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COGNITIVE SPECIFICITY IN TRAIT ANGER, IN RELATION TO DEPRESSION
AND ANXIETY

Abstract

The current research explored 16 of Young's schemas in relation to trait anger and to anxiety and depression symptoms among 262 non-clinical Australian adults with low-level symptomatology. The study partially replicated work by Calvete, Estevez, Lopez de Arroyabe, & Ruiz (2005), who investigated the relationship between anger, depression and anxiety and Young's schemas using a sample of Spanish students. Predictions derived from Beck's notion of cognitive specificity were examined using structural equation modelling and showed that, of the sixteen schemas, Vulnerability was linked to anxiety, Social Isolation and Enmeshment were linked to depression, and Entitlement, Insufficient Self-Control, Mistrust and Abuse, Subjugation (negatively) and Abandonment were linked to anger. The discrepancies between these findings and those of Calvete et al., and the difficulties of other researchers in establishing higher order aggregations of Young's schemas prompted further consideration of the range of Young's schemas with respect to anger, depression and anxiety, and the possibility that sample characteristics may play a critical role in determining the varying affect - schema relationships.

Keywords: anger, anxiety, CBT, cognitions, depression, emotions, schemas.

Anxiety and depression have historically received more research attention than anger, yet it is important to increase our understanding of this emotion, given its role in serious social problems, such as familial abuse and other kinds of violence (Beck & Fernandez, 1998). One neglected aspect of anger is a consideration of the cognitions associated with it. More particularly, the Cognitive Content Specificity Hypothesis - that specific cognitions are associated with different emotions (Beck, 1979) - has been examined for anxiety and depression (Beck, 1979; Beck, Emery, & Greenberg, 1985; Burns & Eidelson, 1998; Clark, Beck, & Stewart, 1990; Clark, Steer, & Beck, 1994), but not for anger. The present study tested Beck's (1979) assumption that, like depression and anxiety, anger will be marked out by specific modes of thought. Increasing understanding of the cognitions associated with anger is clinically important because anger problems are usually treated by cognitive-behavioural therapy (e.g., González-Prendez & Jozefowicz-Simbeni, 2009; Gorenstein, Tager, Shapiro, Monk, & Sloan, 2007), with moderate efficacy (Beck & Fernandez, 1998).

Within the cognitive specificity research tradition, there is considerable debate as to the nature and form of the cognitions found to be associated with depression and anxiety. Kwon and Oei (1994) distinguished between stable, deep cognitions, or dysfunctional attitudes, and less stable, surface level, largely automatic, cognitions. The former are closely allied to schemas in the way that Beck and Young conceive them and are generally held to be laid down during early development. According to Oei and Kwon (2007), the deep stable cognitions interact with negative events to trigger automatic thoughts which, in turn, lead to affect laden symptoms. The current research is primarily concerned with the deep, stable, content rich cognitions and is less interested in the superficial automated thoughts. Oei and Kwon acknowledge that this

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might be the appropriate stance for those most interested in general psychopathology (p. 121).

Given the focus on cognitive content it follows that appropriate questionnaires must be deployed (e.g., Beck, Brown, Steer, Eidelson, & Riskind, 1987). Previously-used scales such as the Cognition Checklist (Beck et al., 1987), the Dysfunctional Attitudes Scale (Beck, Brown, Steer, & Weissman, 1991) and the Attributional Style Questionnaire (Ingram, Kendall, Smith, Donnell, & Ronan, 1987) focussed mainly on cognitions associated with depression or anxiety, and were therefore not suitable for tapping cognitions associated with anger. Young's Schema Questionnaire (YSQ) (Young, 1990), on the other hand, appeared to cover a broader range of clinically-derived cognitions, grouped into 15 discrete schemas, and therefore had potential as a suitable tool for specificity studies that included anger.

A number of studies have examined the psychometric properties of the YSQ, several finding that participants reliably reproduce the 15 primary schemas identified by Young (Lee, Taylor, & Dunn, 1999; Schmidt, Joiner, Young & Telch, 1995). More recent work has questioned the importance of the Dependence / Incompetence and Enmeshment schemas, among students at least (Baranoff, Oei, Kwon, & Cho, 2006; Oei & Baranoff, 2007), but the importance of retaining the broadest possible range of cognitions in a study that encompassed anger, depression and anxiety prompted us to retain all 15.

The higher order domains within which the schemas may be grouped have proved harder to identify. Several studies have found three such domains: Disconnection, Overconnection and Exaggerated Standards (Calvete, Estevez, Lopez de Arroyabe, & Ruiz, 2005; Schmidt et al., 1995), out of the five that Young originally proposed, while Lee et al. (1999) and Hoffart, Sexton, Hedley, Wang, Holthe, Haugum, et al. (2005) identified four higher order factors. It would be safe to conclude that the

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higher domains are relatively less reliable when compared to the findings for the lower order schemas.

Research into the validity and utility of the schemas has been comprehensively reviewed by Oei and Baranoff (2007), who concluded that depression, in particular, was consistently associated with a range of Young's schemas. Depression has been found to be specifically related to thoughts about failure and hopelessness, loss and self-devaluation (e.g., Beck et al., 1985; Clark, Steer, & Beck, 1994). As Beck described it, a depressed person has "a negative conception of the self, a negative interpretation of life's experiences, and a nihilistic view of the future" (Beck, 1979, p. 84). Anxiety, on the other hand, has been found to be specifically associated with feelings of imminent harm or literal danger of "physical harm, serious illness, economic disaster, or social rejection" (Beck, 1979, p. 62). Anxiety has also been found to be associated with the prospect of losing something important, such as social approval, or having one's personal weaknesses exposed. At its core, anxiety is associated with a sense of vulnerability (Beck et al., 1985).

By contrast, there has been little research addressing the cognitions associated with anger, suggestions in this regard mainly being based on the observations of Beck (1979), Young (1990) and Bowlby (e.g., 1973). These writers suggest that anger relates to themes of personal exploitation, loss of entitlement, and injustice. A close reading of the YSQ schemas reveals that some appear to reflect these very themes. Of these schemes, Mistrust / Abuse is directly related to exploitation, reflecting concerns and expectations that others will intentionally hurt, abuse, humiliate, cheat, lie, manipulate, or take advantage of the individual, who "always gets the short end of the stick" (Young, 1990, p. 57). The items within Entitlement also relate to "rights"; some items refer to feeling superior to others, or being entitled to special treatment, or not being "bound by the rules of reciprocity that guide normal social interaction" (Young, 1990,

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p. 59). Another schema relating to rights and injustice is Punitiveness, whereby people who do not “pull their weight” should get punished. While Punitiveness has generally been omitted from the short form of the YSQ, it was part of Young’s original formulations. The YSQ Punitiveness items also include several concerning anger, and an item related to the holding of grudges, even after someone has apologised. It was therefore expected that Punitiveness would be associated with anger and would be a worthwhile inclusion in the current study.

Insufficient Self-Control reflects themes involving difficulties in controlling emotions and impulses, or a refusal to exercise self-control over their expression. Because the cognitive content of Insufficient Self-Control refers to an exaggerated sense of personal rights and exemption from observing social rules, it was expected that, in the present study, it would also be associated with anger.

Young (1990) also discerned a specific connection between Subjugation and anger, so this connection was also explored. The themes of Subjugation reflect features such as being submissive, feeling coerced, giving in to others, and giving others control over one’s behaviour, emotional expression, and decision making, which may result in feeling trapped and angry with those perceived to be in control (Young, 1990).

Bowlby (1973) identified anger as one response to abandonment, and Mikulincer (1998) also found that adults with attachment problems reacted to abandonment with anger. The abandonment / anger connection was therefore also explored in the present study. The YSQ Abandonment schema reflects a view that the world is unreliable and unstable, that one cannot expect support from other people because they are unpredictable and angry, or will die or abandon one for someone else (e.g., Young, Klosko, & Weishaar, 2003). However, some of the expected hallmarks of anger (Beck, 1979), such as rights-denied, are not present among the Abandonment items.

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In one of the few existing studies that have examined the relationship between Young's schemas and all three affects (anxiety, depression and anger), Calvete et al. (2005), employing structural equation modelling of data obtained from a Spanish student sample, found only eight of the schemas loaded significantly on the three affects. Abandonment, Subjugation and Failure loaded on anxiety; Failure, Defectiveness / Shame, and Self-Sacrifice loaded on depression; and Self-Sacrifice, Entitlement, Insufficient Self-Control and Mistrust / Abuse loaded on anger. These findings provided a valuable empirical counterpoint to the theoretically derived relationships proposed in this study of an Australian sample.

It was hypothesised that there would be cognitive content associated specifically with anger, differing from that associated with depression or anxiety. It was expected (Hypothesis 1) that anger would be associated with Mistrust / Abuse, Entitlement, Punitiveness, Abandonment, Subjugation and Insufficient Self-Control; (Hypothesis 2) that depression would be specifically associated with Emotional Deprivation, Defectiveness / Shame, Failure, Self-sacrifice, Social Isolation, Unrelenting Standards, Dependency, and Enmeshment; and (Hypothesis 3) that anxiety would be specifically associated with Vulnerability and Emotional Inhibition.

Method

Participants

These were non-clinical adults drawn from university students and the wider community in an Australian regional city with a population approaching 90,000 and with a level of social disadvantage greater than approximately 70% of other Local Government Areas in the State. The sample was sought in non-clinical settings as recommended by Garber and Hollon (1991). The final sample included 262 adults (18 years old or above), 94 men (35.9%), and 168 women (64.1%). The modal age group was 30-39 years of age (28.2% of the sample) and while precise data on the breakdown

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of the sample into student and community sub-groups were absent, the figures on age would suggest that at least 75% of the participants were drawn from the community.

Materials

Young's Schema Questionnaire (YSQ-SF). This self-report instrument explores and assesses cognitive schemas (Young, 1990) drawn from statements by personality-disordered patients (as diagnosed on Axis II of DSM-IV). The 75-item short version, scored on a five-point Likert scale, was used in the present study. The YSQ has adequate test-retest reliability (Schmidt, Joiner, Young, & Telch, 1995), and convergent and discriminant validity (Schmidt et al., 2003), and good internal consistency (Lee et al., 1999). A factor analysis of the long version has revealed 15 factors (Lee et al., 1999; Schmidt et al., 2003), namely Abandonment, Mistrust / Abuse, Emotional Deprivation, Functional Dependence, Vulnerability to Harm, Enmeshment, Defectiveness / Shame, Failure to Achieve, Subjugation, Emotional Inhibition, Self-Sacrifice, Unrelenting Standards, Entitlement, Insufficient Self-Control, and Social Isolation. The short form is factorially "purer" because it is composed of the five highest loading items for each factor. Recently, Young, Klosko, & Weishaar (2003) added a sixteenth subscale consisting of 14 „Punitiveness“ items of some theoretical relevance to anger but psychometrically untested.

State Trait Anger Scale (STAS). The STAS (Spielberger & London, 2000) includes two 15-item self-report scales using four-point Likert scales to measure both enduring tendencies to experience anger (Trait Anger) and temporal and situational variations in anger (State Anger). The STAS has good psychometric properties, showing good convergent validity (e.g., Corcoran & Fischer, 2000), discriminant validity (e.g., Deffenbacher, 1995), concurrent validity and internal consistency (Corcoran & Fischer, 2000). Factor analysis has demonstrated three factors (Corcoran & Fischer, 2000), though the total scale was of interest in the present study. Trait, rather than State, Anger

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scores were used in the analyses, in an attempt to match the timescale with the depression and anxiety measures.

Depression Anxiety Stress Scale-21 (DASS-21). The DASS-21 (Lovibond & Lovibond, 1995) is the short form of a scale to measure depression, anxiety and stress over the previous week. Items describe how a person felt over the past week and are measured on a four-point Likert scale. Psychometrically, the DASS has been found to be valid and reliable (Lovibond & Lovibond, 1995), with adequate convergent and discriminant validity (Crawford & Henry, 2003). The stress items were not included in the present study.

Procedure

After ethics committee permission for the study was obtained, participants were approached individually in settings such as libraries, shopping precincts or work-places and asked if they wished to be involved in the study, described as a study of emotions. Participants were requested to complete the questionnaire in private. Their responses were anonymous and returned in stamped-addressed envelopes provided when they agreed to participate. Willing participants were offered a low value “Scratch-and-win” lottery ticket as an acknowledgement of their effort.

Results

Presented first are psychometric data derived from Confirmatory Factor Analyses of the YSQ-SF, followed by descriptive statistics for schemas and emotions, the partial correlations between the schemas and each affect, when controlling for the other two, and, finally, two structural equation models, the first of which examined the proposed theoretical linkage between the schemas and the emotional constructs, and the second of which examined the model proposed by Calvete et al. (2005). Where appropriate, missing data points were entered as the individual’s mean subscale score.

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Psychometrics of YSQ-SF

A Confirmatory Factor Analysis was employed to investigate the 89 items in the extended version of the YSQ-SF scale that comprised the 75 items covering the 15 standard schemas, each with five items, and the 14 items of the Punitiveness schema. The 16 schemas were examined as inter-correlated latent variables with each set of items as the observed indicators. The model did not represent a good fit of the data, $\chi^2(3707) = 7321.0$, RMSEA = .061, CFI = .77, and the fit was improved only marginally if the Punitiveness items were omitted, $\chi^2(2595) = 5141.2$, RMSEA = .061, CFI = .81. The most obvious problem with the model was the mixed loadings of large numbers of items on other items and on schemas other than the one on which they were expected to load. A *post hoc* model of all 16 schemas was produced by eliminating the 15 items that had the highest total of cross loadings within each set of five, as indicated by the regression weights and corresponding modification indices. In the remaining set of 14 items linked to the Punitiveness schema, three items were omitted. The resultant fit of the model was still poor, though improved relative to the analysis with all 89 items, $\chi^2(2294) = 4206.9$, RMSEA = .057, CFI = .84. In a final attempt to establish whether the data provided by this sample were of use in investigating the relationship between the schemas and the affective scales, two observed indicators were produced for each of the 16 schemas in a technique used by Calvete et al. (2005). This technique requires that each set of items associated with a schema is randomly divided into two sub-sets, consisting of two or three items for each of the standard schemas, and seven items for the Punitiveness schema. The two mean item ratings for each sub-set are then used as indicators for the 16 latent schema variables. These data fitted the model much better, $\chi^2(344) = 542.2$, RMSEA = .047, CFI = .97, which implied that the data could be further examined with respect to the main hypotheses regarding the relationship between the schemas and Anxiety, Depression and Anger.

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All three affect measures approximated a normal distribution, with a slight positive skew. The possible range for STAS Trait Anger was 15-60, and for DASS Depression and Anxiety 0–21. Anger $M = 25.08$, $SD = 6.63$; Anxiety $M = 1.78$, $SD = 2.52$; Depression $M = 3.31$, $SD = 3.71$. A preliminary examination of the hypotheses was carried out using the partial correlations involving the 16 schemas and each of the three affect measures, while controlling for the other two (Table 1).

INSERT TABLE 1 ABOUT HERE

These analyses ignored the intercorrelated nature of the schemas but took account of any overlap between the three emotion measures. The partial correlation data show that five of the six schemas predicted to be related to Anger were significant when alpha was set at .01. Entitlement, Mistrust / Abuse, Insufficient Self-Control, Punitiveness, and Abandonment obtained partial correlation coefficients of $r = .28$ or above. Subjugation was not related at all ($r = .05$). In addition, Vulnerability to harm, Social Isolation, and Defectiveness / Shame were also significantly related to Anger though none had a partial correlation coefficient above .23. With respect to the partial correlations involving Anxiety, Vulnerability to harm had the highest partial correlation with Anxiety ($r = .35$) as predicted, but Emotional Inhibition was not related ($r = -.03$). Subjugation ($r = .18$) and Dependency ($r = .17$) were also found to be correlated with Anxiety. The pattern of partial correlations involving Depression was more diffuse. All eight of the predicted relationships were found (r varied from .17, Self-sacrifice, to .40, Social Isolation) but seven of the remaining eight schemas were also significantly related to Depression, with only Entitlement unrelated ($r = .01$).

In summary, the partial correlation analyses suggested a reasonable measure of cognitive specificity for Anger, rather limited specificity for Anxiety, focussing on Vulnerability, and very weak specificity with respect to Depression, with 15 of the 16 schemas correlating with Depression after controlling for Anger and Anxiety.

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In a more refined examination of the hypotheses, structural equation modelling was again deployed, following the lead of Calvete et al. (2005). Two split half scores were again calculated for each participant for Anxiety, Depression and Anger, providing two indicators for the latent affect variables. The model was then devised such that each latent schema variable was linked to the three affect variables according to the hypotheses. The predicted structural model fitted the data reasonably well, $\chi^2 (529) = 866.4$, RMSEA = .049, CFI = .95, though not all paths were as predicted. The model, including only the latent schema and affect variables, together with the significant paths, is shown in Figure 1. It can be seen that, as predicted, Mistrust / Abuse, Entitlement, Abandonment, Subjugation (but negatively), and Insufficient Self-Control were all related to Anger, while Social Isolation and Enmeshment had significant paths to Depression, and Vulnerability was related to Anxiety. On the other hand, Punitiveness had no bearing on Anger, while Emotional Deprivation, Unrelenting standards, Defectiveness / Shame, Failure, Dependence and Self-Sacrifice were not significantly related to Depression; nor was Emotional Inhibition related to Anxiety. For the sake of comparison, the data were subject to a second analysis using the model established by Calvete et al. (2005). As with the previous model, both the schemas and the three emotion constructs, Anxiety, Depression and Anger, were entered as latent variables, each with two observed indicators based on the split halves of the item sets. Only the paths from schemas to the emotions identified as significant by Calvete et al. were included. The data represented a very reasonable fit to the model, $\chi^2 (535) = 937.0$, RMSEA = .054, CFI = .94, but was not quite as good as the theoretical model examined earlier.

INSERT FIGURE 1 ABOUT HERE

Discussion

The aims of this study were to explore the relationships between cognitive schemas and trait anger, to compare these with cognitive schemas associated with depression and anxiety symptoms, and to investigate whether there were specific cognitions associated with anger. There have been few studies examining the cognitions that are associated with anger, particularly Beck's predictions that anger would be associated with the perception of an erosion of one's rights, and might constitute a mode of retaliation for a loss of these rights. The schemas that, at the outset, were predicted to be associated with anger were: Mistrust / Abuse, Entitlement, Punitiveness, Insufficient Self-Control, Abandonment, and Subjugation. Five of these six schemas were significantly related to Anger, with only Punitiveness not showing a significant path. The more strongly the person had thoughts regarding entitlement, insufficient self-control, being mistrusted and abused, or abandoned, the angrier he or she tended to be. Subjugation was marked by a significant negative loading - the more a person reported being subjugated, the less angry he or she was. With respect to symptoms of depression, only Social Isolation and Enmeshment loaded significantly from the eight that had been predicted. Not one of the schemas of Emotional Deprivation, Defectiveness / Shame, Failure, Self-Sacrifice, Unrelenting Standards, and Dependency was found to be related significantly to depression in the final model, though all of these were partially correlated with depression. Finally, of the two schemas which were predicted to be associated with anxiety symptoms, Vulnerability was the solitary and notable predictor.

At the outset it must be recognised that better models were possible but these have not been reported for several reasons. Firstly, the main aim of the study was to determine whether theoretically sensible relationships could account for the observed data. Inasmuch as a sub-set of the proposed links was shown to produce a well fitting model, the study was successful. Furthermore, the Young Schema Questionnaire with its

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set of 15 (16 in the current study) closely interrelated schemas appears prone to producing varying sets of relationships with only minor alterations in overall fit. Inspection of correlational data confirms that many of the schemas predicted to load on an affect were highly correlated with the affect but also correlated with the schema that constituted a significant path to the affect. The Calvete et al. (2005) model produced a very reasonable set of fit measures using the current data though only three of the schemas related to anger were shared by both models: Mistrust / Abuse, Entitlement and Insufficient Self-Control. None of the five schemas related to depression was common to both models; and none of the three related to anxiety was shared.

It would seem that, just as attempts to identify *consistent* relationships between the various Young Schemas and emotions have failed, so have attempts to demonstrate the validity of Young's higher order sets of schemas or domains. Young originally proposed five higher order domains, Lee et al. (1999) found four higher order factors as did Hoffart et al. (2005), while Calvete et al. (2005) found three. Notwithstanding the slight variations in model testing to which Hoffart et al. alluded, their suggestion that relationships between schemas could be attributable to the nature of the samples seems pertinent to the current study. Hoffart et al. argued that patient groups in their own study might be characterised by fears of abandonment and concerns over dependency in a manner that might not be observed in the student sample of Lee et al. While the remarks of Hoffart et al. were directed at inconsistencies in the manner in which the schemas were grouped, they seem equally tenable with respect to how schemas will load on to affect. For example, what angers a Spanish sample (Calvete et al., 2005) may not anger an Australian sample and vice versa. Similarly, the schemas that characterise a clinically depressed population may not characterise a community group.

Among the current sample, anger was linked primarily to having to protect one's rights against the constraints and impositions of others and, secondly, to an inability to

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overcome one's own limitations; thirdly, it was linked to a mistrust of others' motives and aims with respect to oneself. These schemas were exactly matched by the Spanish sample of Calvete et al. (2005). Interestingly, the fourth highest loading schema - the negatively weighted Subjugation - was close to the fourth and negatively weighted schema of Self-Sacrifice in the Spanish sample. Subjugation is characterised by a concern for one's "feelings" being neglected by close but superior others, who seek to make one do something one would rather not do. Self-Sacrifice, on the other hand, is marked by a concern that one's regard for oneself is often forfeited to one's regard for others. If one were to speculate as to why the Spanish and current Australian sample differed in the importance they attach to these two schemas when considering anger, one might suggest that the Spanish sample is more collectively oriented and concerned with reputation, while the Australian sample is more concerned with hierarchy and "internal" states.

The five schemas considered so far with respect to anger, Mistrust / Abuse, Entitlement, Insufficient Self-Control, Subjugation and Self-Sacrifice, clearly reflect a generally tendency to view anger as the embodied reaction to situations in which one's individuated rights, aims, and preferences may be opposed by others or even sacrificed because of one's own weaknesses. The final schema associated with anger in the current study, Abandonment, does not readily fit in this group. The case that Abandonment prompts anger can be made if one imagines that participants deem the affection of others a right that if breached warrants anger in return. While Bowlby (1973) and Mikulincer (1998) might share this perspective, one could also anticipate individuals and cultures among whom the affection of others is not construed as a right. For these people, abandonment might be more likely to prompt sadness or depression. Interestingly, Glaser et al. (2002) found that Abandonment was the second best predictor of depression after Social Isolation among a sample of outpatients receiving psychotherapy, while

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Welburn et al. (2002) established that Abandonment was more closely associated with depression than any other construct among patients in a day treatment program of a psychiatric hospital.

Further consideration of depression reveals that the predicted links were not as well supported as those involving anger. Of the eight predicted relationships, only Social Isolation and Enmeshment enjoyed significant paths to depression. This contrasts with Calvete et al.'s (2005) paths featuring Failure, Defectiveness / Shame, and Self-Sacrifice, Glaser et al.'s (2002) significant predictors of Abandonment and Social Isolation, and Welburn et al.'s (2002) Abandonment and Insufficient Self-Control. As with anger, the correlated nature of the various schemas and the differing types of samples render it almost inevitable that significant paths will vary from study to study. This is especially true of depression where 15 of the 16 schemas were significantly correlated with depression. In an unreported analysis of the current data, Abandonment was found to constitute a significant path to Depression, along with Social Isolation and Enmeshment, for a marginal improvement in the model. This serves to remind us that our community sample also held a view that the break-up of close relationships could promote both anger, as was predicted, and depression, as has been found in other research (Glaser et al., 2002; Welburn et al., 2002). The inconsistency in the schemes found to be principally associated with depression also encourages us to recognise that diffuse affective states can be induced by any number of events, the significance of which will be determined by the predominant schemas deployed by those caught up in the events. This view seems to be in accord with Oei and Kwon's (2007) view that dysfunctional attitudes (schemas) and automatic thoughts both play a role in determining affect.

The pattern of results in the current study suggests that the bulk of the sample linked feelings of depression to Social Isolation, perhaps to a greater extent than Beck

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and his colleagues had noticed previously (Clark & Steer, 1996). Whilst previous studies (e.g., Beck et al., 1985; Clark, Steer, & Beck, 1994) highlighted the importance of the association between depression and Failure, this study found Failure was less prominent than the other themes. Enmeshment, on the other hand, the second of the two schemas uniquely linked to depression, focusses on close relationships with others, especially parents. It is possible that the student minority in the current sample, particularly those in the early stages of transition into tertiary education, would link depressive symptoms with the difficulty of breaking close familial ties. Interestingly, the only other study that established a close link between depression and coping with the difficulties of being on one's own was Schmidt et al. (1995), and in their case it was the Dependency scheme that was the primary predictor of depression. The sample used in their critical regression analysis was exclusively students, though it should also be noted that Schmidt et al. used the long form of the YSQ.

Turning to the findings with regard to anxiety, there is still some degree of uncertainty in the relationships involving the schemas and anxiety. For example, Beck et al. (1985) and Clark et al. (1994) established danger as the critical predictor of anxiety while others failed to find any specific cognitive themes associated with anxiety (e.g., Beck et al., 1987; Laurent & Stark, 1993). Based largely on the work of Beck, we hypothesised that anxiety would be related to the schemas Vulnerability to Harm, and Emotional Inhibition. In the event, anxiety was found to be most strongly associated with Vulnerability but not with Emotional Inhibition. This leads us to conclude that anxiety symptoms among the current sample were not associated with any personal deficit, lack, or failure, but reflected concern about the likelihood of suffering harm or loss in the immediate or more distant future.

This restricted cognitive content associated with anxiety might be explained in a number of ways. One possibility is that anxiety is simply less obviously linked to

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cognition than anger or depression because it relates to survival and so operates at a more automatic level. However, this seems unlikely because anxiety is effectively treated by CBT, which specifically uses changes in cognition to address anxiety (Clark & Fairburn, 1997). A second, related possibility is that Young's measure just lacks the relevant schemas which are commonly associated with anxiety. A third is that, as the community sample in this study was not particularly anxious, it lacked a well developed structure of anxiety cognitions.

In summary, the research has prompted three matters of concern with respect to Young's schemas. The first concern was the failure of the initial model to demonstrate 16 discrete schemas, including Punitiveness, or even the 15 standard schemas when Punitiveness was eliminated. This is in marked contrast to the majority of published literature on the YSQ short form which readily identified the 15 standard schemas. Reducing the number of item indicators for each schema by summarising the five items as two indicators per schema, each indicator being the average of a random split of items into two sets, produced excellent fit indices. The implication is that while the schemas appear to constitute a valid set of discrete psychological entities, there may still be excessive overlap and redundancy among the items. Even if the current study is anomalous, one suspects the measure, even in its short, 75 item form, deserves more scrutiny.

A second concern is the lack of cognitions that loaded on to anxiety, a finding the study shared with other research. Future work might be needed to determine whether anxiety should have an equally elaborate cognitive structure or whether anxiety remains an essentially simple affect, specifically associated with thoughts about impending harm.

The final and most pressing issue thrown up by the current study is the apparent inconsistency in the specific cognitions associated with both anger and depression. The

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current results are in keeping with a pattern of findings suggesting that a number of cognitions could be the primary schemas associated with anger and depression. It was argued that this variability was matched by the difficulty other researchers have experienced in identifying higher order factors or domains on which the individual schemas load. Perhaps the most profitable avenue for future work is to accept that Young's set of schemas constitutes a fairly comprehensive and closely interwoven web of cognitions, many of which may take a lead role in predicting either anger or depression, depending on the sample under investigation. In the present case, the sample was community-based, with low levels of affect-related symptoms, therefore caution must be exercised in extrapolating such findings to clinical situations. Studies such as the present one are also limited by the exclusive use of self-report and the possibility of socially-desirable responding.

In conclusion, it appears that much more attention must be paid to the attributes of samples than is typically done, to acknowledge a truism: people get angry and depressed for different reasons. Young's measure would appear to represent a particularly useful means to investigate those reasons.

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Table 1

Partial Correlations of YSQ Schemas and Trait Anger, Depression and Anxiety

*N = 262, * $p < .01$; ** $p < .001$ Two-tailed*

<u>YSQ Schemas predicted to be associated with emotion</u>	<u>Emotions</u>		
	<u>Anger</u> <i>(Controlling for Depression and Anxiety)</i>	<u>Depression</u> <i>(Controlling for Anger and Anxiety)</i>	<u>Anxiety</u> <i>(Controlling for Depression and Anger)</i>
<i>Anger (Hypothesis 1)</i>			
Mistrust and Abuse	.41**	.29**	.14
Entitlement	.45**	.01	-.07
Punitiveness	.37**	.21*	.04
Abandonment	.28**	.34**	.15
Subjugation	.05	.40**	.18*
Insufficient Self-Control	.38**	.31**	-.04
<i>Depression (Hypothesis 2)</i>			
Emotional Deprivation	.12	.33**	-.00
Social Isolation	.16*	.40**	.06
Defectiveness/ Shame	.17*	.36**	.07
Failure	.13	.18*	.05
Self-Sacrifice	-.05	.17*	.12
Unrelenting Standards	.19*	.18*	-.09
Enmeshment	.13	.28**	.09
Dependency/Incompetence	.11	.18*	.17*
<i>Anxiety (Hypothesis 3)</i>			
Vulnerability/Harm	.23**	.33**	.35**
Emotional Inhibition	.13	.36**	-.03

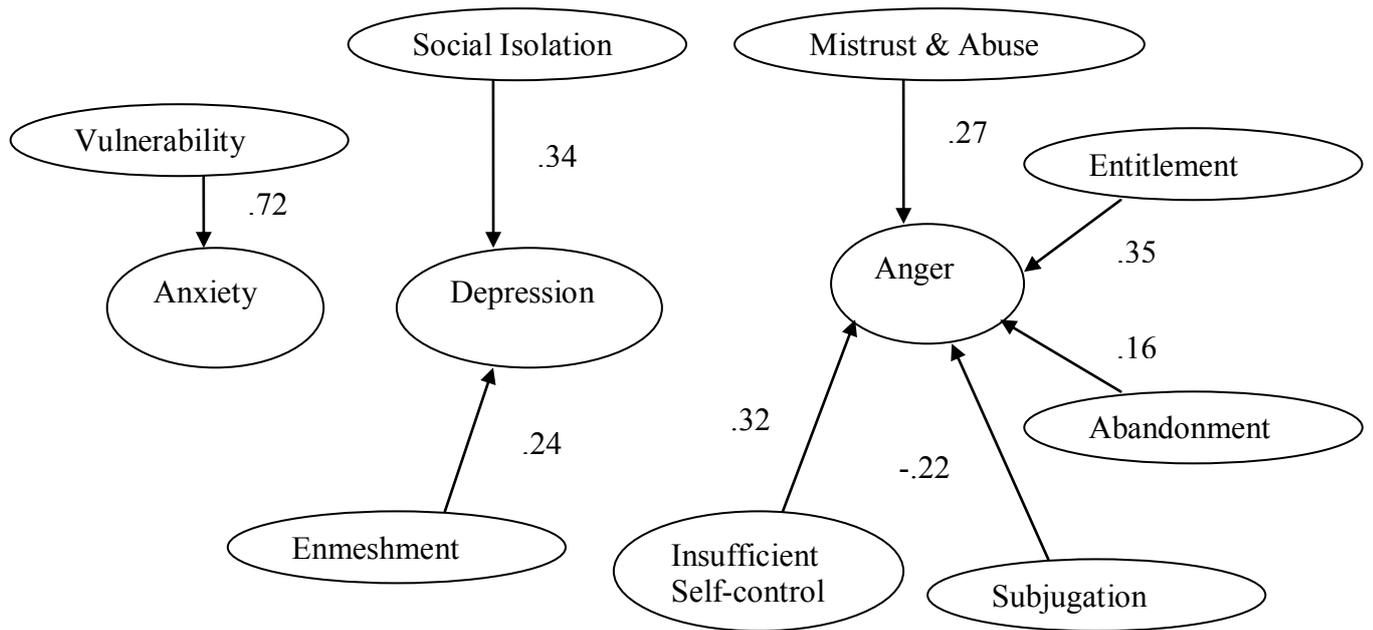


Figure 1. Significant paths between schemas and affect showing standardised regression weights.