapeutic Reactance Scale (TRS) were subjected to principal components analysis (PCA). Prior to performing PCA the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many significant coefficients of .3 and above. The Kaiser-Meyer-Olkin value was .87, exceeding the recommended value of .6 (Kaiser, 1970, 1974). Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix.

PCA revealed the presence of ten components with eigenvalues exceeding 1, explaining 61.99% of the variance in total. Respectively, each component (in descending order) contributed the following amount: 15.01%, 8.18%, 6.89%, 6.66%, 5.59%, 4.27%, 4.17%, 3.77%, 3.75% and 3.62%. An inspection of the screeplot revealed clear breaks after the second, fifth and seventh component, suggesting that a two, five or seven-factor solution would be most appropriate. A five-factor solution appeared a promising means of striking a balance between parsimony and explanation of variance, the essential consideration of factor analysis (Tabachnick & Fidell, 2001). The results of Parallel Analysis further supported this. It showed that five components with eigenvalues exceeding the corresponding criterion value (1) would be produced for a randomly generated data matrix of equal size (172 respondents x 28 variables).

To aid the interpretation of these five components, Varimax rotation was performed. The rotation revealed a structure with cross-loading of six items. However, as these items each loaded most strongly onto one factor with values exceeding .32, they were retained (Tabachnick & Fidell, 2001). The five-component solution explained a total of 42.40% of the variance, the contribution of each respective component being 11.40%, 9.09%, 9.07%, 6.98% and 5.88%.

The interpretation of five components was inconsistent with previous factor analyses of the TRS, the original paper by Dowd et al. (1991), and a further study by Bulboltz et al. (2003). The chosen factors share some similarities with those found by Bulboltz et al. (2003). Current findings replicate their conclusion that "reactance seems at best represented as a multidimensional construct that cannot be adequately

assessed by a single dimension" (p.124), and pursues their recommendation for further research to confirm or disconfirm their findings. Bulboltz et al. (2003) advise that their findings be used with caution, as their sample (N=882) comprised of college students, who may display reactance differently to other samples. The mean reactance of this study (68.52) fell between that of Dowd et al.'s original study (66.68) and Bulboltz et al.'s (2003) factor analysis (70.7). Bulboltz (2003) explained such differences through geographical and cultural factors. As the first use of the TRS in the UK and with a non-student population, such factors may also explain the differences found in the current study. However, Tachachnick and Fidell (2001) counsel that the present sample size (172) would be at best marginally adequate for a factor analysis, 100 being 'poor,' 200 'fair' and 300 'good.' Therefore, the results of the present analysis cannot be regarded as reliable.

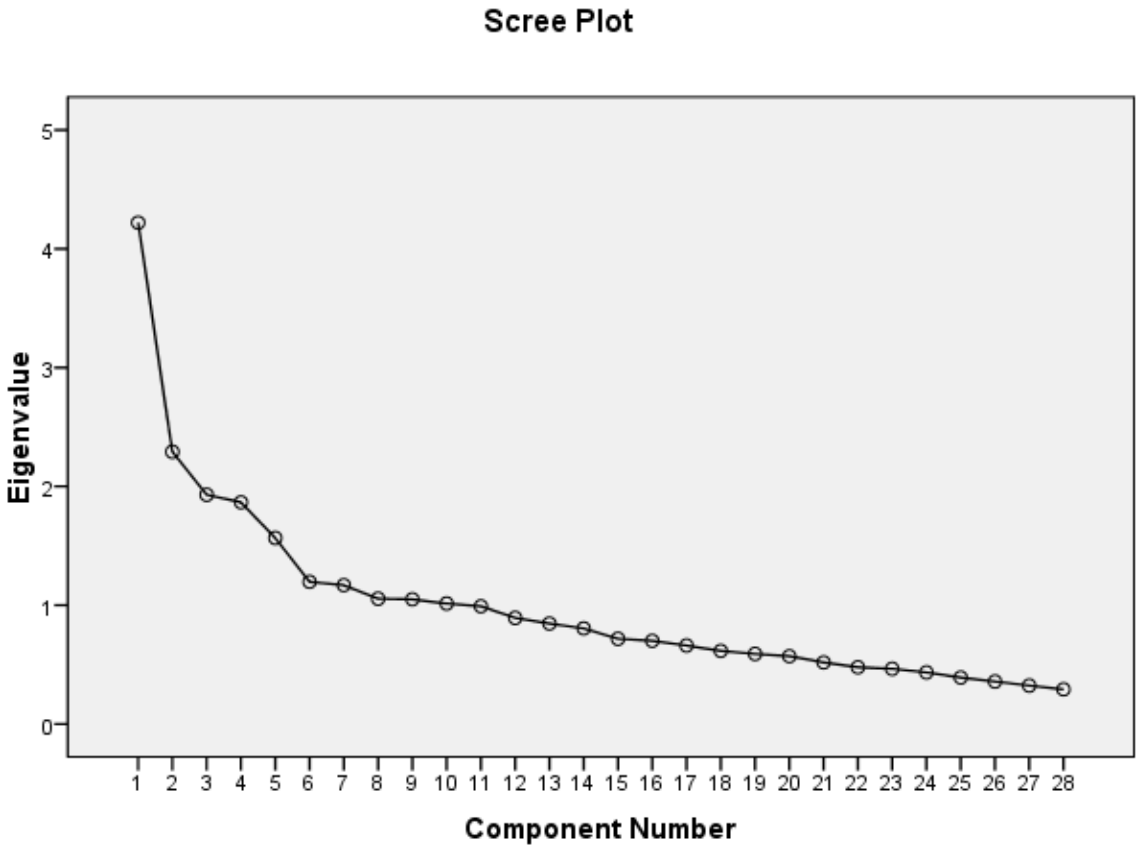

Figure 5: Scree-plot from Principal Components Analysis

Table 11: Parallel Analysis Matrix.

Component number	Actual eigenvalue from PCA	Criterion value from parallel analysis	Decision
1	4.221	1.8339	**Accept**
2	2.291	1.7111	**Accept**
3	1.929	1.6080	**Accept**
4	1.866	1.5272	**Accept**
5	1.566	1.4534	**Accept**
6	1.197	1.3907	Reject
7	1.168	1.3313	Reject
8	1.055	1.2689	Reject
9	1.050	1.2123	Reject
10	1.014	1.1627	Reject

Table 12: Unrotated Factor Loadings

Item	1	2	3	4	5	6	7	8	9	10
I find that I often have to question authority.	.716									
If I am told what to do, I often do the opposite.	.623			-.362						
I resent authority figures who try to tell me what to do.	.569					-.428				
Nothing turns me on as much as a good argument!	.548									
I enjoying playing "devil's advocate' whenever I can.	.533	-.327								-.356
It would be better to have more freedom to do what I want on a job.	.532									
I consider myself more competitive than cooperative.	.513									
I am very stubborn and set in my ways.	.513									

I enjoy seeing someone else do something that neither of us is supposed to do.	.468		-.449				
I enjoy "showing up" people who think they are right.	.419		-.344		.386		
I have a strong desire to maintain my personal freedom.	.384	-.330		.318		.337	.345
I enjoy debates with other people.		-.617					
I am not very tolerant of others' attempts to persuade me.		.549					
I am sometimes afraid to disagree with others.		-.518	.315				
If someone asks a favour of me, I will think twice about what this person is really after.		.470			.371	-.342	
I don't mind other people telling me what to do.		.401			-.362	.328	
In discussions, I am easily persuaded by others.			.648				

I often follow the suggestions of others		.648					
I usually go along with other's advice.	.360	.454					
It is important to me to be in a powerful position relative to others.			.566				
It does upset me to change my plans because someone in the group wants to do something else.	.351		.478			-.341	
It is very important for me to get along well with the people I work with.			-.475		.316	-.369	.330
It really bothers me when police officers tell people what to do.	.442		-.472				
If I receive a lukewarm dish at a restaurant, I make an attempt to let that be known.				.605		-.397	
I don't mind doing something for someone even when I don't know why I'm doing it.				.445	.336		
I am very open to solutions to my problems from others.				-.316		.592	

I feel it is better to stand up for what I believe than to be silent.		-.311	.393	.420	.409
I am relatively opinionated	.335	-.403			-.467

Table 13: Rotated Factor loading s using Varimax with Kaiser Normalisation

Item	1	2	3	4	5
If I am told what to do, I often do the opposite.	.734				
I find that I often have to question authority.	.733				
It really bothers me when police officers tell people what to do.	.664				
I resent authority figures who try to tell me what to do.	.622				
It would be better to have more freedom to do what I want on a job.	.511				
I enjoy seeing someone else do something that neither of us is supposed to do.	.417			-.381	
I have a strong desire to maintain my personal freedom.	.389		.320		.310
It does upset me to change my plans because someone in the group wants to do something else.		.658			
I don't mind other people telling me what to do.		.572			
It is important to me to be in a powerful position relative to others.		.562			.341
I am not very tolerant of others' attempts to persuade me.		.548	-		

		.337	
I consider myself more competitive than cooperative.	.540		
I am very stubborn and set in my ways.	.512		
I enjoy "showing up" people who think they are right.	.362		-.309
I enjoy debates with other people.		.672	
I am sometimes afraid to disagree with others.		.575	
I enjoying playing "devil's advocate' whenever I can.		.574	
Nothing turns me on as much as a good argument!		.550	
I am relatively opinionated		.541	
If someone asks a favour of me, I will think twice about what this person is really after.		-.353	
I often follow the suggestions of others			.658
I usually go along with other's advice.			.628
In discussions, I am easily persuaded by others.			.549

It is very important for me to get along well with the people I work with.	.344			.458	
If I receive a lukewarm dish at a restaurant, I make an attempt to let that be known.					.631
I feel it is better to stand up for what I believe than to be silent.					.511
I don't mind doing something for someone even when I don't know why I'm doing it.					.467
I am very open to solutions to my problems from others.					-.330
% of variance explained	11.40	9.09	9.07	6.98	5.88

3.5. ANCOVA assumptions

3.5.1. Unequal sample size and missing data. Data was complete for all variables except gender, for which one case was missing. This missing data was distributed randomly, and was excluded from subsequent analysis. Sample sizes in each cell varied as they were distributed naturally rather than randomly, reflecting the non-experimental nature of the study.

Tabachnick and Fidell (2001) highlight that unequal numbers of scores in factorial design lead to ambiguity regarding whether the marginal mean represents the mean of means or the mean of scores, and the total sum of squares for all effects is greater than that provided by the statistical output. Thus, tests for main effects and interactions do not remain dependent.

To overcome this difficulty, Tabachnick and Fidell (2001) suggest a first strategy to be randomised removal of cases from over-populated cells. However, this distorts the normally distributed pattern of cell population found in non-experimental research, creating an artificially homogenous inter-cell distribution that does not generalise to the wider population. Therefore, this approach was not deemed appropriate for the current study. Instead, Method 2 described by Overall and Spiegel (1969) was used, which is recommended for non-experimental studies. This recommends altering the syntax command in SPSS General Linear Model from METHOD=SSTYPE(3) to METHOD=SSTYPE(1). This adjustment weights cells with larger samples more heavily when computing marginal means and interactions, guarding against the potential hazards described.

3.5.2. Within-cell outliers. Preliminary analysis revealed that there were no outliers for the Psychological flexibility or psychological reactance variables. However, two outliers were detected at the lower-end of the implicit self-theory scale. These were indicated by the histogram and boxplot, and confirmed as genuine after checking that 8 (the outlying score) was a genuinely possible score on this scale. Inspection of the Extreme values table indicated that after the two outliers of eight, the next most extreme score was 13, after which scores sloped smoothly upwards. Tabachnick and Fidell (2001) recommend that it should first be checked whether outliers are a result of researcher error in data entry, or whether they represent a

different population from the one intended to be sampled. If so, the error should either be rectified or the cases removed from the sample. Neither researcher error nor a justification for how these cases could represent a different population could be found, therefore the third strategy was utilised. As the actual numbers of such scale scores represent what they measure in a fairly arbitrary way (Tabachnick & Fidell, 2001), scores which are distinct and removed from the range used by other cases can be corrected to one more, or less, than the second most extreme score. This way such cases still represent the most extreme viewpoints, but on a scale congruent with the rest of the sample. In line with this reasoning, the 2 implicit self-theory outlying scores were changed from 8 to 13. However, the small difference between the mean and 5% trimmed mean suggests (28.84 v. 28.90) that these outliers may have had a fairly limited influence on the data if left un-corrected (Pallant, 2005).

3.5.3. Normality. Z-scores for kurtosis and skew suggested that the assumption of normal distribution on each of the three measured variables was met, as did non-significant Shapiro-Wilk tests of normality. The Kolmogorov-Smirnov scores, however, were significant ($p<.05$) for implicit self-theory and psychological flexibility, suggesting a non-normal distribution (see Table 9). However, Pallant (2005) suggests that it is common for Kolmogorov-Smirov to report Type I errors for larger samples. Considering that the normal curve of the histograms suggested a normal distribution, along with the other indicators described, it was assessed that the assumption of normality was met.

3.5.4. Homogeneity of variance. This assumption of homogeneity of variance was met according to the Levene's test, which was non-significant.

3.5.5. Within-cell linearity. This assumption requires linearity between co-variates (in this case gender) and the dependent variable (reactance), and between co-variates if there is more than one. As "variable with two levels have only linear relationships with other variables" (Tabachnick & Fidell, 2001, p.101-102), and gender has two levels (male v. female), the assumption of linearity was met. Only one co-variate used used, therefore the assumption of non-correlation between covariates was met.

3.5.6. Homogeneity of regression. Tests of Between-Subjects Effects revealed that there was no interaction effect between the co-variate and either independent variable, when predicting the level of the dependent variable. Therefore, the assumption of homogeneity of regression was met.

3.5.7. Reliability of the co-variate. ANCOVA assumes that co-variates are reliably measured (Pallant, 2005). As gender is regarded to be a highly reliable variable to measure (Tabachnick & Fidell, 2001), this assumption was assessed to be met.

Extended discussion

The sections of this section are designed to mirror those of the journal article. The nature of these discussions means that scientific (4.3 & 4.4), ethical (4.5), theoretical (4.1. & 4.2.) and philosophical (4.5 & 4.6.) issues are discussed, with considerable overlap between them.

4.1 Context of previous research

It is difficult to explore the current findings through previous ACT literature on the subject of the self and therapeutic resistance as, beyond the main texts (e.g. Hayes et al., 1999) or conceptual papers (e.g. Hayes, 1984) not much previous research on this specific aspect of ACT exists, as far as we are aware. Hayes et al. (2006) similarly concluded that there is a dearth of research on specific ACT processes such as self-as-content/context, barring de-fusion and acceptance. Of course all six processes interrelate, as depicted in Figure 1 (Luoma et al., 2006). However, discussing the current findings from the perspective of all of these processes would be too generalised for our present purposes.

Considering these difficulties, the current findings will be discussed through previous work on this subject in other modalities. This chimes with an ACT approach, which does not regard itself as a wholly novel form of psychotherapy, but more as a crucible in which common elements of other modalities (e.g. cognitive, gestalt, behavioural, existential) are brought together and understood through common processes (Hayes et al., 2004). Furthermore, Extended Background 1.6. serves to

put the current findings into the context of previous research into implicit self-theories and identity literature, which has come to comparable conclusions.

Dowd and Siebel (1990) suggest that attempts to alter or intervene with the self-defining behaviours and cognitions of reactant clients is likely to provoke only more reactance, not therapeutic change. They state that a limited range of self-concepts restricts the client's ability to see themselves in different ways, and ability to engage in a diverse range of behaviour patterns. The importance of conceptualised selves in matters of freedom and possibility is supported by Cinnirella (1998).

This lack of internal autonomy or freedom may be externally compensated for through reactance. However, using reactance to achieve independence and autonomy from others indiscriminately may be self-defeating in a broader sense. This is exemplified, write Dowd and Siebel (1990; p.462), through "I want what I want, and not what you want, even if what you want *is* what I want" (*emphasis* added). Therefore a therapist's expressed desire to change or alter maladaptive elements of a reactant client's already vulnerable and threatened self-concept is likely to be met with opposition, rejection and an even more dogged clinging to these self-elements (Karno, Beutler & Harwood, 2002). *[For a critique of the empirical basis of these findings on reactance, see Extended Background 1.5.]*

Erikson (1968) labels these elements 'identity resistance' and illustrates them in terms of the therapeutic relationship. He suggests that a patient with a vulnerable sense of self will be fearful of the therapist imposing their own beliefs and personality within sessions, to the extent that theirs is marginalised and lost. They may then act to defend this perceived-to-be-threatened sense of self, becoming hyper-vigilant to messages of threat or domination from the therapist, and being unwilling to comply. The therapist must be aware of signs for this dynamic in the therapeutic relationship, and help bring it into conscious awareness. If not, both parties would unconsciously slip into these roles and the client's difficulties would perpetuate.

An Object Relations approach recognises that a stable self-concept provides a sense of safety and security that therapeutic change cannot (Leiper & Maltby, 2004). Individuals who repeatedly reprise the role of the 'abused spouse,' for instance, may suffer the distress inherent within such a destructive relationship, but are provided

with “a subtle sense of safety and connection that is experienced as sustaining who [they] are” (Leiper and Maltby, 2004; p.109). This, according to Personal Construct Theory, fulfils the need to predict things and anticipate future events (Dweck, 1999). Clinging on to self-as-content and maintaining the interpretations, behaviours and relationships it involves (even if these negate the possibility of alleviating distress) fulfils this deep-seated need. This theoretical work has been given empirical support through research into the motives for identity construction *[see Extended Background 1.6.1.]*

These ideas are consistent with ACT’s characterisation of self-as-content as a source of therapeutic resistance, such characteristics gaining empirical support in the current study.

4.2. Clinical implications

4.2.1. Process over content. In a similar vein to 4.1, cross-theoretical support for an emphasis of process over content can be discerned across modalities. Leiper and Maltby (2004) suggest that from a psychodynamic perspective,

> “The ability to change, to respond flexibly to life’s circumstances in adaptive and creative ways is probably a good definition of a healthy state of being. The capacity for further change becomes the goal of change in psychotherapy! (p.4)

This emphasis on flexible adaptation to the present moment can be understood in evolutionary terms, in that it allows information from the environment to be processed and transformed into thoughts/feelings/behaviours that function as solutions to presenting problems. Thus, it equates to an individual adapting and changing in accordance with what is most beneficial in the current environment, disengaging with old patterns of being that are no longer effective (Confer et al., 2010). Psychodynamic approaches emphasise the importance of process and implicit emotion over the actual events being talked about. This is especially apparent within an existentialist framework, in which all manner of emotion-laden content may as implicit processes surrounding the four existential themes of death, freedom, isolation and meaninglessness (Yalom, 1980).

The current findings suggest that these concerns are reflected in ACT's position on self-as-content, and are especially pertinent when dealing with the characteristics identified in hypothesis 1.

4.2.2. Flexibility over self-esteem. A more specific variant of the juxtaposition of process and content (4.2.1) is that of self-esteem and psychological flexibility. Pyszcynski, Greenberg, Solomon, Arndt and Schimel (2004) reviewed the theoretical and empirical literature on self-esteem. They defined it as a person's evaluation of themselves, which they are inclined to maintain as positive, and defend when threatened. Meta-analysis suggested that the most empirically supported theory of anxiety is 'terror management theory,' which explains self-esteem's function as a defensive buffer against the existential terror derived from the uniquely human awareness of mortality. Pyszcynski et al. (2004) propose that the sophisticated cognitive abilities which make us aware of death are used to construct defences against it in the form of self-esteem.

ACT proposes that when people come to therapy, these cognitive abilities are no longer functioning as an adequate defence or coping strategy, but such attempts have become part of the problem. Therefore using therapy to pursue self-esteem buys into the problem's underlying assumption that cognitive abilities – and the self-concept they construct – are also the only solution (Luoma et al., 2006). ACT's proposed alternative of psychological flexibility is not grounded on this assumption, as aversive events are experienced without defence, and valued goals committed to despite them. Therefore, there is no focus on facilitating a person's positive evaluation of a static self-concept (Pyszcynski et al.'s (2004) usual definition of self-esteem), but on external, value-based activity instead. This re-conceptualises self-esteem in dynamic, growth-based terms consistent with Rogers (1958). Instead, self-esteem is re-framed as "a positive way of experiencing yourself when you are fully engaged and are using your abilities to the utmost in pursuit of something you value" (Dweck, 2000; p.4).

It would be interesting to see how this sense of self-esteem, where the importance of the self dissolves and focus on external activity is heightened, compares to the concept of flow (Carr, 2004). The current study has found that endorsement of a flexible and dynamic, rather than positive and fixed, sense of self correlates with high

value-based action at high levels of psychological flexibility. This is more consistent with Dweck's (2000) definition of self-esteem rather than Pyszcynski et al.'s (2004) as well as the ACT model. Crocker and Nuer (2004) highlight some of these issues in their critique of Pyszcynski et al.'s (2004) review. Although the connection between flow and the ideas of the current study are only touched on briefly here, they would make an interesting area of future research.

4.3. Critique of weaknesses and limitations.

4.3.1. Small clinical sample. The methodology employed was to define clinically relevant populations from a non-clinical population. This was pursued as not doing so would limit the clinical bias of the study. Moreover, it was necessary to test ACT's theory within the realm of a non-clinical group, as one of its foundational concepts is that the processes causing 'abnormal' psychopathology are common to all. Using this methodology, however, led to small cell sizes for those who displayed clinically relevant behaviour. This limitation was compensated for statistically, and the lack of power (Pallant, 2005) did result in Type II error. However, the limited sample who displayed the characteristics hypothesised by ACT means that it would be very useful to replicate the current findings within relevant populations. Siebel and Dowd's (1996) investigation into reactance levels within forms of personality disorder suggests these may be relevant groups.

4.3.2. Complexity of self. A related limitation if this design was that it did not investigate these processes in the majority of people falling within the moderate range of psychological flexibility, or the mixed range of self-theory. However, this process – involving the relation between self-theory, reactance and psychological flexibility – may be too simplistic to be meaningful for the majority. As such a broad range of individual differences and variables are present within the realm of personality, the effect of self-rigidity – as one form of identity variable – and reactance – as one form of self-defence – may appear irrelevant amongst the competing clamour of other considerations. Its effect may only be apparent when it is most pronounced.

4.3.3. Accessibility of the self. Another limitation of the study lies in the extent to which the self as a phenomenological experience can be accessed. This study

used Likert-scale measures to attempt to gain an impression of something inherently private and inaccessible to others. As Kanter et al. (2001) stress, this is inadequate and can never provide direct or truly empirical investigation of the self. Indeed, from a behavioural perspective being pre-occupied will such elusive private events may be an ultimately fruitless and ineffective endeavour. Therefore this study was limited and can be criticised in this respect. More widely, a means of overcoming such difficulties when investigating the self is to use a wide range of study designs.

4.3.4. Mixed modalities. This study sought to investigate the concept of self as it relates to psychotherapy within an ACT framework. By doing so, it immediately invoked a number of limitations and weaknesses. Firstly, the topic of identity is vast, complex and at times incoherent (Howard, 2005). To avoid confusion and over-complexity, the scope of identity in this context had to be necessarily limited, thus arguably a poor representation of the overall literature. Secondly, it sought to use constructs from outside ACT to test its hypotheses. This introduced the risk of conceptual slippage between different traditions, resulting in inaccuracy and lack of validity.

Moreover, synthesising across different modalities meant that their concepts and theories were used broadly, emphasising their essential elements so that they could be weaved together. Such generality ran the risk of glossing over subtler nuances and differentiations between approaches. For instance, matters of internal cause and motivations from a cognitive theory (e.g. reactance) are questionable from a behavioural perspective, which locates causes outside of the person (Hayes et al., 1999). To help overcome this potential problem attempts were made to ground the study in ACT, which benefits from thorough philosophical and empirical roots.

4.3.5. Post-modern critique. Rogers (1958) depicts this process conception of psychotherapy as a universal model, a common process that anyone undergoing therapy anywhere may experience at some level. ACT also appears to indicate that a movement from self-as-concept to self-as-context would be universal. Post-modernist perspectives, supported by cross-cultural research, would assert that the process of therapy, even the notion of therapy itself, is contingent and culturally bound (Kirmayer, 2007).

There is evidence to suggest cultural variations in the extent to which people identify themselves with a sense of self-as-content varies globally. Proulx and Chandler (2007) compared the view of 46 Canadian students of Western European ancestry with 44 students from Japan, of Japanese ancestry. They found that the Japanese students were more likely to judge themselves and others as dis-unified than the Canadians. That is, as multiple selves held together only by a single body. They were also significantly more likely to think of themselves and others in terms of a singular, volitional process of self-growth, where diverse behaviours are bound together not by a fixed self-concept, but by the wish to attain common goal. Canadians, meanwhile, were most likely to think of themselves as "highly differentiated self-concept[s]" (Proulx & Chandler, 2007; p.13). In other words, single entities which housed diverse behaviours, triggered by environmental factors. This suggests that the Canadian students were more liable to explain self-unity through identification with self-as-content than Japanese students, who used other means.

These findings are consistent with earlier ones (e.g. Chandler, Lalonde, Sakol & Hallett, 2003), and Kirmayer's (1997) argument that self-understandings, such as those recruited by psychotherapeutic models, are based upon cultural concepts. Similarly, Lewis (1992) reports sociological research contrasting the Western 'I-self' with the Japanese or Indian 'we-self.' Overall, cross-cultural studies emphasise that alternate means of achieving a persistent sense of self is possible, meaning that fusion with self-as-content is neither unvarying nor inevitable. This suggests a post-modern riposte to any attempts to identity universal themes of therapeutic change.

However, Lewis (1992) also distinguishes between these culturally bounded differences in individualised self-as-content from consciousness, the capacity for self-reflection that is universally human, irrespective of culture. ACT also appears consistent with the notion that self-as-context is a universal facet of human experience, where self-as-content is shaped and moulded by contingent cultural context (Hayes et al, 1999). However, ACT's a-ontological stance means that it does not delve into these issues unless pragmatically useful (Hayes, 1984; Pepper, 194).

4.4. Critique of strengths.

As much of the thesis has been taken up with emphasising the need and strength of the current research, this section is briefer than 4.3. However, it will attempt to give a broader critique of why research into self and psychotherapy is important, especially from a behaviouralist perspective.

The therapeutic relevance of fairly abstract discussions identity may not be immediately clear. In response, Kirmayer (2007) asserts that the very practise of psychotherapy is distinguished by its explicit emphasis on the self. Every system of psychotherapy, he writes, implicitly depends upon a model of the self. Similarly, the meta-ability of therapist and client to reflect on their self-understandings, ("the capacity of a self to know it knows", is crucial (Lewis, 1992; p.124). Lewis (1992) equates this essential skill for psychotherapy with the very definition of 'self.' Howard (2005) states that the concepts and tacit understandings regarding identity are central not just to counselling, but also daily life. They are especially influential when left unspoken and unaddressed. Therefore, addressing this issue is important from a therapeutic point of view.

It is even more important considering the confusion around self-theorising. Kanter et al. (2001) counted 37 separate self-theories in a book chapter reviewing social and personality approaches to the self (Robins, Noreem & Cheek, 1999). They suggest a reason for this proliferation to be that these theories are built upon 'real-self' assumptions. They contrast this with a behavioural approach to self, which does not make these assumptions. It offers, they suggest, "a new vantage point that might clarify the confusion" (p.199). As the current study is an empirical investigation into one of these behavioural approaches to the self, it may be considered as being situated in line with this vantage point. Therefore not only is the study of the self in psychotherapy of high clinical relevant, but it may be especially important from a behavioural point of view, as discussed in 4.5.3.

4.5. Recommendations for future research

4.5.1. Alternative variables. Section 4.3.2. highlighted the complexity of the self that the present research fails to capture. To address this limitation a number of variables will now be summarised. The inclusion of these into future research would

improve sensitivity to the complex and multi-faceted nature of identity. In terms of variables which the current study has not accounted for, examples would be: (i) the extent to which individuals are motivated to maintain self-continuity compared to other motives such as self-esteem, meaning or distinctiveness (as measured by Vignoles et al., 2006), (ii) locus of control, Dowd et al. (1991) finding an internal locus to be necessary for reactance, and (iii) the extent to which individuals believe in a fixed 'essence,' which signifies a resistance to identity change (Haslam, Bastian, Bain & Kashima, 2006; Pehrson et al., 2009). As well as these variables, it may also be worth considering other forms of identity resistance as well as reactance. This may be investigated within the diathesis-stress model proposed in 1.5 In short; the current study identified general themes, but the complexity of the construct of self means that these themes are limited and reductionist if other factors are not considered. Moreover, this study picks out and investigates one ACT process amongst six. A natural extension is to find out how these processes are interrelated, increasing the scope of the current findings.

4.5.2. Variety of research designs. Section 4.3.4. highlighted that direct access to the self is impossible through pencil and paper based studies such as the current one. All research methodologies have their own unique pattern of strengths and weaknesses in studying the self. Therefore a variety needs to be used so that the differing weakness of each methodology can be corrected for by the others. Some proposed types of study with existing evidence are summarised.

4.5.2.1. Experimental designs. Experimental behavioural-based studies would lend a different type of support (Kanter et al., 2001). Not only would they discern discrepancies between how people actually behave and how they report to behave, they would be able to identify causal relationships between the elements of self-as-content found to correlate in the present study. This would overcome another limitation of the current findings, as no causal mechanisms can be inferred.

4.5.2.2. Neuro-imaging. Neuro-imaging studies are proving useful in gaining insight into the self. For instance, Farb et al. (2007) used functional magnetic resonance imaging (fMRI) to measure the monitoring of self-across-time (related to self-as-content) and present moment awareness (self-as-context) in participants who had completed an 8-week mindfulness course and those who had not. They found

that these two distinct forms of self-awareness are habitually integrated but can be dissociated through mindfulness training, so that self-across-time is reduced, and present moment awareness increased. Relating mindfulness to the self and psychotherapy, these findings suggest such practices reduce the need for defensive reactance, loosen rigidity of self-concept and increase the ability to connect to the present moment – a necessary condition for psychological flexibility.

4.5.2.3. Qualitative designs. At the other end of the spectrum, qualitative studies could provide another type of evidence. Higginson and Mansell's (2008) analysis of six individual's experience of psychological change, for instance, found four superordinate themes. One of these was that a former sense of self was lost in the process. This would corroborate the current study's quantitative support for ACT's theory that the client's fusion to their problematic self-as-content reduces during the course of therapy.

4.5.2.4. Summary. In summary, using a wide range of experimental designs when studying the self and psychotherapy would establish a broader range of support as each type alone, the present study being an example, is necessarily limited.

4.5.3. Psychotherapy and the behavioural self. The experience of self in behaviourism is a surprising and important one, according to Kanter, Parker and Kohlenberg, (2001). They explain that behaviourism does not deny the existence of private experiences (e.g. the experience of personal identity), but does deny that these are *entities* that exist over and above *experiences*. Similarly, Hayes (1995) talks of selves as verbs: self as experience of reflective self-knowing; rather than self as an object existing distinctly from the ongoing process of knowing. Thus, the self exists in an ontologically different way to observable physical behaviour.

4.5.3.1. Alignment with wider academia. This position aligns behaviourism with 'illusory self' accounts of personal identity and consciousness within neuroscience and philosophy literature (Blackmore, 1999). Beyond brain, body and interrelated mental and physical states there is no 'extra' thing to which the experience of consciousness coheres. Thus, a person exists in the same way that a nation, a club or political party exists: there are interrelated constantly changing

context, mental and physical phenomena composing them; there is no further 'thing' to which nation or club relates to (Stone, 1988). David Hume (quoted in Perry, 1975; p.163) concluded that "man is a bundle or collection of different perceptions which succeed one another with an inconceivable rapidity and are in perpetual flux and movement." That is, the perception of an unchanging self arises from constant and imperceptible change.

Blackmore (1999) suggests that 'illusory self' theories are juxtaposed with 'real self' theories such as Cartesian Dualism. These view the self as a persistent entity that continues over the course of a lifetime. It is separate from the brain, body or world, and is the entity which makes decisions and 'has' experiences, thoughts, memories, etc. An illusory theory does not deny this sensation exists, but denies that there is a separately existing entity responsible for it. ACT, positioning itself as an a-ontological theory, does not need to hold a position on this debate. What ACT *would* take a strong position on is to emphasise that self-as-content is an example of illusory self; believing it to be 'real self' can result in psychological inflexibility and distress. Being fooled by this illusion is at the heart of ACT (Hayes et al., 1999).

4.5.3.2. Ethical considerations. These considerations around identity pose interesting questions of ACT. It appears, theoretically, to be aligned with modern scientific and philosophical arguments regarding the self. However, these arguments have an ontological stance, whereas ACT is guided by an a-ontological position. Rather than seeking to find what coheres with reality, it seeks whatever is useful (discussed further in 4.6). This begs the question, what if it is useful to align with an ontological position? Aligning with neuroscience and philosophy in denying the existence of a separately existing self would help distinguish self-as-content from self-as-context, reducing the danger of fusion with self-as-content.

However, this ontological position may be considered unethical within a therapeutic context. In line with the Anglo-American tradition in which it is bounded (Kirmayer, 2007) ACT promotes the client's right to pursue their own personally chosen values. ACT only offers a means of helping the client achieve these ends, not a definition what they are (Cloud, 2009; Luoma et al., 2006). The client's values may involve religious beliefs, or belief in a soul or spirit (Keller, 2005; Medin, 1989; Verkuyten, 2003, 2005). These would be ontological beliefs that would contradict ACT were it to

take an ontological position regarding identity. This would present a lack of toleration for the client's beliefs. Therefore ethical considerations suggest ACT should maintain an a-ontological position on the issue of the self. Within this critique further discussion of ethical issues can be found in Extended Methods 2.3.

4.5.3.3. Summary. In sum, it is clear that the issues around identity which the behaviourist approach strikes at have deep roots, and connect to much broader areas of study into human experience. However, within the context of psychotherapy ethical considerations suggest that ACT maintain an a-ontological stance in this area in order to not curtail the freedom of clients to choose their personal values, or compromise ACT's function as a means of aiding the pursuit of these values.

4.6. Philosophical foundations

4.6.1. Functional contextualism. ACT places great importance on philosophical foundations, Hayes et al. (1999) pointing out that any theory is based upon certain pre-analytic assumptions, and to not acknowledge these assumptions would to be unaware of the bias inherent within the theory. Accordingly, it is based upon a position known as functional contextualism (FC), drawn from Pepper's (1942) characterisation of four types of world view. FC takes basic unit of analysis is the ongoing act in context: this is the event as a verb, in the process of being done. FC draws upon three core elements in the analysis of this unit.

Firstly, FC seeks to understand the whole event. This is to look at people as integrated organisms interacting with the temporal and spatial context in which they derive and create, rather than sectioning off or reducing them down to different parts. Secondly, FC recognises the importance of context. Events cannot exist or be understood if they are divorced from the context in which they take place. This context, if we keep identifying it, would radiate out from the event to all other events in existence. Therefore, context is delimited and defined by the purposes of the individual considering it. Thirdly, FC holds that something is true only if it has a utility or function. This is the 'pragmatic truth criterion' (Gifford & Hayes, 1999). For instance, if an analysis leads to a valued goal or some effective and beneficial behaviour then it may be deemed 'true.' This position is related to the pragmatic

approach of William James: “instead of looking from where an idea is derived, or what are its principles, pragmatism examines its results” (Durant, 1961, p.512).

4.6.2. Pragmatic Truth Criterion. The pragmatic truth criterion leads to an a-ontological stance. This can be illustrated with the present matter of the self in ACT. Regarding identity, philosophers use logic in an attempt to discern the metaphysical truth of self-as-context – whether it persists through time because it is a separately existing entity, or because it is an illusion constructed by the constant activity of brain, body and environment (see Section 4.5). ACT’s interest in self-as-context meanwhile, is purely pragmatic. It is interested in self-as-context insofar as it is useful in the alleviation of psychological distress. Therefore what it *is* extremely concerned about is that people do not take this underlying sense of being an enduring entity as self-as-content. This is of the very upmost importance as such confusion can lead to psychological distress and resistance to its alleviation. To fulfil the pragmatic truth criterion, FC looks to predict and influence events with precision, depth and scope. Therefore the matter of the self should be studied as long as it proves a useful means of therapeutic innovation.

4.6.3. Summary. Stating ACT’s philosophical foundations and relating them to an aspect of the current study suggests that ACT’s philosophical roots reach upwards to influence its clinical practise and empirical investigation.

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III. APPENDICES

Apendix A. Journal of Social and Clinical Psychology – Information for authors

The JOURNAL OF SOCIAL AND CLINICAL PSYCHOLOGY is devoted to the application of theory and research from social psychology toward the better understanding of human adaptation and adjustment, including both the alleviation of psychological problems and distress (e.g., psychopathology) and the enhancement of psychological well-being among the psychologically healthy. Topics of interest include (but are not limited to) traditionally defined psychopathology (e.g., depression), common emotional and behavioral problems in living (e.g., conflicts in close relationships), the enhancement of subjective well-being, and the processes of psychological change in everyday life (e.g., self-regulation) and professional settings (e.g., psychotherapy and counseling). Articles reporting the results of theory-driven empirical research are given priority, but theoretical articles, review articles, clinical case studies, and essays on professional issues are also welcome. Articles describing the development of new scales (personality or otherwise) or the revision of existing scales are not appropriate for this journal.

All submissions must be made electronically (preferably in MSWord format) to Thomas E. Joiner at joiner@psy.fsu.edu. Electronic submissions should include all figures and tables in the article file itself, not as separately attached files. Only original articles will be considered. Articles should not exceed 10,000 words (text and references). Exceptions may be made for reports of multiple studies.

Authors desiring an anonymous review should request this in the submission letter. In such cases identifying information about the authors and their affiliations should appear only on a cover page.
Tables should be numbered and referred to by number in the text. Each table is to be typed on a separate sheet of paper.
List references alphabetically at the end of the paper and refer to them in the text by name and year in parentheses.
Authors may consult the publication manual of the American Psychological Association, 5th Edition (2002), for rules on format and style. All research papers submitted to the JOURNAL OF SOCIAL AND CLINICAL PSYCHOLOGY must conform to the ethical standards of the American Psychological Association. Articles should be written in nonsexist language.

Contributors are responsible for obtaining permission from copyright owners if they use an illustration, table, or lengthy quote (100+ words) that has been published elsewhere. Contributors should write both the publisher and author of such material, requesting nonexclusive world rights in all languages for use in the article and in all future editions of it.

Appendix B. Copy of Questionnaire (adapted from website form)

Psychology Questionnaire

Hello, thanks for thinking about supporting this study, which is part of a Doctorate qualification in Clinical Psychology. This Doctorate is provided by The Institute of Work, Health and Organisations at the University of Nottingham.

We would really appreciate it if you completed our questionnaire, which will appear if you agree to the information on this page.

The questionnaire will ask for your views on a range of topics, such as how you feel about certain situations and about yourself. There's no need to agonise over what the 'correct' answer might be, simply go with how you feel and your initial reactions. In total, the questionnaire should take less than ten minutes to complete.

When you have finished, you will be reminded of our contact details, which are:

lwxrjn@nottingham.ac.uk

Kerry.Beckley@LPFT.nhs.uk

We would be happy to answer any questions that you may have.

Before we begin, please confirm that...

1. ...you are at least 18 years old

2. ...you provide your consent to take part in this study, understanding that you are free to discontinue at any point, and that any information you give will be anonymous and held securely.

Demographic information.

1. How old are you?

2. Are you male or female?

3. Where were you born?

4. How would you describe your ethnicity?

5. What are your religious beliefs?

Using the scale provided, please indicate the extent to which you agree or disagree with each of the following statements by choosing the option that most closely corresponds with your opinion.

(SCALE: strongly agree/agree/mostly agree/mostly disagree/disagree/strongly disagree)

1. The kind of person you are, is something very basic about you and it can't be changed very much.

2. You can do things differently, but the important parts of who you are can't really be changed.

3. No matter who you are, you can significantly change your basic characteristics.

4. As much as I hate to admit it, you can't teach an old dog new tricks. You can't really change your deepest attributes.

5. You can always substantially change the kind of person you are.

6. You are a certain kind of person, and there is not much that can be done to really change that.

7. No matter what kind of person you are, you can always change very much.

8. You can change even your most basic qualities.

Again, please use the scale to indicate the extent to which you agree or disagree with the following statements by choosing the option that most closely corresponds to your opinion. Please note that this is a different scale to the one used with the previous set of questions.

(SCALE: strongly disagree/disagree/agree/strongly agree)

1. If I receive a lukewarm dish at a restaurant, I make an attempt to let that be known.

2. I resent authority figures who try to tell me what to do.

3. I find that I often have to question authority.

4. I enjoy seeing someone else do something that neither of us is supposed to do.

5. I have a strong desire to maintain my personal freedom.

6. I enjoying playing "devil's advocate' whenever I can.

7. In discussions, I am easily persuaded by others.

8. Nothing turns me on as much as a good argument!

9. It would be better to have more freedom to do what I want on a job.

10. If I am told what to do, I often do the opposite.

11. I am sometimes afraid to disagree with others.

12. It really bothers me when police officers tell people what to do.

13. It does upset me to change my plans because someone in the group wants to do something else.

14. I don't mind other people telling me what to do.

15. I enjoy debates with other people.

16. If someone asks a favour of me, I will think twice about what this person is really after.

17. I am not very tolerant of others' attempts to persuade me.

18. I often follow the suggestions of others

19. I am relatively opinionated

20. It is important to me to be in a powerful position relative to others.

21. I am very open to solutions to my problems from others.

22. I enjoy "showing up" people who think they are right.

23. I consider myself more competitive than cooperative.

24. I don't mind doing something for someone even when I don't know why I'm doing it.

25. I usually go along with other's advice.

26. I feel it is better to stand up for what I believe than to be silent.

27. I am very stubborn and set in my ways.

28. It is very important for me to get along well with the people I work with.

Below you will find a list of statements. Please rate how true each statement is for you by choosing an option in the scale provided under each section. Again, this is a different scale to the one you used in the previous section.

(SCALE: never true/very seldom true/seldom true/sometimes true/frequently true/almost always true/always true)

1. It's OK if I remember something unpleasant.

2. My painful experiences and memories make it difficult for me to live a life that I would value.

3. I'm afraid of my feelings

4. I worry about not being able to control my worries and feelings.

5. My painful memories prevent me from having a fulfilling life.

6. I am in control of my life.

7. Emotions cause problems in my life.

8. It seems like most people are handling their lives better than I am.

9. Worries get in the way of my success

Appendix C. Email obtaining Authors' Permissions for use of published scales

You replied on 15/02/2010 10:42.

Naidoo Rohan

From: Carol S Dweck [dweck@stanford.edu] **Sent:** Sun 14/02/2010 01:19
To: Naidoo Rohan_James
Cc:
Subject: Re: Doctoral Research - a request to use an Implicit Theory Measure.
Attachments:

Dear Rohan,

I would be delighted to have you use my scale. Your research sounds extremely interesting, and I would be happy to know your findings when they are available.

Sincerely,
Carol Dweck

Lewis & Virginia Eaton Professor
of Psychology
Department of Psychology
Stanford University
Jordan Hall, Bldg. 420
Stanford, CA 94305

----- Original Message -----
From: "Naidoo Rohan_James" <lwxrjn@nottingham.ac.uk>
To: dweck@stanford.edu
Sent: Friday, February 12, 2010 5:14:50 AM GMT -08:00 US/Canada Pacific
Subject: Doctoral Research - a request to use an Implicit Theory Measure.

Dear Dr Dweck,

I am a Clinical Psychology trainee on the Trent Doctorate course in the UK, run by Nottingham and Lincoln Universities. I'm currently reading your 1999 book 'Self Theories', and find many of the ideas and concepts in it really fantastic (and the advice you gave to your 5 year old cousin very amusing and highly appropriate!). I wondered if it would be possible to use your '"Kind of Person" Implicit Theory - "Self" Form For Adults' in my own doctoral research project?

I'm investigating the question of what sense of self may underlie psychological flexibility, as defined by Acceptance and Commitment Therapy (or ACT for short). ACT defines psychological flexibility as 'the ability to contact the present moment more fully as a conscious human being and, based on what the situation affords, to change or persist in behaviour in order to serve valued ends.' (Luoma, Hayes & Walser, 2007, p.17). This ability has been shown to correlate with numerous measures of mental health.

I'm wondering whether one's sense of self might underpin psychological flexibility in two ways. Firstly, whether a more secure sense of self affords someone the security needed to be flexible and adaptable in how they act in the present moment (i.e. an internal 'safe base' from which to explore the world around them, re Attachment theory).

Secondly, whether conceiving themselves as someone who is capable of changing over time (an Incrementalist) means they will be more in tune with the present moment and behave more flexibly, in line with their expectations of themselves. An Entity theorist, on the other hand, might tend to rely on information gathered from the past in making decisions rather than responding to present information. This may preserve a sense of self (how they remember acting in the past provides a concept of who they are, and repeating these patterns preserves this concept) but render them less psychologically flexible.

Your scale would be very useful in measuring this second way that one's sense of self might underpin

Appendix D. Publicity Poster for study

Included overleaf

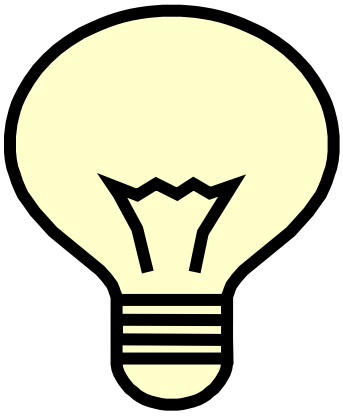
Trent Doctorate in Clinical Psychology

Research Project

Would you volunteer to help with psychology research?

Yes! …by filling in a ten-minute questionnaire…

Yes! …get to the questionnaire with the web address on the tear-off strips below…



What will you be asked to do?

We will ask for your views on a range of topics, how you feel about certain situations and yourself.

If you would like to know more, contact us on: lwxrjn@nottingham.ac.uk or Kerry.Beckley@LPFT.nhs.uk

Why would you do it?

You could support and give your voice to a locally based idea that might become pubished – *its up to you!*

Please tear off one of these strips below:

ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX	ZV http://www.surveymonkey.com/s/73WWX

Appendix E. Ethical Approval Letter from I-WHO Ethics Committee

Institute of Work, Health & Organisations
http://www.i-who.org

The University of Nottingham

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28/04/2010

Dear Rohan

I-WHO Ethics Committee Review

Thank you for submitting your amendment to your study entitled "Is therapeutic resistance in part motivated by the need to maintain self-continuity". This amendment has now been reviewed by I-WHO's Ethics Committee to the extent that it is described in your submission.

I am happy to tell you the Committee found no problems with your amendments. If there are any further significant changes or developments in the methods, treatment of data or debriefing of participants, then you are obliged to seek further ethical approval for these changes.

We would remind all researchers of their ethical responsibilities to research participants. The Codes of Practice setting out these responsibilities have been published by the British Psychological Society. If you have any concerns whatsoever during the conduct of your research then you should consult those Codes of Practice and contact the Ethics Committee.

Responsibility for compliance with the University Data Protection Policy and Guidance lies with all researchers.

Ethics Committee approval does not alter, replace or remove those responsibilities, nor does it certify that they have been met.

Yours sincerely

Nadina Lincoln

Professor Nadina Lincoln
Chair IWHO Ethics Committee