'I am worthless and kind': the specificity of positive and negative self-evaluation in adolescent depression

British Journal of Clinical Psychology (2018)

The British Psychological Society

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'I Am Worthless and Kind'; the specificity of positive and negative self-evaluation in adolescent depression

Faith Orchard*, Laura Pass and Shirley Reynolds

School of Psychology and Clinical Language Sciences, University of Reading, UK

Objectives. Adolescence represents a critical phase when the concept of self is developed and consolidated. Depressed adolescents globally endorse more negative and fewer positive self-descriptive words compared with non-depressed adolescents. Yet, the methods used have not allowed for more detailed exploration of the specific content of these self-endorsements.

Methods. Adolescents, aged 12–18 years, were recruited from the community (n = 204) and from a child and adolescent mental health service in the UK (n = 87). Participants completed measures of depression and a self-description questionnaire which included 12 positive and 12 negative self-descriptive adjectives.

Results. As expected, we replicated previous findings that depressive symptoms are associated with global positive and negative self-endorsements. The difference between mean scores was examined for each adjective. Depressed adolescents endorsed all negative adjectives more highly relative to community adolescents; ratings of 'worthless' and 'useless' had the biggest difference between community and depressed adolescents. Surprisingly, a group of positive prosocial self-descriptors were endorsed equally by depressed and community adolescents and were not associated with severity of depressive symptoms.

Conclusions. Although depressed adolescents endorsed more negative descriptions of themselves than community adolescents, positive self-endorsements related to their relationships with other people were not impaired.

Practitioner points

- Most highly endorsed self-descriptive negative words by depressed adolescents were 'worthless' and 'useless'
- Positive prosocial self-descriptive adjectives (i.e., trustworthy, friendly, and kind) were highly endorsed by all young people and were not associated with depression
- Assessment and treatment should consider the content of adolescent self-evaluation
- The present study is unable to identify whether young people would produce the same themes of positive and negative words in a free response measure
- Diagnostic information was only available on the clinical group

**Correspondence should be addressed to Faith Orchard, School of Psychology and Clinical Language Sciences, University of Reading, Reading RG6 6AL, UK (email: f.orchard@reading.ac.uk).*

DOI:10.1111/bjc.12215

Depressive disorders typically emerge during adolescence and, over the lifespan, are most prevalent during this period (Abela & Hankin, 2008; Thapar, Collishaw, Pine, & Thapar, 2012). Major depression is diagnosed by the presence of at least five of nine symptoms that must have been present for at least 2 weeks (DSM-5; APA, 2013). Of these, negative self-perceptions (worthlessness and guilt) have been found to be one of the most common symptoms of depression in adolescence (Goodyer *et al.*, 2017; Orchard, Pass, Marshall, & Reynolds, 2017). Self-evaluation is also a central component of the influential cognitive model of depression (Beck, 1967). Beck proposed that depressed individuals view themselves, the world and the future in a negative way and that this 'cognitive triad' affects how they think, feel, and act, and consequently maintains their depression.

A number of studies have examined the presence of negative self-evaluation amongst depressed adolescents. Such studies commonly use an explicit Self-Referent Encoding Task (SRET) followed by immediate recall or recognition. The task typically involves the presentation of a range of positive and negative self-descriptors as a questionnaire or as trials on a computer screen. Participants are then asked to complete a Likert scale of how much the word describes them (e.g., Kelvin, Goodyer, Teasdale, & Brechin, 1999) or provide a simple yes/no response (e.g., Auerbach, Stanton, Proudfit, & Pizzagalli, 2015; Timbremont, Braet, Bosmans, & Van Vlierberghe, 2008; Timbremont, Braet, & Dreessen, 2004). These responses are used to calculate an overall mean or total score of positive and negative self-evaluation. In support of the cognitive model, results have shown that depressed adolescents characteristically use more negative and fewer positive words to describe themselves compared to healthy young people (Auerbach *et al.*, 2015; Kelvin *et al.*, 1999; Timbremont *et al.*, 2004, 2008).

Similar to research on affect, there is some evidence of a positive–negative distinction in the self-evaluation literature (e.g., Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Crawford & Henry, 2004; Sallquist *et al.*, 2009). For example, it has been found that brain activation differs between depressed and control adolescents when rating positive words, but not negative words (Bradley *et al.*, 2016). However, findings are mixed with regard to the role of positive self-evaluation. Orchard and Reynolds (2018) administered a range of cognitive measures including the SRET to the clinical and community groups of adolescents. They found that negative self-evaluation was the strongest predictor of depressive symptoms and diagnosis, but there was no significant relationship between positive self-evaluation and depression. In contrast, Johnson, Joormann & Gotlib (2007) found that recall of positive endorsements was the only significant predictor of reduction in depressive symptomatology at nine-month follow-up; however, they did not examine whether positive endorsements predicted depression independently of recall.

Analysis of responses to self-descriptive adjectives typically reports total or mean scores of positive and negative self-evaluation. Thus, it is unclear which specific descriptors are endorsed or not endorsed and how depressed and non-depressed young people describe themselves. The content of self-evaluation may, however, have implications for the assessment and treatment of depression. For example, when assessing 'negative self-perceptions' (one of the symptoms of depression), young people are often asked how they would describe themselves. In some semi-structured diagnostic interviews, the symptom threshold is met if the individual details the presence of negative self-evaluation **or** if they describe an absence of positive self-evaluation (e.g., Kiddie Schedule for Affective Disorders and Schizophrenia; Kaufman *et al.*, 1997). Yet, we do not actually know what an interviewer should be looking for in the adolescent's response or how that should be interpreted. In treatment for depression, some psychological

therapies (but not all) explicitly target negative self-evaluation and low self-esteem (e.g., Fennell, 1997). This strategy to reduce negative self-evaluation and improve self-esteem could be better guided if we knew more about which specific components of self-evaluation are most likely to be problematic or helpful in youth depression.

The content specificity hypothesis of the cognitive model of depression predicts that depressed individuals view themselves as 'worthless', 'useless', and 'a failure' (Beck, 1967), but we are not aware of any hypotheses about other negative attributes that depressed young people might use to describe themselves (e.g., 'weak' or 'stupid'). There is also a growing literature which suggests that positive self-schemas might play a protective role in adolescent psychopathology (Lumley & McArthur, 2016), and Keyfitz, Lumley, Hennig, and Dozois (2013) found evidence to suggest that there are different themes of positive schema in child psychopathology. Using a positive schema questionnaire that was designed for the study, the authors identified a five-factor structure of positive schema amongst a community sample of children and adolescents, including themes of Self-Efficacy, Optimism, Trust, Success, and Worthiness. It was found that factors 'Worthiness' and 'Trust' were associated with depressive symptoms.

Drawing on the above literature, the current study explores the evaluation of self in adolescents. In this study, we will refer to 'self-evaluation' when considering the global construct, and 'self-endorsement' when referring to the individual adjectives that participants use to describe themselves, for example, 'worthless'. Self-evaluation and self-endorsement were measured using a the SRET, a self-report questionnaire on which young people rate themselves in relation to positive and negative adjectives (Kelvin *et al.*, 1999). These data were used to address three research questions: The first research question aimed to replicate previous research findings, and the additional exploratory research questions about the content of self-descriptions were formulated to extend this line of work.

1. Are depressive symptoms associated with ratings of positive and negative self-evaluation?
2. Do adolescents with a diagnosis of depression endorse different self-descriptive adjectives compared to a sample of young people recruited from the community?
3. Are there specific themes of positive and negative self-evaluation that are associated with depressive symptoms?

Method

Ethical Considerations

The study was approved by the Berkshire Local Research Ethics Committee and the University of Reading Research Ethics Committee. Adolescents aged 16–18 years gave consent for themselves. Adolescents aged 12–15 years required written parental consent and provided assent themselves.

Participants

Participants were recruited via two routes in order to include individuals with a range of depression severity. Adolescents, aged 12–18 years, were recruited from schools in the South East of England and from a child and young person mental health service.

Clinical group

Young people were recruited through consecutive referrals for depression to a specialist Anxiety and Depression pathway of a local child and adolescent mental health service in the UK. Ninety participants (or parents of those under 16 years) gave consent to take part in the study. A total of 87 participants provided complete data on self-report measures of mood and self-evaluation. The majority of the clinical group was White British (n = 90%). Using a structured diagnostic interview (see below), a subset of the clinical group were identified as meeting diagnostic threshold for a depressive disorder (n = 33). Depending on the research question being addressed, some analyses include the entire clinical group, and some include this subset of depressed adolescents. For the purpose of these analyses, this subset is subsequently referred to as the 'depressed' group. As expected, the depressed group had significantly higher depression scores than the non-depressed clinical participants, $t(85) = -3.10$, $p < .01$. These groups did not differ on age, $t(85) = .09$, $p = .76$, or gender, $\chi^2(1) = .13$, $p = .72$.

Community group

A second group of young people were recruited from four schools. To gain access to schools, letters were sent to the head teachers requesting permission to conduct an experiment at the school. Once approval was obtained, information packs were provided for adolescents and parents describing the study and its purpose. Two hundred and eleven adolescents consented and took part in the study, and the majority completed the study in groups in their school classroom (n = 169); 42 were tested individually either in the laboratory or at home depending on their preference. No differences on mood or self-evaluation were found between adolescents tested at school, in the laboratory or at home so they were combined throughout. A total of 204 community adolescents provided complete data on the self-report measure of mood and the measure of self-evaluation. The ethnicity data of the schools that took part in the study was 69% White British.

Sample characteristics of the community and depressed groups were comparable (see Table 1). As expected, the depressed group reported significantly more symptoms of depression than the community group and had a greater proportion of females.

Measures

Symptoms of depression and diagnostic status

All participants completed the Mood and Feelings Questionnaire – Child Version (MFQ-C; Costello & Angold, 1988). The MFQ is a 33-item self-report scale of depressive symptoms

Table 1. Sample characteristics of the community and depressed groups

Mean (*SD*)[Range]	Community Group (N = 204)	Depressed Group (n = 33)	
Gender (% female)	70%	88%	$\chi^2(1) = 4.43$, $p = .04$
Age (years)	16.12 (*1.23*) [12.48–18.61]	15.95 (*0.94*) [14.01–17.43]	$t(51.64) = 0.79$, $p = .43$
MFQ	17.82 (*12.83*) [0–59]	42.90 (*11.53*) [13–60]	$t(235) = -10.56$, $p < .001$

Note. MFQ: Mood and Feelings Questionnaire Child report; SD: standard deviation.

for adolescents. Each item is rated on a 3-point scale from 0 (not true) to 2 (true). The MFQ has been reported to have good psychometric properties (Burleson Daviss *et al.*, 2006); in the present sample, internal consistency was very high ($\alpha = .96$). The cut-off for identifying clinical levels of symptomatology on the MFQ is a total score of 27 (Wood, Kroll, Moore, & Harrington, 1995). In the clinical group, 68 (78%) young people met the clinical cut-off, compared to 46 (23%) in the community group.

Participants in the clinical group also completed the Kiddie Schedule of Affective Disorders and Schizophrenia (K-SADS; Kaufman *et al.*, 1997). Adolescents (and caregivers) referred to the clinic were interviewed using the K-SADS to establish diagnosis. The K-SADS is a structured diagnostic interview for DSM-IV affective disorders and schizophrenia, with well-established psychometric properties (Kaufman *et al.*, 1997). As is conventional, the interview was conducted with adolescents and caregivers separately, and diagnoses were based on the information obtained from both interviews. Assessors (psychology graduates) were trained on the standard administration and scoring of the K-SADS through verbal instruction, listening to assessment audio-recordings, and participating in diagnostic consensus discussions. Competence was evaluated with reference to the assessors' ratings of a standard assessment recording. Once trained, all diagnoses were double-rated by both the assessor and a clinical psychologist. Inter-rater reliability for K-SADS diagnoses overall was $\kappa = .97$ and reliability for depression diagnosis specifically was $\kappa = 1.00$.

Frequencies of primary and secondary diagnoses of the adolescents in the clinical group are shown in Table 2. Three distinct groups of adolescents should be noted: adolescents with no diagnosis ($n = 31$), adolescents with a primary diagnosis of depression (depressed group, $n = 33$), and adolescents with a primary anxiety disorder ($n = 20$). Only one participant met criteria for a primary anxiety disorder with a secondary diagnosis of depression. Diagnoses were unavailable for two participants in the group.

Self-Evaluation

Participants completed a 30-item self-description questionnaire (Kelvin *et al.*, 1999). The questionnaire includes 12 positive adjectives (lovable, amusing, confident, bright, trustworthy, interesting, cheerful, kind, friendly, respected, skilful, and successful) and 12 negative adjectives (weak, pathetic, feeble, stupid, pitiful, failure, unwanted, useless, incapable, loser, foolish, and worthless). Three neutral filler adjectives are present at the beginning and end of the questionnaire, and these words were not analysed in the present study.

Table 2. Diagnoses of adolescents in the clinical group ($n = 85$)

% Primary diagnosis (overall)	
Major depressive disorder	38.8 (41.2)
Social phobia	9.4 (25.9)
Generalized anxiety disorder	8.2 (16.5)
Schizoaffective depressive disorder	2.4 (2.4)
Anxiety disorder not otherwise specified	2.4 (3.5)
Obsessive compulsive disorder	1 (1.2)
Separation anxiety disorder	1.2 (1.2)
No diagnosis	37

The adolescent scale was modified from the original adult version (Teasdale & Dent, 1987). The scale was originally devised to measure whether depressed adult patients were more likely to use negative words to describe themselves, and whether they would subsequently recall more negative words in a surprise recall task. Modification included removing words which were considered to be less familiar or salient to adolescents, for example, 'deficient', 'inadequate', 'dynamic', 'optimistic', and adding new words following pilot testing with adolescents, for example, 'loser', 'foolish', 'lovable', and 'interesting'.

Positive and negative adjectives were presented in a list. Two different randomized versions of the questionnaire were produced to avoid any order effects. Participants were asked to read each adjective, and to rate each one to indicate how well it described them, on a 4-point Likert scale, 0 (not at all like me) to 3 (very much like me). Participants were asked to leave a word blank if they did not know what it meant. Counts of 'blank' responses to the measure were recorded, and two words were found to have blank responses from more than 10% of the sample, these were 'feeble' (54 blank responses) and 'pitiful' (31 blank responses). As blank responses were not present for more than 25% of the sample, the words were not removed for analyses.

Procedure

In the clinical group, adolescents and their caregiver(s) attended an initial assessment at the clinic where they completed separate diagnostic interviews and self-report measures of depression and self-evaluation. Adolescents in the community group completed self-report measures of depression and self-evaluation in one session, usually during school time in the presence of one or more members of the research team. The community group did not complete a diagnostic interview.

Results

Data analytic plan

Continuous questionnaire data were screened in relation to the assumptions of parametric tests (Tabachnick & Fidell, 2007). Where assumptions were violated, confirmatory analyses were conducted by running analyses with 1,000 bootstrap samples. All results were consistent, suggesting that the original analyses were robust to the violations of assumptions, so results based on the original (non-bootstrapped) analyses are presented for simplicity. Measures of depression included in analyses were a continuous total score of depressive symptomatology (MFQ) and presence or absence of depression (K-SADS diagnosis; clinical group only). Self-endorsement was indicated by mean scores for each of the individual positive and negative adjectives, and global self-evaluation was indicated by an overall mean for all positive and all negative words.

It is frequently reported that depressed young people globally endorse more negative and fewer positive self-descriptors, using mean scores on measures of self-evaluation (Auerbach *et al.*, 2015; Kelvin *et al.*, 1999; Timbremont *et al.*, 2004, 2008). To ensure this finding was replicated in the present sample, the first research question addressed the relationship between depressive symptoms (MFQ) and self-evaluation. To do this, two analyses were conducted; correlational analyses were conducted on each sample

(community and depressed) investigating the association between depressive symptoms and positive and negative self-evaluation scores, and mean differences were examined to identify whether depressed adolescents differed in their self-evaluation compared with community adolescents.

To explore the second research question, 'Do adolescents with a diagnosis of depression endorse different self-descriptive adjectives compared to a sample of young people recruited from the community?' mean scores of individual words are presented for the entire community group (n = 204) and a subset of depressed adolescents from the clinical group (n = 33), and effect sizes were computed so that differences could be interpreted.

Then to address the final research question, 'Are there specific themes of positive and negative self-evaluation that are associated with depressive symptoms?' an exploratory factor analysis was conducted. To ensure a suitable sample size, and be representative of a wide range of mood scores, all participants from both the community and clinical groups (N = 291) were included. Identified factors were then correlated with the MFQ to examine their relationship with depressive symptomatology, and mean factor scores compared between the depressed (n = 33) and community samples (n = 204).

Relationship between depressive symptoms and self-evaluation amongst community and depressed adolescents

Correlational analyses were conducted on the community group (n = 204) and the depressed subset of the clinical group (n = 33), to identify the relationship between MFQ scores and positive and negative self-evaluation. Amongst the community group, a strong positive relationship was found between MFQ scores and negative self-evaluation (r = .73, p < .001) and a small negative relationship was found between MFQ scores and positive self-evaluation (r = −.24, p < .01). A similar pattern of results was found in the depressed group, with a moderate positive relationship between MFQ scores and negative self-evaluation (r = .64, p < .001), and a moderate negative relationship between MFQ scores and positive self-evaluation (r = −.41, p = .02).

An independent samples t-test was used to investigate the difference between groups for positive and negative words. As expected, depressed adolescents in the clinical group endorsed positive words as less self-descriptive (M = 1.09), than community adolescents (M = 1.66), t(51.18) = −7.57, p < .001. Depressed adolescents also endorsed negative words as more self-descriptive (M = 1.33), than community adolescents (M = 0.53), t(179) = 7.29, p < .001.

Self-reported ratings of adjectives by community and depressed adolescents

Table 3 shows means and standard deviations for ratings of positive and negative words (0 *not at all like me* to 3 *very much like me*) from the community sample and the depressed sample. A Cohen's d effect size has also been computed indicating the size of the effect when comparing the groups. As expected, the community group had a higher self-endorsement than the depressed group on all of the positive words and the depressed group had a higher self-endorsement rating than the community group on all of the negative words. Effect sizes demonstrate that larger effects were present for negative words than for positive words.

Table 3. Descriptive statistics and effect size of difference between positive and negative word ratings in the community ($N = 204$) and depressed groups ($n = 33$)

Positive words (Mean, *SD*)				Negative words (Mean, *SD*)			
	Community	Depressed	Cohen's *d*		Community	Depressed	Cohen's *d*
Cheerful	1.84 (0.82)	0.85 (0.71)	1.29	Worthless	0.36 (0.70)	1.73 (0.94)	1.65
Interesting	1.46 (0.82)	0.69 (0.64)	1.05	Useless	0.63 (0.75)	1.73 (0.88)	1.35
Skilful	1.51 (0.80)	0.76 (0.66)	1.02	Pathetic	0.41 (0.67)	1.42 (0.90)	1.27
Confident	1.34 (0.90)	0.58 (0.71)	0.94	Failure	0.43 (0.73)	1.52 (1.00)	1.25
Successful	1.29 (0.77)	0.70 (0.64)	0.83	Unwanted	0.45 (0.75)	1.33 (0.82)	1.12
Amusing	1.71 (0.79)	1.09 (0.72)	0.82	Loser	0.34 (0.65)	1.16 (0.86)	1.08
Lovable	1.45 (0.82)	0.90 (0.60)	0.77	Incapable	0.53 (0.68)	1.27 (0.87)	0.95
Bright	1.48 (0.75)	0.97 (0.73)	0.69	Stupid	0.65 (0.73)	1.33 (0.78)	0.91
Respected	1.47 (0.71)	0.97 (0.74)	0.69	Weak	0.73 (0.80)	1.45 (0.91)	0.84
Kind	1.99 (0.71)	1.69 (0.59)	0.46	Foolish	0.95 (0.80)	1.47 (0.88)	0.62
Friendly	2.14 (0.70)	1.88 (0.66)	0.38	Feeble	0.49 (0.65)	0.81 (0.79)	0.44
Trustworthy	2.19 (0.75)	2.12 (0.70)	0.10	Pitiful	0.53 (0.74)	0.86 (0.79)	0.43

Factor structure of self-evaluation in community and clinical sample

An exploratory factor analysis was conducted on self-endorsement of all positive and negative adjectives from both community and clinical samples ($N = 291$). All assumptions of correlational tests were met. The Kaiser–Meyer–Olkin's (KMO) test produced a value of 0.93, Bartlett's test was significant $\chi^2(276) = 1943.43$, $p < 0.001$, and the value of the determinant was also in the correct range. Three clusters emerged with eigenvalues above the value of 1. This was also indicated in the scree plot. A rotation was applied to redistribute variance captured by the factors so that individual variables load highly on one and low on others. A varimax rotation was used and values below 0.4 were suppressed. Following the rotation, all the items loaded onto a factor, with the majority of loadings above 0.6.

The items in each factor can be found in Table 4. The scores in each factor were then averaged to create three composite variables. The reliability of each factor was checked and found to be acceptable to excellent: factor 1 ($\alpha = 0.93$), factor 2 ($\alpha = 0.88$), and factor 3 ($\alpha = 0.65$).

The three factors were considered for theoretical meanings, and it was identified that factor 1 included all of the negative attributes. Positive attributes were distributed across two factors; adjectives that fell into factor 2 tended to reflect positive 'internally focused' attributes, and adjectives in factor 3 reflected a cluster of positive 'prosocial' attributes. Interestingly, the three attributes forming factor 3 (trustworthy, friendly, and kind) were also the most common positive adjectives endorsed by depressed young people recruited from the clinic (Table 3).

The three factors were tested for assumptions of normality. Factors 2 and 3 were normally distributed, but factor 1 indicated a positive skew. This would be expected as this analysis was conducted on all participants, many of whom were not experiencing symptoms of depression and were thus less likely to describe themselves negatively.

Table 4. Factor analysis of positive and negative self-descriptors in the community and clinical groups (N = 291)

Cluster	Eigenvalue	Words
1	9.56	Weak, useless, pathetic, worthless, incapable, unwanted, loser, failure, stupid, foolish, pitiful, feeble
2	2.82	Skilful, cheerful, bright, successful, confident, lovable, respected, amusing, interesting
3	1.60	Kind, trustworthy, friendly

Factor associations with depressive symptoms and diagnosis

Correlational analyses were conducted across all participants (N = 291) between MFQ scores and mean scores on the three main factors, that is, negative attributes, positive internal attributes, and positive prosocial attributes. As expected, mean self-endorsement ratings of negative attributes were significantly positively associated with depression (r = .76, p < .001). Similarly, self-endorsement of positive internal attributes was significantly negatively associated with symptoms of depression (r = −.34, p < .001). However, factor 3, self-endorsement of positive prosocial attributes, was not significantly associated with symptoms of depression (r = −.08, p = .22).

To check how the factor scores differed between depressed and community samples, independent samples t-tests were conducted. As a t-test has already been conducted comparing depressed to community on all negative words (see above), this analysis is omitted. Hence, two independent samples t-tests were conducted comparing groups on the two positive factors (internal and prosocial). Depressed adolescents had lower endorsement ratings for internal positive descriptors compared with community adolescents, $t(235) = -6.47$, p < .001. However, there was no difference between groups when comparing prosocial descriptors, $t(235) = -1.83$, p = .07.

Discussion

Negative self-evaluations are highly prevalent amongst depressed adolescents (Goodyer *et al.*, 2017; Orchard *et al.*, 2017). Given that young people develop a sense of identity and independence during adolescence (Coleman & Hendry, 1990), and become highly sensitized to social approval by their peers (Steinberg, 2005), it is unsurprising that the sense of 'self' is heightened during this period. This study assessed how young people described themselves using a range of positive and negative words. Specifically, we compared self-evaluation by young people with depression to a group recruited from the community and examined associations between self-evaluation and severity of depressive symptoms.

The first research question replicated findings from previous research which has used the SRET methodology, that is, that depressive symptoms were positively associated with mean self-endorsement ratings from all negative words and negatively associated with mean self-endorsement ratings from all positive words (Auerbach *et al.*, 2015; Kelvin *et al.*, 1999; Timbremont *et al.*, 2004, 2008). These associations were replicated with a between-groups comparison that found depressed adolescents had higher endorsement ratings for negative words, and lower endorsement ratings for positive words, compared with the community sample.

The second and third research questions went on to address novel areas in the literature. Research question two asked whether depressed young people use different words to describe themselves from community adolescents. We compared self-endorsement ratings on individual self-descriptive adjectives from the community and depressed clinical sample. Self-endorsement ratings from young people recruited from the community were higher than the depressed clinical sample on all 12 of the positive self-descriptions. Conversely, self-endorsement ratings from the depressed clinical sample were substantially higher than the community sample on all 12 of the negative self-descriptions. Effect sizes further highlighted clear discrepancies between the samples. Amongst the negative self-descriptions, 'worthless', 'useless', 'pathetic', and 'failure' had the biggest between-groups effect sizes, with depressed adolescents endorsing these words as more descriptive of themselves than community adolescents. These adjectives accord closely with the core beliefs that underpin depression according to the cognitive model (Beck, 1967). Overall, the differences between groups on their self-endorsement of the positive self-descriptions were less pronounced. 'Trustworthy', 'friendly', and 'kind' were the three words endorsed most highly by both the depressed and community groups; not surprisingly, therefore, these three words had the smallest between-groups effect sizes.

In the final research question, we explored the factor structure of the positive and negative attributes, using self-endorsement ratings from the community and depressed clinical groups. Three clear factors emerged: negative attributes, positive internally focused attributes (e.g., cheerful, confident, and bright), and positive prosocial attributes (i.e., trustworthy, friendly, and kind). As expected, self-endorsement of negative attributes was strongly and positively associated with depressive symptoms, and self-endorsement of positive, internally focused attributes was significantly negatively associated with depressive symptoms. However, self-endorsement of positive prosocial attributes was not associated with depressive symptoms. This finding is consistent with the difference in self-endorsement ratings observed in Table 4, where the prosocial words, 'trustworthy', 'friendly', and 'kind', had the lowest difference scores between depressed and healthy community adolescents. Thus, adolescents with a diagnosis of depression showed a higher endorsement of negative self-descriptors than adolescents recruited from the community; they also showed lower endorsement of positive, internal self-descriptors compared to the community group. However, they did retain a positive sense of self in relation to their behaviour towards others, evidenced by the high rating, and lack of difference between groups for prosocial descriptors.

This intriguing and novel finding suggests that self-evaluation in depressed adolescents might not be a global construct. This fits with research on self-esteem which has highlighted that positive and negative dimensions of self-esteem play different roles in their relationship with depression as well as other areas of functioning (Owens, 1994). It is also consistent with research conducted by Keyfitz *et al.* (2013) which identified the presence of specific positive themes of self-schema. Although the present study did not identify the same themes as Keyfitz *et al.* (2013), this is unsurprising given that self-schema covers a broader range of personality traits than self-evaluation, furthermore the authors designed the positive schema questionnaire to target specific themes. The results of the current study may also provide useful insight into some of the inconsistent literature regarding the role of positive self-evaluation. For example, using the same task, Orchard and Reynolds (2018) did not find a relationship between positive self-evaluation and depressive symptomatology; however, given the present findings, it is possible that the relationship was obscured by combining all positive words to calculate an overall mean.

What we are not able to establish from the present study is whether these prosocial traits endorsed as self-referent by depressed young people are perceived only, or whether they also relate to actual behaviour. Research regarding the relationship between depressive symptomatology and prosocial behaviour is mixed. Some studies have suggested that depressed adolescents are less prosocial than their peers (e.g., van Rijsewijk, Dijkstra, Pattiselanno, Steglich, & Veenstra, 2016). However, Wentzel, Filisetti, and Looney (2007) found that depressive affect was indirectly related to prosocial goal pursuit, via associations with perspective taking, empathy, and peer expectations. It is also possible that although depressed young people will endorse these words when they are presented, they may not generate these themselves. Future work would benefit from exploring this using either qualitative research methods or open-choice responses for questions about the self, to identify whether adolescents produce prosocial words as self-descriptors and if so, to identify why these perceptions are protected.

These findings have may several important implications for the assessment and treatment of depression in adolescents. Negative self-evaluation is a very common symptom of depression in young people. It can be formally assessed within a structured diagnostic interview, and with various questionnaire measures. However, typically interview and questionnaire assessments of self-perception evaluate global positive and/or negative self-evaluation. The data reported here suggest that during an episode of depression, adolescents' negative self-evaluation is prominent but that islands of positive self-evaluation can be preserved, particularly those that are relevant to adolescent's social relationships. Thus, it is important to recognize that young people who describe a positive prosocial 'self' (e.g., I'm a kind person) may also hold pronounced negative self-evaluation and low levels of positive self-evaluation in areas relating to other aspects of the self (e.g., successful, bright). In line with this, if self-evaluation is the focus of therapy, it is important that the demonstration of a positive prosocial outlook is not taken as an indication that self-worth has improved. Alternatively, if young people hold these attributes but do not necessarily think of such evaluations themselves, this could offer a useful base for building a positive sense of self as prosocial attributes may be easier to endorse whilst depressed.

The present study has some important methodological strengths. The clinical sample was recruited from routine referrals to a publically funded child and adolescent mental health clinic which was available to all young people living in the community. Thus, the clinical sample is likely to be typical of the population of referred young people in the UK. The community participants appeared more culturally diverse than the clinical participants; this may reflect population differences in help-seeking behaviour or awareness of the service, or be an artefact of how and where the different groups were recruited. However, as ethnicity data were only available on the whole schools (and not individuals) for the community sample, it was not possible to include ethnicity in analyses. Furthermore, boys were over-represented in the 'healthy' community group, so analyses could not be conducted investigating the role of gender differences – this over-representation may reflect both the higher incidence of depression amongst female adolescents and a tendency for male adolescents to under-report symptoms of depression. It would be useful to assess whether the two-factor structure of positive attributes is reflected similarly amongst adolescent males and adolescent females.

Diagnosis of the clinically referred participants was established using the gold standard structured diagnostic assessment (K-SADS). It was not feasible to use diagnostic assessments with the community sample. This is a limitation of the study design as it is possible that some of this group may have met diagnostic criteria for depression and thus may not be distinct from the depressed group. However, if so this would be likely to

underestimate differences between depressed and community adolescents, so the results may be a conservative reflection of differences in self-evaluation in depression. A further limitation is the use of a self-report questionnaire measure as a tool for assessing negative and positive self-evaluation. The measure used here to assess self-evaluation provided adolescents with a restricted list of adjectives and was taken from a standard recall memory task (Kelvin *et al.*, 1999; Teasdale & Dent, 1987). These adjectives may no longer reflect modern usage – certainly, some of the words used did not appear to be well understood by some of our sample of young people, as evidenced by a number of blank responses. Although this tool has been found to be a strong predictor of depression severity (Orchard & Reynolds, 2018), language changes over time, and future work in this area may benefit from asking young people to generate their own spontaneous self-endorsements in a more open-ended task such as the Twenty Statement Test (TST; Kuhn & McPartland, 1954), where participants are asked to provide twenty responses to the prompt 'Who am I?'

Conclusion

The findings of this research are novel and clinically interesting, especially given that evaluation of the self is a core element of cognitive model of depression and that adolescence is a critical phase when the concept of self is developed and consolidated. These data suggest there is an important reason to replicate these findings and to consider what they mean for the assessment of depression and the treatment of positive and negative self-evaluation in depressed adolescents.

Acknowledgements

The authors would like to thank the participating schools and families, and the staff at the University of Reading and the Anxiety and Depression Pathway of the Berkshire Healthcare NHS Foundation Trust. In particular, we would like to thank Rachael Adams, Sarah Armitage, Sophie Boothe, Kirsten Corden, Sue Cruddace, Jeni Fisk, Tamsin Marshall, Ambreen Masih, Jayne Morriss, Emily Nobes, Louise Noble, Laura Pass, Holly Tricker, and Lucy Willetts for their help collecting and coding data. FO was funded by a PhD studentship at the University of Reading.

References

Abela, J. R. Z., & Hankin, B. L. (2008). Depression in children and adolescents: Causes, treatment, and prevention. In J. R. Z. Abela & B. L. Hankin (Eds.), *Handbook of depression in children and adolescents* (pp. 3–5). New York, NY: Guilford Press.

APA (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. Arlington: American Psychiatric Publishing.

Auerbach, R. P., Stanton, C. H., Proudfit, G. H., & Pizzagalli, D. A. (2015). Self-referential processing in depressed adolescents: A high-density event-related potential study. *Journal of Abnormal Psychology*, *124*(2), 233.

Beck, A. T. (1967). *Depression: Causes and treatment*. Philadelphia: University of Pennsylvania Press.

Bradley, K. A., Colcombe, S., Henderson, S. E., Alonso, C. M., Milham, M. P., & Gabbay, V. (2016). Neural correlates of self-perceptions in adolescents with major depressive disorder. *Developmental Cognitive Neuroscience*, *19*, 87–97.

Burleson Daviss, W., Birmaher, B., Melhem, N. A., Axelson, D. A., Michaels, S. M., & Brent, D. A. (2006). Criterion validity of the Mood and Feelings Questionnaire for depressive episodes in clinic and non-clinic subjects. *Journal of Child Psychology and Psychiatry*, *47*(9), 927–934.

Carstensen, L. L., Pasupathi, M., Mayr, U., & Nesselroade, J. R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, *79*(4), 644.

Coleman, J., & Hendry, L. (1990). *The nature of adolescence* (2nd edn). Florence, KY: Taylor & Frances/Routledge.

Costello, J. E., & Angold, A. (1988). Scales to assess child and adolescent depression – Checklists, screens and nets. *Journal of the American Academy of Child and Adolescent Psychiatry*, *27*(6), 726–737.

Crawford, J. R., & Henry, J. D. (2004). The Positive and Negative Affect Schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *43*(3), 245–265.

Fennell, M. J. (1997). Low self-esteem: A cognitive perspective. *Behavioural and Cognitive Psychotherapy*, *25*(1), 1–26.

Goodyer, I. M., Reynolds, S., Barrett, B., Byford, S., Dubicka, B., Hill, J., & Roberts, C. (2017). Cognitive-behavioural therapy and short-term psychoanalytic psychotherapy versus brief psychosocial intervention in adolescents with unipolar major depression (IMPACT): A multicentre, pragmatic, observer-blind, randomised controlled trial. *Health Technology Assessment (Winchester, England)*, *21*(12), 1.

Johnson, S. L., Joormann, J., & Gotlib, I. H. (2007). Does processing of emotional stimuli predict symptomatic improvement and diagnostic recovery from major depression?. *Emotion*, *7*(1), 201.

Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., & Ryan, N. (1997). Schedule for affective disorders and schizophrenia for school-age children-present and lifetime version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(7), 980–988.

Kelvin, R. G., Goodyer, I. M., Teasdale, J. D., & Brechin, D. (1999). Latent negative self-schema and high emotionality in well adolescents at risk for psychopathology. *Journal of Child Psychology and Psychiatry*, *40*(6), 959–968.

Keyfitz, L., Lumley, M., Hennig, K., & Dozois, D. (2013). The role of positive schemas in child psychopathology and resilience. *Cognitive Therapy and Research*, *37*(1), 97–108.

Kuhn, M. H., & McPartland, T. S. (1954). An empirical investigation of self-attitudes. *American Sociological Review*, *19*(1), 68–76.

Lumley, M. N., & McArthur, B. A. (2016). Protection from depression following emotional maltreatment: The unique role of positive schemas. *International Journal of Cognitive Therapy*, *9*(4), 327–343.

Orchard, F., Pass, L., Marshall, T., & Reynolds, S. (2017). Clinical characteristics of adolescents referred for treatment of depressive disorders. *Child and Adolescent Mental Health*, *22*(2), 61–68.

Orchard, F., & Reynolds, S. (2018). The combined influence of cognitions in adolescent depression: Biases of interpretation, self-evaluation, and memory. *British Journal of Clinical Psychology*, *57*. https://doi.org/10.1111/bjc.12184

Owens, T. J. (1994). Two dimensions of self-esteem: Reciprocal effects of positive self-worth and self-deprecation on adolescent problems. *American Sociological Review*, *59*, 391–407.

Sallquist, J. V., Eisenberg, N., Spinrad, T. L., Reiser, M., Hofer, C., Zhou, Q., & Eggum, N. (2009). Positive and negative emotionality: Trajectories across six years and relations with social competence. *Emotion*, *9*(1), 15.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Sciences*, *9*(2), 69–74.

Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA*. Pacific Grove, CA: Thomson/Brooks/Cole.

Teasdale, J. D., & Dent, J. (1987). Cognitive vulnerability to depression: An investigation of two hypotheses. *British Journal of Clinical Psychology*, *26*(2), 113–126.

Thapar, A., Collishaw, S., Pine, D. S., & Thapar, A. K. (2012). Depression in adolescence. *The Lancet*, *379*(9820), 1056–1067.

Timbremont, B., Braet, C., Bosmans, G., & Van Vlierberghe, L. (2008). Cognitive biases in depressed and non-depressed referred youth. *Clinical Psychology & Psychotherapy*, *15*(5), 329–339.

Timbremont, B., Braet, C., & Dreessen, L. (2004). Assessing depression in youth: Relation between the Children's Depression Inventory and a structured interview. *Journal of Clinical Child and Adolescent Psychology*, *33*(1), 149–157.

van Rijsewijk, L., Dijkstra, J. K., Pattiselanno, K., Steglich, C., & Veenstra, R. (2016). Who helps whom? Investigating the development of adolescent prosocial relationships. *Developmental Psychology*, *52*(6), 894.

Wentzel, K. R., Filisetti, L., & Looney, L. (2007). Adolescent prosocial behavior: The role of self-processes and contextual cues. *Child Development*, *78*(3), 895–910.

Wood, A., Kroll, L., Moore, A., & Harrington, R. (1995). Properties of the Mood and Feelings Questionnaire in adolescent psychiatric outpatients: A research note. *Journal of Child Psychology and Psychiatry*, *36*, 327–334.

Received 13 June 2018; revised version received 30 November 2018