DOCTOR OF PHILOSOPHY

The relationship between autobiographical memory, coping and symptoms of depression following transition to secondary school

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The relationship between autobiographical memory, coping and symptoms of depression following transition to secondary school

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Thesis submitted in partial fulfilment of the requirement of the degree of

Doctorate in Clinical Psychology (D.Clin.Psy)

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Summary

This thesis examines how the literature on autobiographical memories (AMs) contributes to our theoretical and clinical understanding of the phenomenon of overgeneral AM.

The literature review outlines the phenomenon of overgeneral AM in relation to a number of vulnerability factors, placing particular emphasis on poor problem-solving ability. It argues that we may have overanalysed the negative factors associated with overgeneral AM and instead, we should also consider its potentially protective factors against psychopathology. It appears that in some cases, overgeneral AM does indeed have an adaptive function, at least in the short-term. Further studies are clearly needed to experimentally examine the longevity of this protective strategy.

Despite the theoretical attention devoted to AM, few studies have examined lack of specificity or overgenerality in children and adolescents. The present study therefore examined the AM styles of children with both high and low symptoms of depression, following their transition to secondary school. The results demonstrated that lack of specific AM to positive cue words was related to high levels of depressive symptoms and that avoidant coping was significantly related to current affect.

The thesis concludes with a critical review of the contributions to theory, research and learning. This paper outlines clinical implications and, strengths and weaknesses of the present study, providing direction for further studies in the context of a wider debate

about the importance of AM as a theoretical construct. Future theory development needs to conduct a more in-depth analysis of the paradox that currently exists in the AM literature with respect to associated vulnerability factors, and conversely, protective features. Process and personal issues that arose from conducting this research are also briefly discussed.

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Section 1: Ethics proposal

SCHOOL OF PSYCHOLOGY ETHICAL APPROVAL FORM

Please complete all parts to this form.
Please attach consent and information/debriefing sheets to all applications.

Date: 12/10/06

Tick one box: ☐ **STAFF project** ☐ **MASTERS project** ☐ **PHD project**
☐ **CLINICAL PSYCHOLOGY project** ☐ **UNDERGRADUATE project**
☐ **Class demonstration**

What is the broad research area? ☐ **Language, Learning, & Development** ☐ **Perception, Attention, & Motor**
☐ **Clinical & Health** ☐ **Other (please specify)**

Who is the funder of the research? North Wales Clinical Psychology Programme (NWCPP)

Title of project: Relationship between psychopathology and autobiographical memory following children's transition to secondary school

Name **and email address(es)** of all researcher(s): Praveena Patel (Trainee Clinical Psychologist, NWCPP)
E-mail: psp060@bangor.ac.uk or praveena_patel@hotmail.com

Name **and email address** of supervisor (for student research): Dr Elizabeth Burnside (Research Tutor, NWCPP)
E-mail: e.burnside@bangor.ac.uk

	YES	NO
Is your project in the area of Health and Social Care requiring sponsorship by the University of Wales, Bangor? If yes, please **complete your ethics application in COREC format** and **submit an NHS R&D form** alongside it. **You should still complete all sections to this form, but do not need to supply the additional information requested in boxes A or B of Part 1.**		X
Does your project require scrutiny from an outside body that has its own forms? If yes, please **complete your ethics application using the forms required by that outside body. You should still complete all sections to this form, but do not need to supply the additional information requested in boxes A or B of Part 1.**		X
If a student project, is this part of the supervisor's ongoing research that has been previously reviewed and approved? If yes, please **give the proposal number of the approved research project, and complete all sections of this form.**	Proposal no.	X

PART ONE: ETHICAL CONSIDERATIONS

		YES	NO	N/A
1	Will you describe the main experimental procedures to participants[1] in advance, so that they are informed about what to expect?	X		
2	Will you tell participants that their participation is voluntary?	X		
3	Will you obtain written consent for participation?	X		
4	If the research is observational, will you ask participants for their consent to being observed?			X
5	Will you tell participants that they may withdraw from the research at any time and for any reason?	X		
6	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	X		
7	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	X		
8	Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?	X		

If you have ticked **No** to any of Q1-8, but have **ticked box A** overleaf, please give an explanation on a separate sheet.
[Note: N/A = not applicable]

[1] In questions 1-9, if participants are children, please consider the information that you will supply to the legal guardian in each case.

		YES	NO	N/A
	Will your project involve deliberately misleading participants in any way?		X	
	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort? If **Yes,** give details on a separate sheet and state what you will tell them to do if they should experience any problems (e.g., who they can contact for help)	X		

ou have ticked **Yes** to 9 or 10 you should normally **tick box B** overleaf; if not, please give a full explanation on a arate sheet.

	Does your project involve work with animals? If yes, please **tick box B** overleaf.			X	
	Does your project involve payment of participants? If yes, please **tick box B** overleaf.			X	
	Do participants fall into any of the following special groups? If they do, please refer to BPS guidelines, and **tick box B** overleaf. **Note that you may also need to obtain satisfactory CRB clearance.**	**Children (under 18 years of age)** N.B. You must ensure that you have made adequate provision for child protection issues in your protocol	X		
		People with learning or communication difficulties N.B. You must ensure that you have provided adequate provision to manage distress		X	
		Patients N.B. You must ensure that you have provided adequate provision to manage distress.		X	
		People in custody		X	
		People engaged in illegal activities (e.g. drug-taking)		X	
		Participants recruited from the Neurology Patient Panel		X	
		Physically vulnerable adults N.B. You must ensure that there is an appropriately CPR trained member of staff on hand at all times during testing.		X	

ere is an obligation on the lead researcher to bring to the attention of the Departmental Ethics Committee any ical implications not clearly covered by the above checklist.

EASE TICK **EITHER** BOX A **OR** BOX B OVERLEAF AND **PROVIDE THE DETAILS REQUIRED IN** PPORT OF YOUR APPLICATION.

	Please tick
A. I consider that this project has **no** significant ethical implications to be brought before the Departmental Ethics Committee.	

Give a brief description of participants and procedure, including information on (1) hypotheses, (2) participants & recruitment, (3) research methodology, and (4) Estimated start date and duration of the study. Please attach consent and debrief forms.

	Please tick
B. I consider that this project **may** have ethical implications that should be brought before the Departmental Ethics Committee, and/or it will be carried out with children or other vulnerable populations.	X

Please provide all the further information listed below in a separate attachment.

1. Title of project
2. The potential value of addressing this issue
3. Brief background to the study
4. The hypotheses
5. Participants: recruitment methods, age, gender, exclusion/inclusion criteria
6. Research design
7. Procedures employed
8. Measures employed
9. Qualifications of the investigators to use the measures (Where working with children or vulnerable adults, please include information on investigators' CRB disclosures here)
10. Venue for investigation
11. Estimated start date and duration of the study (N.B. If you know that the research is likely to continue for more than three years, please indicate this here).
12. Data analysis
13. Potential offence/distress to participants
14. Procedures to ensure confidentiality and data protection
15. *How consent is to be obtained (see BPS Guidelines and ensure consent forms are expressed bilingually where appropriate. The University has its own Welsh translations facilities on extension 2036)
16. Information for participants (provide actual consent forms and information sheets)
17. Approval of relevant professionals (e.g., GPs, Consultants, Teachers, parents etc.)
18. Payment to: participants, investigators, departments/institutions
19. Equipment required and its availability
20. What arrangements are you making to give feedback to participants? The responsibility is yours to provide it, not participants' to request it.
21. Finally, check your proposal conforms to BPS Guidelines on Ethical Standards in research and sign the declaration. If you have any doubts about this, please outline them.

PLEASE COMPLETE PART TWO OVERLEAF.

PART TWO: RISK ASSESSMENT

If you tick "yes" to any of the questions in the table below, **please outline on a separate sheet the probability and significance of the risks involved and the means proposed for the management of those risks.** Where relevant, please also describe the procedures to be followed in the event of an adverse event or emergency.

			YES	NO	N/A
1	Is there significant potential risk to **participants** in any of the following ways?	Potential adverse effects		X	
		Potential distress	X		
2	Is there significant potential risk to **investigator(s)** in any of the following ways?	Potential risk of violence or other harm to the investigator(s) (e.g., through work with particular populations or through context of research).		X	
		Potential risk of allegations being made against the investigator(s). (e.g., through work with vulnerable populations or context of research).	X		
3	Is there significant potential risk to the **institution** in any way? (e.g., controversiality or potential for misuse of research findings.)			X	
4	Is there significant potential risk to other members of staff or students at the institution? (e.g., reception or other staff required to deal with violent or vulnerable populations.)			X	

The following questions address specific situations that can carry risks to the investigators and/or participants. If you tick "yes" to any of the questions below, please refer to the guidance given (see *Ethics Guidance and Procedures*) on procedures for dealing with these risks and, **on a separate sheet, outline how these risks will be dealt with in your project.**

5	Does the research involve the investigator(s) working under any of the following conditions: alone; away from the School; after-hours; or on weekends?	X		
6	Does the experimental procedure involve touching participants?		X	
7	Does the research involve disabled participants or children visiting the School?		X	

There is an obligation on the lead researcher to bring to the attention of the Departmental Ethics Committee any risk implications of the research not clearly covered by the above checklist.

PLEASE COMPLETE PART THREE OVERLEAF.

PART THREE: RESEARCH INSURANCE

The purpose of this section is to decide whether the University requires additional insurance cover for a research project. In the case of student research, this section should be completed by the supervisor.

		YES	NO	N/A
1	Is the research to be conducted in the UK?	X		
2	Is the research based **solely** upon the following methodologies? ▪ Psychological activity ▪ Questionnaires ▪ Measurements of physiological processes ▪ Venepuncture ▪ Collections of body secretions by non-invasive methods ▪ The administration by mouth of foods or nutrients or variation of diet other than the administration of drugs or other food supplements	X		

If you have ticked "Yes" to the questions above, then insurance cover is automatic for your research and there is no need to do anything further.

If the answer to either of the above questions is "No," we will supply you with a further questionnaire to complete and return to the Insurance Officer; in these cases **the research should not commence until it has been established that appropriate insurance cover is in place.**

PLEASE SIGN AND DATE THE DECLARATIONS ON THE FINAL PAGE OF THIS FORM OVERLEAF.

Declaration of ethical compliance
This research project will be carried out in accordance with the guidelines laid down by the British Psychological Society and the procedures determined by the School of Psychology at Bangor. I understand that I am responsible for the ethical conduct of the research. I confirm that I am aware of the requirements of the Data Protection Act and the University's Data Protection Handbook, and that this research will comply with them.

Declaration of risk assessment
The potential risks to the investigator(s) for this research project have been fully reviewed and discussed. As an investigator, I understand that I am responsible for managing my safety and that of participants throughout this research. I will immediately report any adverse events that occur as a consequence of this research.

Declaration of conflicts of interest
To my knowledge, there is no conflict of interest on my part in carrying out this research.

Declaration of data ownership and IPR (for students)
I understand that any data produced through this project are owned by the University and must be made available to my supervisor on request or at the end of the project. I confirm that I am aware of the University's Intellectual Property Policy and that this research will comply with it.

(Chief investigator/supervisor)

Signed:

Date: 12/10/06

(Associate investigator(s)/student(s)

Signed:

Date: 12/10/06

For School Use Only

Reviewer 1 .... Approved.....Date.....
(name) (signature)

Reviewer 2 .... Approved.....Date.....
(name) (signature)

Proposal No. .....

SCHOOL OF PSYCHOLOGY ETHICAL APPROVAL FORM

ADDITIONAL INFORMATION SHEET

PART ONE: ETHICAL CONSIDERATIONS

***B.** I consider that this project **may** have ethical implications that should be brought before the Departmental Ethics Committee, and/or it will be carried out with children or other vulnerable populations.*

1. Title of project.

Relationship between psychopathology and autobiographical memory following children's transition to secondary school

2. The potential value of addressing this issue

The main aim of this study is to investigate the relationship between child psychopathology and autobiographical memory following the transition to secondary school. The potential value of conducting this research is to gain information that may be helpful to identify: children whose overgeneral memories and lack of specificity serve as a marker for vulnerability to childhood depression, or; conversely, children whose overgeneral memories and lack of specificity serve as a protective factor against childhood depression. In terms of clinical implications, this information would be

valuable in terms of developing interventions for child psychopathology and future promotion of prevention of childhood depression.

3. Brief background to the study

Autobiographical memory (AM) refers to the aspect of memory that is concerned with the recollection of personally experienced past events (Conway & Pleydell-Pearce, 2000). Over the past twenty years, research has established a robust link between psychopathology and overgeneral autobiographical memory. The phenomenon of *overgeneral memory* (OGM) reflects a relative inability to respond with specific (i.e. referring to one particular event) memories to cue-words (Williams & Broadbent, 1986).

The term AM was first coined by Williams and Broadbent (1986) who addressed why suicidal patients displayed relatively long latencies to retrieve personal memories, especially in response to positive cue words. They found that when asked to retrieve a specific memory in response to a cue word, these individuals seemed to have particular difficulties, and produced more OGMs than the control group (van Vreeswijk & de Wilde, 2004). As research in this field progressed, it became clear that OGMs most often referred to events that happened repeatedly ('categoric memories') and less often referred to events which lasted longer than one day ('extended memories') (Williams, 1996).

Since Williams and Broadbent's (1986) seminal work, several studies using the AMT also found overgenerality of AMs amongst other clinical groups. It has become

increasingly clear that the ability to retrieve specific AMs is particularly difficult among individuals who suffer from major depression (e.g. Kuyken & Dalgleish, 1995). The same difficulty has also been noted in the following individuals: acute stress disorder (e.g. Harvey, Bryant & Dang, 1998); borderline personality disorder (e.g. Jones et al., 1999); obsessive-compulsive disorder (e.g. Wilhelm, McNally, Baer, & Florin, 1997); post-natal depression (e.g. Croll & Bryant, 2000); post-traumatic stress disorder (e.g. McNally, Lasko, Macklin, & Pitman, 1995) and; those who have been victims of childhood abuse (e.g. Hermans et al., 2004).

van Vreeswijk and de Wilde (2004) performed a meta-analysis investigating the role of depression in the specificity of AM and reported that individuals who suffer from depression have difficulty retrieving specific memories and instead retrieve summarised schematics. Thus, AM retrieval plays an important role in depression both in adults (van Vreeswijk & de Wilde, 2004) and children and adolescents (Kuyken, Howell, & Dalgleish, 2006; Park, Goodyer, & Teasdale, 2002).

Despite the theoretical attention devoted to AM, few studies have examined OGM in children and adolescents. As expected from the adult literature, clinically depressed adolescents have been reported to be more overgeneral in their responses to cue words in comparison to their non-depressed controls (de Decker, Hermans, Raes, & Eelen, 2003; Park, Goodyer, & Teasdale, 2002). Most recently, Drummond, Dritschel, Astell, O'Carroll and Dalgleish (2006) examined the roles of age, dysphoria, and a new variable, emotion-focusing, on the production of specific AM in children, using the standard

Autobiographical Memory Test (AMT; Williams & Broadbent, 1986). They found that dysphoria was linked to less specific retrieval of positive memories in children.

Raes, Hermans, de Decker, Eelen, & Williams (2003) first reported that a negative event leads to less subjective distress in low-specific participants as compared with high-specific participants. In an attempt to replicate Raes et al.'s (2003) finding, Raes, Hermans, Williams and Eelen (2006) examined the effect of specificity of AM on the affective impact of an emotional event. They reported that individuals with OGMs experienced less distress following a negative event compared to individuals whose memory retrieval was more specific. These results provided further evidence for Williams' (1996) *affect regulation* hypothesis, that reduced specificity in memory retrieval might be used as a functional strategy to protect oneself from distress following a negative experience (Raes et al., 2006).

The transition to secondary school is a potentially stressful time for children and marks a period of change in school environment, academic and social activities, and pubertal development (Hirsh & Dubois, 1992). With this in mind, the study aims to investigate whether overgenerality is related to childhood depression, and secondly, to determine whether overgenerality is protective for such children as they undergo the transition to secondary school. In addition, whilst OGM appears to represent a likely trait- or vulnerability marker for depression in the adult population, it would be useful to explore the affect regulation hypothesis within a child population.

4. The hypotheses

The main objective of this study is to look at the relationship between childhood psychopathology and autobiographical memory following transition to secondary school. The following questions will be addressed:

- Is there a difference in level of AM specificity between children who score high and low on the Beck Depression Inventory for Youth (BDI-Y; Beck, Beck & Jolly, 2001) during their final year at primary school?
- How well have children transitioned into secondary school? Are there any differences in AM specificity and OGMs between those who have transitioned well?
- Are children who have more OGMs less affected by change?

5. Participants: recruitment methods, age, gender, exclusion/inclusion criteria

Year 7 children from an English-medium secondary school in Conwy, North Wales, will be invited to participate in the study. Potentially, 270 children are available to participate in the study, although it is estimated that a minimum of 26 children in each group (high score for depression, and low score for depression) will be required to carry out the study. These children will have already completed the BDI-Y in Year 6 (Summer 2006) at their 'feeder' primary schools as part of another UWB PhD study. The secondary school will

be initially contacted to sanction the research proposal following research approval from the School of Psychology Ethics Committee, University of Wales, Bangor.

An opt-in policy for participation in the study will be employed for both parents/guardians and children. Following consent from the relevant body, a consent form and information sheet (available in English and Welsh) will be provided for both parents/guardians and young people via the secondary school and, clear statements will be made about who has access to information and where information is recorded. The researcher's contact details will be provided to discuss any concerns/issues regarding the study.

6. Research design

In the first instance, the study will employ a between-groups design looking at the differences in AM specificity in children who score high and low for depression on the BDI-Y. Another element of the study will be to compare scores on the AMT for those children who managed the transition to secondary school well as indicated by low changes in BDI-Y scores.

7. Procedures employed

T1 measure (Summer 2006):

- BDI-Y previously administered in Year 6 'feeder' primary schools.

The children who consent to partake in the study will be organised into the following groups depending on their BDI-Y score: High (>54) and Low (<55).

T2 measure (January 2006):

- BDI-Y will be administered in Year 7 secondary school.
- Participants will be assessed for specificity on the Autobiographical Memory Test (AMT; Williams & Broadbent, 1986).
- Cognitive ability will be assessed using the Digit Span subtest (from the Wechsler Intelligence Scale for Children – Third Edition (WISC-III; Wechsler, 1991).

(see Appendices 1.a -1.c for details of measures)

Participants will be tested individually and face-to-face, in a quiet, comfortable testing environment within the school. First, the participants will be asked to complete the AMT, followed by the BDI-Y and Digit Span subtest. Task order will be fixed to avoid possible contamination effects. Once all measures are completed, participants will be thanked for their participation and fully debriefed.

8. Measures employed

Beck Depression Inventory for Youth (BDI-Y)

In line with the depression criteria of the American Psychiatric Association's *DSM-IV* (1994), this inventory is designed to identify symptoms of depression in children. This is a 20-item, self-report inventory that allows for early identification of symptoms of depression in children and adolescents aged 7-14. The BDI-Y takes approximately 5-10 minutes to complete and, screens for emotional and social difficulties that may impair a child's ability to function in school settings. It includes items that reflect children's negative thoughts about themselves, their lives, and their future; feelings of sadness; and physiological indications of depression (Beck, Beck, & Jolly, 2001).

Children rate symptom frequency on a 0-3 scale (never, sometimes, often, or always). The total raw score (summation of scores for each item) can be transformed into a *T* score, based on child gender and age. The BDI-Y displays good internal consistency reliability (alpha coefficients from .87 to .92). It correlates highly with another widely used child self-report measure of depressive symptoms (Children's Depression Inventory, Kovacs, 1992) and demonstrates good test-criterion validity, with higher levels of distress found in special education and clinical samples than in control samples (Beck et al., 2001).

The following *T* scores indicate ranges defined by .5 standard deviations on the BDI-Y:

Score	Severity Level
T = 70+	Extremely elevated
T = 60-69	Moderately elevated
T = 55-59	Mildly elevated
T = <55	Average

Autobiographical Memory Test (AMT)

The AMT contains ten cue words, five which are positive in tone (happy, safe, interested, successful, surprised) and five which are negative in tone (sad, angry, clumsy, hurt (emotional), lonely) (Williams & Broadbent, 1986). Participants will be instructed to recall specific events in response to each cue word and have an opportunity to practice on three cue words (practice trial) with feedback before the test begins. If the first response to the cue is overgeneral, participants will be prompted to provide a specific instance (''Can you remember a particular time when . . .?''). If the participant does not produce a memory within 30 seconds, this will be recorded and the next word presented.

Participants will be given 30s to retrieve a memory. Failure to respond or to retrieve a memory will be coded as `no memory'. Failure to retrieve a specific memory will result in the allocation of an overgeneral response categorisation for that cue word. All participant responses will be recorded on audiotape and later transcribed by the researcher. All words will be presented on flash cards. The number of first responses that are specific will be scored, as will specificity in response to negative and positive cue words. Responses will be rated independently as specific or general by two raters (researcher and supervisor) and inter-rater reliability will be calculated (on 10% of sample). Any discrepancies will be resolved by discussion and the agreed scores entered into the analysis.

Digit-Span Test

Cognitive ability will be assessed using the Digit-Span Test from the WISC-III (Wechsler, 1991). This test requires the examiner to verbally present digits at a rate of one per second. The forward test requires the participant to repeat the digits verbatim. The backward test requires the participant to repeat the digits in reverse order. The number of digits increases by one until the participant consecutively fails two trials of the same digit span length.

The Digit-Span Test, a measure of working memory capacity, is standardised for children 6 years of age and older. Split-half reliability coefficients of the WISC-III Digit-Span

Test range from .79 to .91, and stability coefficients average .73 across children of 6–15 years old.

9. Qualifications of the investigators to use the measures (Where working with children or vulnerable adults, please include information on investigators' CRB disclosures here)

There are no formal qualifications required in administering the AMT and the BDI-Y. Dr Elizabeth Burnside has been involved in previous studies that have implemented the AMT and will provide training to the researcher. During her 'Learning Disabilities' placement on the NWCPP (D.Clin.Psy), the researcher has been formally 'passed out' on implementation of the WISC-III. At the time of conducting the research, the researcher will have completed two years of the D.Clin.Psy and training by that point will have included: six months in older adults; six months in adult mental health; six months in learning disabilities (child), and; six months in child and adolescent mental health (paediatric setting). An advanced CRB check was fully completed by the researcher prior to commencing the D.Clin.Psy.

10. Venue for investigation

Participants will be tested individually and face-to-face, in a quiet, comfortable testing environment within the secondary school.

11. Estimated start date and duration of the study (N.B. If you know that the research is likely to continue for more than three years, please indicate this here).

Start date: Following approval from School of Psychology Ethics Committee, UWB.

End date: June 2007.

12. Data analysis

Descriptive statistics (mean, median, percentages, and standard deviation) will be used to summarise the information gathered. Data from the AMT will be analysed using independent-samples t-tests, and analysis of variance will be conducted for high depression and low depression scores to explore any differences.

13. Potential offence/distress to participants

Although it is not envisaged, it is possible that some participants may become distressed during the study. Should a participant become upset while completing the measures, the researcher will stop the procedure and take appropriate steps to ensure the welfare of the

participant. School staff will be kept informed of any incident upon the participant's return to the classroom.

The trainee clinical psychologist conducting the research has experience in working with children with emotional problems. In addition, Dr Burnside, who is an experienced child Clinical Psychologist, will provide supervision for the trainee in dealing effectively and empathically with children who may become distressed. Should school staff become concerned about any of the children participating in the study, consultation will be offered by the researcher and supervisor regarding referral to appropriate agencies. Potential risk to participants and the researcher is thought to be minimal as the researcher has extensive experience of working alone with children and has undergone an advanced CRB check.

As stated in section 5, the BDI-Y was administered to children during Year 6 (Summer 2006), as part of another UWB PhD study. Therefore, if any participants scored highly on the BDI-Y during this period of data collection, appropriate steps will have already been made to ensure the welfare of the participant.

14. Procedures to ensure confidentiality and data protection.

All data collected for the study will be both stored securely in a locked cupboard and electronically stored at NWCPP, University of Wales, Bangor. Data written to a computer will be password protected. As the study requires data from another UWB PhD

study (BDI-Y), records of codes from the PhD study will be accessed in order to match data for this study. Each participant's data will be given a code to ensure anonymity. Only the researcher and supervisor will have access to the participant's data.

The information sheet (see Appendices 1.d and 1.e) that will be given to parents/guardians will explain the limits of confidentiality, i.e. if a child discloses any information that causes the researcher to be concerned about their safety; the researcher has a duty to take appropriate steps to ensure the child's welfare.

15. *How consent is to be obtained (see BPS Guidelines and ensure consent forms are expressed bilingually where appropriate. The University has its own Welsh translations facilities on extension 2036).

An opt-in policy for participation in the study will be employed for both parents/guardians and children. Following consent from the relevant body, a consent form and information sheet (available in English and Welsh) will be provided for both parents/guardians and young people via the secondary school and, clear statements will be made about who has access to information and where information is recorded. The researcher's contact details will be provided to discuss any concerns/issues regarding the study.

16. Information for participants (Provide actual consent forms and information sheets.)

An opt-in policy for participation in the study will be employed for both parents/guardians and children. Following consent from the relevant body, a consent form and information sheet (available in English and Welsh) will be provided for both parents/guardians and young people via the secondary school and, clear statements will be made about who has access to information and where information is recorded. The researcher's contact details will be provided to discuss any concerns/issues regarding the study. Please refer to attached participant information sheets (Appendices 1.d and 1.e) and consent forms (Appendices 1.f and 1.g).

17. Approval of relevant professionals (e.g., GPs, Consultants, Teachers, parents etc.)

Once the head teacher (and relevant Local Education Authority) has agreed for the secondary school to take part in the study, the requirements of the study will be explained to individual teachers and approval ensured. As outlined above, parents/guardians will subsequently be contacted to obtain consent.

18. ***Payment to: participants, investigators, departments/institutions***

Participants will not be paid for their contribution to the study.

19. ***Equipment required and its availability***

All questionnaire measures and recording equipment are readily available.

20. ***What arrangements are you making to give feedback to participants? The responsibility is yours to provide it, not participants' to request it.***

All parties involved will be given the opportunity to receive verbal and/or written feedback of the study. A summary of the main findings (available in English and Welsh) will be compiled and distributed to all participants and/or parents.

21. ***Finally, check your proposal conforms to BPS Guidelines on Ethical Standards in research and sign the declaration. If you have any doubts about this, please outline them.***

SCHOOL OF PSYCHOLOGY ETHICAL APPROVAL FORM

ADDITIONAL INFORMATION SHEET

PART TWO: RISK ASSESSMENT

1. Potential distress.

Although it is not envisaged, it is possible that some participants may become distressed during the study. Should a participant become upset while completing the measures, the researcher will stop the procedure and take appropriate steps to ensure the welfare of the participant. School staff will be kept informed of any incident upon the participant's return to the classroom.

The trainee clinical psychologist conducting the research has experience in working with children with emotional problems. In addition, Dr Burnside, who is an experienced child Clinical Psychologist, will provide supervision for the trainee in dealing effectively and empathically with children who may become distressed. Should school staff become concerned about any of the children participating in the study, consultation will be offered by the researcher and supervisor regarding referral to appropriate agencies.

2. Potential risk of allegations being made against the investigator(s) (e.g. through work with vulnerable populations or context of research).

Potential risk to participants and the researcher is thought to be minimal as the researcher has extensive experience of working alone with children and has undergone an advanced CRB check.

3. Does the research involve the investigator(s) working under any of the following conditions: alone; away from the School; after-hours; or on weekends?

Participants will be tested individually and face-to-face, in a quiet, comfortable testing environment within the secondary school. The whole process will take around 30 minutes and participants will return to their classroom upon completion of the measures. School staff will be fully aware of date, time, and location of data collection with each participant.

SCHOOL OF PSYCHOLOGY ETHICS AMENDMENT REQUEST FORM
[To be used to request Ethics Committee approval for non-trivial modifications to a previously approved research project.]

Date: 13/12/06

Title of project: Relationship between psychopathology and autobiographical memory following children's transition to secondary school

School Ethics Approval number: **874**

Name(s) and email address(es) of researchers:

1. Praveena Patel (Trainee Clinical Psychologist, NWCPP)
E-mail: psp060@bangor.ac.uk or praveena_patel@hotmail.com

2. Dr Elizabeth Burnside (Research Tutor, NWCPP)
E-mail: e.burnside@bangor.ac.uk

N.B. If you wish to amend your currently approved procedure to do one or more of the following:

a) Pay participants;
b) Work with children or other vulnerable populations (i.e. patients, people in custody, physically vulnerable adults, people engaged in illegal activities, people with learning or communication difficulties);
c) Deliberately mislead participants;
d) Utilise procedures that carry a realistic risk of participants experiencing physical or psychological distress or discomfort
e) Work with animals;

AND your previous approval was based on there being no significant ethical implications of the research (i.e. you ticked box A on the original ethical approval form), then you will need to complete a new ethical approval form and give all the information required in Box B.

PLEASE DO NOT USE THIS FORM.

Please describe the nature of your amendment(s) in the box below (and on a separate sheet if necessary):

The following amendment is requested:

Addition of the Coping Scale for Children and Youth (CSCY; Brodzinsky et al., 1992) to investigate participants' coping strategies following transition to secondary school.

This is a self-report inventory comprised of 29 items to be answered on a 4-point Likert scale (1 = Never; 2 = Sometimes; 3 = Often; 4 = Very Often). It consists of four subscales: Assistance Seeking, Cognitive-Behavioural Problem Solving, Cognitive Avoidance, and Behavioural Avoidance.

continued...

Assistance Seeking comprises four items involving interpersonal problem-solving. Examples include getting advice or sharing feelings with another person.

Cognitive-Behavioural Problem Solving includes eight items that have both cognitive/affective and direct behavioural components. Examples include making a plan to solve the problem and then following the plan, and thinking about the problem in a new way so as to minimise distress.

Cognitive Avoidance includes 11 items that involve emotional management, cognitive redefinition, selective attention, and minimisation of the problem. Examples include putting the problem out of one's mind, and trying to pretend that the problem did not happen.

Behavioural Avoidance includes six items that involve taking oneself out of the vicinity of the stressor or reducing tension by indirect means as displacement of anger onto another person. Examples include staying away from people who remind you of the problem, or being mean to people even though they did not deserve it.

Factor Analysis of the CSCY has indicated that these strategies form reliable factors in a sample of 10-14-year olds. The CSCY has been found to be both reliable and valid in previous studies (Brodzinsky et al., 1992; Smith & Brodzinsky, 1994).

Prof. Brodzinsky has given permission for the CSCY to be used in this study and has provided a complete copy of the CSCY (see Appendix 1.h).

Please consider carefully whether the amendment(s) to your research will affect the following:

		YES	NO	N/A
1	Participants' ability to give informed, voluntary consent		X	
2	Participants' ability to voluntarily withdraw from the research		X	
3	In questionnaire-based studies, participants' option to omit questions		X	
4	Maintenance of confidentiality of participant data		X	
5	The ability to give a full participant debriefing		X	
7	Risks to participants, investigators, or the institution		X	

If you have answered "yes" to any of the questions above, please provide a full explanation on a separate sheet. **There is an obligation on the lead researcher to bring to the attention of the Ethics Committee any further ethical implications not clearly covered by the above checklist.**

- **If you intend to use additional questionnaires, please attach copies.**
- **If the nature of your request entails changes to consent/debriefing information, please attach the amended documents.**

Signed (Chief investigator/supervisor):

Signed (Associate investigator(s)/student(s):

Ethics Proposal Form Approval Letter

Date:	Wed, 10 Jan 2007 11:32:55 +0000
From:	Anwen Williams <anwen.williams@bangor.ac.uk>
To:	psp060@bangor.ac.uk
Cc:	e.burnside@bangor.ac.uk
Subject:	Research proposal 874

Dear Colleagues

Relationship between psychopathology and autobiographical memory following children's transition to secondary school (proposal no.874)

Your amended research proposal referred to above has been considered by the School of Psychology Ethics Review Committee and they are satisfied that the research proposed accords with the relevant ethical guidelines.

If you wish to make any modifications to the research project, you must speak to your supervisor about it. If your supervisor thinks that the modifications are at all important, you must inform the committee in writing before proceeding. Please also inform the committee as soon as possible if participants experience any unanticipated harm as a result of taking part in your research.

Good luck with your research.

Anwen Williams
HR/Finance/Ethics
Room 106
Brigantia Building
School of Psychology
Penrallt Road
Bangor
North Wales
LL57 2AS

email: anwen.williams@bangor.ac.uk

Tel: +44 (0) 01248 388739

References

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders. (4th rev. ed.)* Washington, DC: Author.

Beck, J., Beck A. T., & Jolly, J. (2001). *Beck depression inventory for youth.* San Antonio, TX: Harcourt Assessments, Inc.

Brodzinsky, D. M., Elias, M. J., Steiger, C., Simon, J., Gill, M., & Clarke Hitt, J. (1992). Coping scale for children and youth: Social development and validation. *Journal of Applied Developmental Psychology, 13,* 195–214.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review, 107,* 261–288.

Croll, S., & Bryant, R. A. (2000). Autobiographical memory in postnatal depression. *Cognitive Therapy and Research, 24,* 419–426.

de Decker, A., Hermans, D., Raes, F., & Eelen, P. (2003). Autobiographical memory specificity and trauma in inpatient adolescents. *Journal of Clinical Child and Adolescent Psychology, 32,* 22–31.

Drummond, L. E., Dritschel, B., Astell, A., O'Carroll, R. E., & Dalgleish, T. (2006). Effects of age, dysphoria, and emotion-focusing on autobiographical memory specificity in children. *Cognition and Emotion, 20(3/4),* 488–505.

Harvey, A. G., Bryant, R. A., & Dang, S. T. (1998). Autobiographical memory in acute stress disorder. *Journal of Consulting and Clinical Psychology, 66,* 500–506.

Hermans, D., Van den Broeck, K., Belis, G., Raes, F., Pieters, G., & Eelen, P. (2004). Trauma and autobiographical memory specificity in depressed inpatients. *Behaviour Research and Therapy, 42,* 775–789.

Hirsch, B. J., & DuBois, D. L. (1992). The relation of peer social support and psychological symptomatology during the transition to junior high school: A two-year longitudinal analysis. *American Journal of Community Psychology, 20,* 333–347.

Jones, B., Heard, H., Startup, M., Swales, M., Williams, J. M. G., & Jones, R. S. P. (1999). Autobiographical memory and dissociation in borderline personality disorder. *Psychological Medicine, 29,* 1397–1404.

Kovacs, M. (1992). *Children's depression inventory*. Tonawanda, NY: Multi-Health System.

Kuyken, W., & Dalgleish, T. (1995). Autobiographical memory and depression. *British Journal of Clinical Psychology, 34,* 89–92.

Kuyken, W., Howell, R., & Dalgleish, T. (2006). *Over-general autobiographical memory, trauma, and depression in adolescence.* Manuscript in preparation.

McNally, R. J., Lasko, N. B., Macklin, M. L., & Pitman, R. K. (1995). Autobiographical memory disturbance in combat-related posttraumatic stress disorder. *Behaviour Research and Therapy, 33,* 629–630.

Park, R. J., Goodyer, I. M., & Teasdale, J. D. (2002). Categoric overgeneral autobiographical memory in adolescents with major depressive disorder. *Psychological Medicine, 32,* 267–276.

Raes, F., Hermans, D., de Decker, A., Eelen, P., & Williams, J. M. G. (2003). Autobiographical memory specificity and affect regulation: An experimental approach. *Emotion, 3,* 201–206.

Raes, F., Hermans, D., Williams, J. M. G., & Eelen, P. (2006). Reduced autobiographical memory specificity and affect regulation. *Cognition and Emotion, 20 (3/4),* 402–429.

Smith, D. W., & Brodzinsky, D. M. (1994). Stress and coping in adopted children: A developmental study. *Journal of Clinical Child Psychology, 23,* 91–99.

van Vreeswijk, M. F., & de Wilde, E. J. (2004). Autobiographical memory specificity, psychopathology, depressed mood and the use of the autobiographical memory test: A meta-analysis. *Behaviour Research and Therapy, 42,* 731–743.

Wechsler, D. (1991). *Wechsler Intelligence Scale for Children - Third Edition.* San Antonio, TX: The Psychological Corporation.

Wilhelm, S., McNally, R. J., Baer, L., & Florin, I. (1997). Autobiographical memory in obsessive–compulsive disorder. *British Journal of Clinical Psychology, 36,* 21–31.

Williams, J. M. G. (1996). Depression and the specificity of autobiographical memory. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory* (pp. 244–267). Cambridge, England: Cambridge University Press.

Williams, J. M. G., & Broadbent, K. (1986). Autobiographical memory in suicide attempters. *Journal of Abnormal Psychology, 95,* 144–149.

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Appendices

1.a Beck Depression Inventory for Youth (BDI-Y)

1.b Autobiographical Memory Test (AMT)

1.c Digit Span Test (subtest from the WISC-III)

1.d Information sheet for parents/guardians (English version)

1.e Information sheet for parents/guardians (Welsh version)

1.f Consent form for parents/guardians (English version)

1.g Consent form for parents/guardians (Welsh version)

1.h Coping Scale for Children and Youth (CSCY)

Appendix 1.a - Beck Depression Inventory for Youth (BDI-Y)

A copy of the BDI-Y was enclosed at this point: Beck, J., Beck A. T., & Jolly, J. (2001). *Beck depression inventory for youth.* San Antonio, TX: Harcourt Assessments, Inc.

Instructions: "I am interested in your memory for events that have happened in your life. I am going show you some cards, each with a word on. For each word, I want you to think of an event that happened to you which the word reminds you of. The event could have happened recently (yesterday, last week) or a long time ago. It might be an important event or a trivial (unimportant) event. Just one more thing: The memory you recall should be a specific event which lasted less than one day. So if I said the word 'good' it would not be OK to say 'I always enjoy a good party' because that does not mention a specific event, but it would be OK to say 'I had a good time at Jane's party last week' because that is a specific event".

Appendix 1.c - Digit Span Test (subtest from the WISC-III)

A copy of the Digit Span Test (subtest from the WISC-III) was enclosed at this point:

Wechsler, D. (1991). *Wechsler Intelligence Scale for Children - Third Edition.* San Antonio, TX: The Psychological Corporation.

Appendix 1.d - Information sheet for parents/guardians (English version)

(printed on School of Psychology, University of Wales, Bangor, headed paper)

Memories and experience of children following their transition to secondary school

Researchers: Praveena Patel and Dr Elizabeth Burnside, North Wales Clinical Psychology Programme

Your child is being invited to take part in a research study. Before you decide whether your child takes part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and contact us if there is anything that is not clear or if you would like more information.

What is the purpose of the study?
During Year 6 at your child's primary school, you may recall that your child participated in another study, looking at the role of emotional intelligence and children's adjustment following their transition to secondary school. The transition to secondary school can potentially be a stressful time for children. Many studies have reported that mood is related to memory. Therefore, this study aims to build upon the previous study your child was involved in, focusing upon the relationship between memory and mood following their transition to secondary school.

What does it involve?
The research will be carried out by Praveena Patel (Trainee Clinical Psychologist) and the whole process will probably take around 30 minutes. Firstly, your child will be asked some questions regarding their mood, and secondly, will be shown some words and be asked to provide memories from their own experience that each word reminds them of. Your child will also be asked some questions regarding how they coped with their transition to secondary school.

Does my child have to take part?
Participation is entirely voluntary and it is up to you whether you would like your child to take part. If you decide that you would like them to take part, please could you sign the attached consent form and return it in the envelope provided. If you do not wish for your child to take part, you can tell us now or at any time during the research. You do not have to give any reason if you decide that you do not want your child to take part. A decision to withdraw at any time, or a decision not to take part, will not affect your child's school placement in any way.

Confidentiality
In order to keep accurate records, the interview and memory part of the research will be tape-recorded. These tapes will be destroyed after the study is completed. The information from the tapes will be stored as numbers on a computer and kept separately from your child's name. All the information your child gives will be confidential. However, if your child discloses any information that causes the researcher to be

concerned about their safety, the researcher has a duty to take appropriate steps to ensure the child's welfare.

Further information
If you require any further information please contact:

Praveena Patel, North Wales Clinical Psychology Programme, 43 College Road, Bangor, Gwynedd, LL57 2DG (E-mail: psp060@bangor.ac.uk) or;

Dr Elizabeth Burnside, North Wales Clinical Psychology Programme, 43 College Road, Bangor, Gwynedd, LL57 2DG (Telephone: 01248-388422; E-mail: e.burnside@bangor.ac.uk).

If you decide that you would like your child to take part, please keep this information sheet so that you can refer to it in the future. You will also be given a signed copy of the consent form to keep for your information.

If you have any complaints about the conduct of the study, these should be addressed to: Professor Richard Hastings, Acting Head of the School Psychology, University of Wales Bangor, Bangor, Gwynedd, LL57 2DG.

Thank you for taking the time to read this information sheet.

Appendix 1.e - Information sheet for parents/guardians (Welsh version)

(printed on School of Psychology, University of Wales, Bangor, headed paper)

Atgofion a phrofiad plant wrth iddynt symud i'r ysgol uwchradd

Ymchwilwyr: Praveena Patel a Dr Elizabeth Burnside, Rhaglen Seicoleg Glinigol Gogledd Cymru, Prifysgol Cymru Bangor

Annwyl Riant/Rieni

Gwahoddir eich plentyn i gymryd rhan mewn astudiaeth ymchwil. Cyn i chi benderfynu a fydd eich plentyn yn cymryd rhan ai peidio, mae'n bwysig eich bod yn deall y rheswm dros wneud yr ymchwil a'r hyn y bydd yn ei olygu. A fyddech cystal â rhoi ychydig o'ch amser i ddarllen y wybodaeth ganlynol yn ofalus, a chysylltwch â ni os oes rhywbeth yn aneglur, neu os hoffech ragor o wybodaeth.

Beth yw pwrpas yr astudiaeth?
Yn ystod Blwyddyn 6 yn ysgol gynradd eich plentyn, efallai y cofiwch i'ch plentyn gymryd rhan mewn astudiaeth arall, a oedd yn edrych ar swyddogaeth deallusrwydd emosiynol a'r modd y mae plant yn addasu wrth iddynt symud i'r ysgol uwchradd. Gall y cyfnod o symud i'r ysgol uwchradd fod yn dipyn o straen i blant. Mae llawer o astudiaethau wedi adrodd bod hwyliau'n gysylltiedig â'r cof. Mae'r astudiaeth hon felly'n ceisio adeiladu ar yr astudiaeth flaenorol yr oedd eich plentyn yn cymryd rhan ynddi, gan ganolbwyntio ar y cysylltiad rhwng y cof a hwyliau wrth iddynt symud i'r ysgol uwchradd.

Beth mae'n ei olygu?
Gwneir yr ymchwil gan Praveena Patel (Seicolegydd Clinigol dan Hyfforddiant) a bydd yr holl broses yn debygol o gymryd tua 30 munud. Yn gyntaf, gofynnir ychydig o gwestiynau i'ch plentyn am ei hwyliau, ac yn ail, dangosir ychydig o eiriau iddo, a gofynnir iddo roi atgofion o'u profiad eu hunain y mae pob gair yn ei atgoffa ohono. Gofynnir ychydig o gwestiynau i'ch plentyn hefyd ynghylch sut y gwnaethant ymdopi wrth symud i'r ysgol uwchradd.

Oes raid i'm plentyn gymryd rhan?
Eich dewis chi yw a fyddech yn hoffi i'ch plentyn gymryd rhan ai peidio. Os penderfynwch yr hoffech iddynt gymryd rhan, llofnodwch y ffurflen gydsynio sydd ynghlwm a'i dychwelyd yn yr amlen a ddarperir. Os nad ydych yn dymuno i'ch plentyn gymryd rhan, gellwch chi ddweud wrthym ni nawr, neu ar unrhyw adeg yn ystod yr ymchwil. Nid oes raid i chi roi rheswm os ydych yn penderfynu nad ydych chi am i'ch plentyn gymryd rhan. Os penderfynwch dynnu'n ôl ar unrhyw adeg, neu beidio â chymryd rhan, ni fydd hynny'n effeithio ar leoliad ysgol eich plentyn mewn unrhyw ffordd.

Cyfrinachedd
Er mwyn cadw cofnodion cywir, caiff y cyfweliad a rhan yr atgofion o'r ymchwil eu recordio ar dâp. Caiff y tapiau hyn eu dinistrio pan ddaw'r astudiaeth i ben. Caiff y wybodaeth o'r tapiau eu cadw fel rhifau ar gyfrifiadur a'u cadw ar wahân i enw'ch plentyn. Bydd yr holl wybodaeth a geir gan eich plentyn yn cael ei chadw'n gyfrinachol. Fodd bynnag, os bydd eich plentyn yn datgelu unrhyw wybodaeth sy'n gwneud i'r ymchwilydd bryderu am eu diogelwch, mae gan yr ymchwilydd ddyletswydd i gymryd camau priodol i sicrhau lles y plentyn.

Gwybodaeth bellach
Os hoffech gael gwybodaeth bellach, cysylltwch â:

Praveena Patel, Rhaglen Seicoleg Glinigol Gogledd Cymru, 43 Ffordd y Coleg, Bangor, Gwynedd, LL57 2DG (E-bost: psp060@bangor.ac.uk) neu;

Dr Elizabeth Burnside, Rhaglen Seicoleg Glinigol Gogledd Cymru, 43 Ffordd y Coleg, Bangor, Gwynedd, LL57 2DG (Ffôn: 01248-388422; E-bost: e.burnside@bangor.ac.uk).

Os penderfynwch yr hoffech i'ch plentyn gymryd rhan, llenwch y ffurflen gydsynio sydd ynghlwm a'i dychwelyd i'r ysgol yn yr amlen a ddarperir. Cadwch y daflen wybodaeth hon fel y gellwch gyfeirio ati yn y dyfodol.

Dylech gyfeirio unrhyw gwynion sydd gennych am y modd y gwneir yr astudiaeth at: Yr Athro Richard Hastings, Pennaeth Dros Dro'r Ysgol Seicoleg, Prifysgol Cymru, Bangor, Gwynedd, LL57 2DG.

Diolch i chi am gymryd amser i ddarllen y wybodaeth hon.

Appendix 1.f - Consent form for parents/guardians (English version)

(printed on School of Psychology, University of Wales, Bangor, headed paper)

Memories and experience of children following their transition to secondary school

Dear Parent(s)/Guardian(s)

Please complete the consent form and return it to school in the envelope provided.

		Please delete as appropriate
Have you read the information sheet?	.....	Yes/No
Do you understand that your child is free to withdraw from the study;		
at any time?		Yes / No
without having to give a reason?		Yes / No
Do you agree for your child to take part in this study?		Yes / No

Signed ..... Date .....

(Name in BLOCK LETTERS) .....

(Child's name in BLOCK LETTERS) .....

Appendix 1.g - Consent form for parents/guardians (Welsh version)

(printed on School of Psychology, University of Wales, Bangor, headed paper)

<u>Atgofion a phrofiad plant wrth iddynt symud i'r ysgol uwchradd</u>

Ymchwilwyr: Praveena Patel a Dr Elizabeth Burnside, Rhaglen Seicoleg Glinigol Gogledd Cymru, Prifysgol Cymru Bangor

Annwyl Riant/Rieni

A fyddech cystal â llenwi'r ffurflen gydsynio a'i dychwelyd i'r ysgol yn yr amlen a ddarperir.

	Dilëwch fel sy'n briodol
Ydych chi wedi darllen y daflen wybodaeth?.....	Ydw / Nac ydw
Ydych chi'n deall y gall eich plentyn dynnu'n ôl o'r astudiaeth hon;	
ar unrhyw adeg?	Ydw / Nac ydw
heb orfod rhoi rheswm?	Ydw / Nac ydw
Ydych chi'n cytuno i'ch plentyn gymryd rhan yn yr astudiaeth hon?	Ydw / Nac ydw

Llofnod ..... Dyddiad .....

Enw (mewn priflythrennau) .....

Enw'r plentyn (mewn priflythrennau) .....

Appendix 1.h - Coping Scale for Children and Youth (CSCY)

Participant No: _____ Age: _____ Male / Female

All children and teenagers have some problems they find hard to deal with and that upset them or worry them. We are interested in finding out what you do when you try to deal with a hard problem. Think about some problem that has upset you or worried you in the *past few months*. It could be a problem with someone in your family, a problem with a friend, a school problem, or anything else. Briefly describe what the problem is in the space below.

.....

.....

.....

.....

.....

How much has this problem bothered you? Circle one of the answers.

1	2	3
a little bit	a medium amount	a great deal

Listed below are some ways that children and teenagers try to deal with their problems. Please tell us how often you have used these behaviours when you tried to deal with the *problem you described above*.

		Never	**Sometimes**	**Often**	**Very Often**
1	I asked someone in my family for help.				
2	I tried not thinking about the problem.				
3	I went on with my usual activities as if nothing was wrong.				
4	I thought about the problem and tried to figure out what I could do about it.				
5	I stayed away from things that reminded me about the problem.				
6	I tried not to feel anything inside me. I wanted to feel numb.				
7	I pretended the problem wasn't very important to me.				
8	I knew I had lots of feelings about the problem, but I just didn't pay any attention to them.				

		Never	Sometimes	Often	Very Often
9	I took a chance and tried a new way to solve the problem.				
10	I tried to get away from the problem for a while by doing other things.				
11	I made a plan to solve the problem and then I followed the plan.				
12	I pretended the problem had nothing to do with me.				
13	I went over in my head some of the things I could do about the problem.				
14	I thought about the problem in a new way so that it didn't upset me as much.				
15	I went to sleep so that I wouldn't have to think about it.				
16	When I was upset about the problem, I was mean to someone even though they did not deserve it.				
17	I learned a new way of dealing with the problem.				
18	I tried to pretend that the problem didn't happen.				
19	I got advice from someone about what I should do.				
20	I hoped that things would somehow work out so I didn't do anything.				
21	I tried to pretend that my problem wasn't real.				
22	I tried not to be with anyone who reminded me of the problem.				
23	I shared my feelings about the problem with another person.				
24	I tried to figure out how I felt about the problem.				
25	I figured out what had to be done and then I did it.				
26	I kept my feelings to myself.				
27	I realised there was nothing I could do. I just waited for it to be over.				
28	I decided to stay away from people and be by myself.				
29	I put the problem out of my mind.				

Section 2: Literature review

Running head: AUTOBIOGRAPHICAL MEMORY AND PROBLEM-SOLVING

The relationship between autobiographical memory and problem-solving: Is overgenerality a vulnerability marker or a protective factor for psychopathology?

Praveena Patel* (proposed additional author: Dr Elizabeth Burnside)

School of Psychology

University of Wales, Bangor, UK

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Abstract

Research in the autobiographical memory (AM) field has shown that psychopathology is associated with a difficulty in retrieving specific AMs. This pattern of overgeneral AM is reported to contribute to the following vulnerability factors: delayed recovery from depression, problems in imagining future events, and poor problem-solving. This article has several aims. Firstly, it provides an overview of the phenomenon of overgeneral AM and briefly discusses some of its underlying mechanisms. By doing so, it addresses the notion that AM is a vulnerability marker for depression, particularly with regard to problem solving ability. Secondly, it considers whether AM is potentially a protective factor against depression, through functional avoidance strategies. Clinical implications, methodological weaknesses, and directions for future research are discussed.

Introduction

Autobiographical memory (AM) is central to our functioning as it refers to the aspect of memory that is concerned with the recollection of personally experienced past events. It is "of fundamental significance for the self, for emotions, and for the experience of personhood, that is, for the experience of enduring as an individual, in a culture, over time" (Conway & Pleydell-Pearce, 2000, p.261).

Over the past two decades, extensive research has established a robust link between overgeneral AM and psychopathology. It has become increasingly clear that the ability to retrieve specific AMs is particularly difficult among individuals who suffer from affective disorders (e.g. Kuyken & Dalgleish, 1995; Wessel, Meeren, Peeters, Arntz & Merckelbach, 2001). This lack of specificity has also been noted in post-traumatic stress disorder (e.g. McNally, Litz, Prassas, Shin & Weathers, 1994; McNally, Lasko, Macklin & Pitman, 1995) and in individuals who have a history of trauma (e.g. Kuyken & Brewin, 1995; Hermans et al., 2004), amongst other clinical groups.

Studies have shown that the phenomenon of overgeneral AM is an important one, since it has been found to correlate with poor problem-solving (e.g. Evans, Williams, O'Loughlin & Howells, 1992; Goddard, Dritschel & Burton, 1996), problems in imagining future events (Williams et al., 1996) and delayed recovery from depression (e.g. Dalgleish, Spinks, Yiend & Kuyken, 2001).

This review firstly describes the overgeneral AM phenomenon, highlighting its importance within psychopathology research. It primarily focuses on the consequence of overgeneral AM that has most frequently been reported, that is, its association with problem solving performance. Secondly, this review considers whether overgeneral AM is a vulnerability marker for depression as suggested by its association with poor problem solving, or conversely, whether it is a protective factor against depression. Finally, it asks whether AM may possibly function as a protective factor in some cases and calls for a more fine-grained analysis of the specific function behind the adoption of different AM biases in clinical populations.

Search strategy and selection criteria

The following databases were searched: PsycARTICLES, PsychINFO, and ISI Web Of Knowledge; between 1992-2007, using the subsequent search terms, 'autobiographical memory' and 'problem solving'. The results were then limited using the terms 'overgeneral autobiographical memory', 'specificity', 'depression', 'avoidance' and 'coping'. In addition, the following journals were hand searched over the same period: Cognition and Emotion, and Memory. For the purpose of this review, publications in the past five years were largely selected; nevertheless commonly referenced and highly regarded older publications were not excluded.

What is overgeneral autobiographical memory?

Lack of AM specificity was first described by Williams and Broadbent (1986) whilst conducting a study on mood-congruent memory. The authors addressed why suicidal patients displayed relatively long latencies to retrieve personal memories, especially in response to positive cue words. They found that when asked to retrieve a specific memory in response to a cue word, depressed individuals seemed to have particular difficulties, and produced more overgeneral AMs (i.e. "every time I play golf") instead of specific AMs (i.e. "when I beat Simon at golf last Saturday") in comparison to the control group (Williams, 1996).

Since Williams and Broadbent's (1986) seminal study, the last twenty years has seen an explosion of studies further investigating the more qualitative aspects of AM (i.e. specific versus overgeneral AM). The Autobiographical Memory Test (AMT; Williams & Broadbent, 1986) has become the dominant paradigm for assessing AM. In the initial study, participants were asked to provide specific memories in response to five positive (happy, interested, safe, successful, surprised) and five negative (angry, clumsy, hurt, lonely, sorry) cue words, although some studies have since also used neutral words (e.g. gigantic).

Specific memories on the AMT were defined as memories lasting less than one particular day, including event specific time and place information (e.g. "when I went to my friend's birthday party last Saturday"). Generic or 'categoric' memories referred to

memories of a general class of repeated events (e.g. "watching my favourite television programme"). Some studies have since classified memories as extended memories (Williams & Dritschel, 1992), for example, a memory of a single event lasting more than one day (e.g. "my holiday in New York"). As research in the field progressed, it became clear that overgeneral AMs most often referred to events that happened repeatedly ('categoric memories') and less often referred to events which lasted longer than one day ('extended memories') (Williams, 1996).

Stability of overgeneral autobiographical memory

Following the serendipitous findings of Williams and Broadbent (1986), subsequent research has found overgenerality to be a characteristic of depression (Williams & Scott, 1988). Although it is not clear whether overgeneral AM is a cause or an effect of depression, there is some evidence to suggest that overgenerality is a trait marker indicating vulnerability to depression and depressive relapse (Mackinger, Pachinger, Leibetseder & Fartacek, 2000; Brittlebank, Scott, Williams & Ferrier, 1993).

Mackinger et al. (2000) found that individuals remitted from depression, who were clearly more vulnerable to future depressive episodes given their previous clinical diagnosis of major depression that was ascertained by a clinician, were found to be more overgeneral than their never depressed counterparts. In a longitudinal study, Brittlebank et al. (1993) reported no significant change in overgeneral AM to positive and negative cues upon remission from depression (subsequent to pharmacological treatment).

Williams, Teasdale, Segal and Soulsby (2000) also found that overgeneral AM remained unchanged in recovered depressed patients when re-tested after a seven month period.

Contrary to these findings, in a study of depressed patients versus controls, Kuyken and Dalgleish (1995) divided their non-depressive control group into two sub-groups: one with and one without a history of depression. They found no differences in AM specificity between these two sub-groups. Their finding suggests that overgeneral AM style is not a stable trait associated with individuals who are vulnerable to depression. However, this discrepant finding might be accounted for by the fact that history of depression within this control group was not as recent (i.e. assessed retrospectively) as in other studies where individuals were recruited by clinical means.

In summary, the phenomenon of overgeneral AM has clearly been observed in clinical groups following recovery from depression. This suggests that lack of specificity of AM can be viewed as a stable feature of depression, and further, that it can be understood as a trait. However, future studies are clearly required to establish whether this assumption holds over the longer term.

Why does overgeneral autobiographical memory occur?

Both Williams' (1996) 'mnemonic interlock' model and Conway and Pleydell-Pearce's (2000) 'self-memory' system are useful models to consider when addressing the complexity of findings regarding AM and depression.

Self-memory system model

Conway and Pleydell-Pearce's (2000) self-memory system model suggests that AM is broadly hierarchically organised into the following three levels: lifetime periods (e.g. "when I lived in Wales"); categories of summarised events (e.g. "attending weddings"), and; event-specific knowledge (e.g. "the day my boyfriend embarrassed me at his brother's party"). Recall of specific AMs involves using higher levels of this hierarchy to reconstruct sensory, perceptual and semantic information that is stored as event-specific knowledge.

Mnemonic interlock model

Some studies have shown that suicidal and depressed individuals are more likely to generate overgeneral AMs in comparison to matched controls (e.g. Williams & Broadbent, 1986). Williams (1996) proposed the concept of a 'mnemonic interlock', based on Norman and Bobrow's (1979) 'descriptions theory', whereby a suicidal or depressed individual becomes fixed at an intermediate level of AM recall, and is only able to access generic memories. Williams (1996) suggests that this process contributes to the maintenance of an overgeneral retrieval style over time as it causes rumination on negative, self-referent themes.

The main assumption of the mnemonic interlock model is that the activation of categoric or overgeneral descriptions in depressed individuals activates further categoric

descriptions, therefore blocking the memory search from progressing vertically, from categoric to specific events. This blocking process is referred to as a 'truncated search strategy' (Williams & Dritschel, 1988) and according to Williams (1996) this inhibition is acquired during early development. Traumatic life experiences that occur during this critical developmental period potentially have the ability to impair the establishment of this inhibition process. It is possible in this case, that retrieval of specific emotion is too painful, and is defended against by remaining at a categoric level (Williams, 1996). Therefore, this ruminative focus promotes an overgeneral retrieval style.

Importance of overgeneral autobiographical memory in psychopathology

Overgeneral AM is related to several negative characteristics including slower recovery, poor interpersonal problem solving (Healy & Williams, 1999) and imagining future events (Williams et al., 1996). The following section provides an overview of the associations between AM and its reported vulnerability to psychopathology, focusing specifically on problem-solving deficits.

Delayed recovery

In a sample of vehicle accident survivors, Harvey, Bryant and Dang (1998) found that these individuals gave fewer specific responses to positive cue words, even after controlling for depression. Dalgleish, Spinks, Yiend and Kuyken (2001) examined AM performance in seasonal affective disorder (SAD) and its relationship to summer

remission of symptoms. They found that the number of overgeneral responses to positive cue words predicted later SAD symptom levels. Further, Peeters, Wessel, Merckelbach and Boon-Vermeeren (2002) examined the stability of AM dysfunction during the course of major depressive disorder. They reported that patients with poor specific recall were at risk for chronicity. However, it is worth noting that Brewin, Reynolds and Tata (1999) did not report similar findings. In a six month follow-up study of clinically depressed patients, overgeneral AM was not found to predict outcome.

Imagining future events

Williams et al. (1996) suggest that the way that individuals retrieve autobiographical events plays an important role in determining the ease with which they can construct possible future events. They found that a group of 24 patients who had recently taken an overdose were more overgeneral in their retrieval of positive, negative and neutral cues in comparison to the control group, both in terms of memory and imagining future events.

Problem-solving ability

Beck, Rush, Shaw and Emery (1979) first noted the link between overgeneral statements and problem-solving difficulties. With regard to the AM field, several studies have reported that reduced or lack of specificity is associated with deficits in problem solving (e.g. Goddard et al., 1996). Before we can review these studies, we need a clear outline of the steps that may contribute to problem-solving. D'Zurilla and Goldfried (1971) state

five frequent stages that comprise problem-solving ability: (a) general orientation to, and recognition of problem; (b) problem definition; (c) generation of alternative solutions; (d) decision making processes, and; (e) selection of solution to problem, implementation and evaluation of effectiveness.

The Means-End Problem-Solving procedure (MEPS; Platt & Spivack, 1975) has been widely used to assess problem-solving ability in both the AM field, and a wider psychological context. Individuals are invited to generate solutions to 10 social dilemmas, for which they are presented with a stated need and a desired outcome (e.g. "You notice that your friends seem to be avoiding you. You want to have friends and be liked. The story ends when your friends like you again. You begin where you first notice your friends avoiding you"). It is reported that depressed individuals tend to generate solutions that are less effective and contain fewer details in comparison to matched controls (Marx, Williams & Claridge, 1992). The MEPS procedure has been found to have adequate construct, discriminant, content, predictive and constructive validity (Platt & Spivack, 1975).

Evans et al. (1992) investigated the performance of 12 parasuicidal patients on the AMT and on the MEPS task in comparison to a hospital control group. They found a significant correlation between overgeneral AM retrieval by the parasuicidal patients on the AMT, particularly with regard to positive cue words. They also reported low effectiveness of problem solving in the parasuicide group in comparison to the control group. Further, Evans et al. (1992) found that individuals who produced more overgeneral AMs, also

produced less effective solutions to problems ($r = 0.67$). This association between problem-solving and generality of AM was not deemed to be the result of general sluggishness to respond to the tasks. Therefore, despite the small sample size, this study first provided some evidence for the theory that specificity of AM is important for social problem-solving skills.

Sidley, Whitaker, Calam and Wells (1997) replicated the results of Evans et al. (1992) in a larger and more psychologically distressed sample. Thirty-five patients, who were identified as being at medium to high risk of repeating parasuicide, were recruited to take part in the study. Approximately 70 percent of patients had a history of previous parasuicide and contact with psychiatric services. Sidley et al. (1997) found a significant correlation of 0.38 ($p < 0.01$) between effectiveness of problem-solving and AM specificity. The authors further confirmed that this finding was not attributed to prevailing sluggishness to respond, nor was it a direct consequence of depressed mood. Given that the study did not have a control group and employed a heterogeneous sample, it was not clear whether the association between problem-solving and AM was due to the sample being more severely disturbed, or simply due to being hospitalised.

In addition to the above findings, Pollock and Williams (2001) found that a group of suicide attempters (both first-time attempters and multiple attempters) had more overgeneral AMs and demonstrated significantly poorer problem-solving skills in comparison to a non-suicidal psychiatric control group, and a normal control group.

In an attempt to examine whether the findings of Evans et al. (1992) were unique to parasuicide or extended to depression, Goddard et al.'s study (1996) examined the relationship between poor social problem-solving and AM in a clinically depressed sample. Depressed individuals (n = 16) performed more poorly on the MEPS, generating solutions that were less effective and contained fewer relevant means in comparison to the control group. In relation to the AMT, retrieval of overgeneral AMs while engaging in a social problem-solving task was associated with poorer social problem-solving performance. Extended memories (i.e. referring to a period of time) did not have the same deleterious effect. Goddard et al. (1996) reported that this association between overgeneral AM retrieval and poor social problem-solving did not appear to be a function of depression. Although the relationship was stronger amongst the depressed individuals, a significant negative correlation between overgeneral AM retrieval and the number of relevant means was also present amongst the control group. Thus, this study supported the notion that the 'specific-overgeneral' dimension of memory is an important variable in social problem-solving skills, placing an emphasis on the dysfunctional nature of overgeneral AMs.

Following their findings in a clinically depressed sample, Goddard, Dritschel and Burton (1997) replicated their study in a non-clinically depressed sample. They found that memory biases previously associated with clinical depression were also found in a non-clinically depressed student sample. A significant correlation was found for the depressed group between performance on the MEPS task and ability to retrieve specific memories. Furthermore, Goddard et al. (1997) found a correlation between the spontaneous retrieval

of specific memories during social problem-solving and means generation on the MEPS. They reported that this was slightly distinct from their previous study where a stronger correlation was found between overgeneral AM retrieval and poor social problem-solving. The authors suggested that this disparity may be due to improved working memory ability on behalf of the student population, as sufficient working memory is required to inhibit the categoric process so that specific retrieval can occur (Williams, 1996).

Several studies have suggested that rumination may also impair problem-solving ability in depressed individuals (Lyubomirsky & Nolen-Hoeksema, 1995; Watkins & Baracaia, 2002). Raes et al. (2005) were the first to examine whether reduced specificity of AM might be an underlying mechanism connecting rumination to poor problem-solving in depression. Their study employed 24 depressed patients who met criteria for major depressive disorder. Results demonstrated that specificity of AM was negatively correlated with problem-solving effectiveness. Raes et al. (2005) further confirmed that this association was not a function of mood or general unresponsiveness. More importantly, their study inferred that rumination impacted upon the generation of effective solutions, and that lack of specificity was the vehicle through which this occurred.

Summary of problem-solving studies

In line with Norman and Bobrow's (1979) descriptions theory, it is suggested that problem-solving ability becomes inhibited in depressed individuals as a consequence of using their 'upper layer' memory as a database to generate solutions to problems. Subsequently, lack of specific information in this database may result in ineffective problem-solving strategies. The relationship between ineffective problem-solving and overgeneral AM appears to be robust in parasuicide patients. Indeed, both Evans et al. (1992) and Sidley et al. (1997) found that hopelessness in parasuicidal groups did not correlate significantly with AM specificity or the effectiveness of solutions. In these studies, problem-solving ability had been measured soon after the suicidal episode. Therefore, Williams, Barnhofer, Crane and Beck (2005) suggest that it is not possible to determine the extent to which deficits in problem-solving are either long-term vulnerable traits, or conversely, state dependent.

Although the studies reported above lend some weight to the notion that specific AMs are important in the problem-solving process, it is worth noting that the majority of these studies have been correlational in nature, therefore, the causal status of overgenerality of memory remains unknown. As previously stated, according to D'Zurilla and Goldfried (1971), problem-solving ability requires more than the generation of effective solutions. Although the MEPS is the most predominantly used method to assess problem-solving ability, it does not indicate how motivated individuals are in terms of implementing their solutions.

As Goddard et al. (1996) pointed out, a significant correlation between an individual's performance on the AMT and the MEPS task does not necessarily reflect the same use of retrieval strategies. Indeed, during the AMT participants are directed in terms of the quality of memories that they are required to retrieve (i.e. specific memories), whereas on the MEPS, retrieval to much richer memory cues is spontaneous. Further, Goddard et al. (1996) suggest that depressed individuals may have more general difficulties with regard to their orientation towards problem situations, rather than difficulties in generating effective solutions.

To summarise the above findings, researchers from the traditional field suggest that overgeneral AM is a negative characteristic as it prevents future problem-solving ability. On the other hand, could overgeneral AM be considered to be a protective factor against psychopathology? The following section addresses this interesting paradoxical question.

Is overgeneral autobiographical memory a protective factor?

Although the majority of findings within the AM literature advocate overgeneral AM to be a negative feature, a small number of studies report findings that may contradict the traditional stem of AM research.

In a study investigating the relationship between AM and dissociation in borderline personality disorder (BPD), Jones et al. (1999) found, as expected, that patients with BPD had difficulties recalling specific AMs. However, post hoc analyses revealed a significant

interaction between group and valence that was attributed to negative words ($p = 0.001$) rather than to both positive and neutral cues. Burnside, Startup, Byatt, Rollinson and Hill (2004) examined the role of overgeneral AM in the development of depression following childhood trauma, in a female community sample who reported a history of childhood sexual abuse. In their sample, the authors found that individuals who reported a previous of depression recalled fewer overgeneral AMs in comparison to those with no history of depression, especially with regard to negative cue words. However, it must be pointed out that the data was largely dependent on retrospective self-reported accounts and Burnside et al. (2004) recognised that it was possible that individuals who had more difficulty recalling negative events were also more likely to underreport episodes of depression, subsequently limiting strong conclusions.

In a sample of 23 participants with BPD, Startup, Heard, Swales, Jones and Williams (2001) examined the relationship between autobiographical recall and repetition of parasuicide. Contrary to the majority of findings, regression analyses revealed a negative correlation for the measure of overgeneral AMs. More specifically, the more the participants with BPD produced overgeneral AMs, the less they engaged in episodes of parasuicide. Brennan (2001) also reported similar findings in a clinical sample of adolescents. That is, participants' overgeneral AM responses to the AMT were negatively correlated with lifetime incidents of self-harm.

Swales, Williams and Wood (2001) investigated specificity of AM and mood disturbance in an adolescent population. In their study, the retrieval of AMs by a group of depressed

adolescents from a residential inpatient facility was compared to retrieval from a school sample. As expected from the adult literature, the authors found that the clinically depressed adolescents reported more overgeneral responses to cue words in comparison to their non-depressed controls. However more interestingly, Swales et al. (2001) also reported a paradoxical effect, that is, a positive correlation within the clinical population, with the more depressed and hopeless adolescents demonstrating greater specificity to negative cues. Post hoc analyses attributed this finding to a phenomenon of 'repeated specific memories', whereby a subset of depressed adolescents with a history of parasuicide, recalled the same memories in response to a number of cues, to a greater degree than those without such a history.

Affect regulation hypothesis

One hypothesis that accounts for the overgeneral AM bias is Williams' (1996) 'affect regulation' hypothesis, that proposes that reduced specificity in memory retrieval might be used as a functional 'avoidance' strategy to protect oneself from distress following a negative experience or aversive life event. Evidence for the affect regulation hypothesis has largely been confined to correlational studies, although recent experimental studies are reviewed below.

Raes, Hermans, de Decker, Williams and Eelen (2003) were the first to experimentally examine whether individuals who had a less specific retrieval style were less affected by a negative event. If so, would this autobiographical retrieval style be considered

functional for these individuals? Raes et al. (2003) also examined the impact of autobiographical retrieval style upon the after-effects of a negative event. They hypothesised that if a less specific retrieval style corresponded to being a functional strategy, then it should also be expected to be protective for individuals following a negative event.

To test these hypotheses Raes at al (2003) employed a 'frustration manipulation' task, where frustration was manipulated through the use of a tangram puzzle task. This task consisted of puzzle pieces that needed to be correctly assembled to form complex patterns. There were two versions, an 'easy version' in which it was possible to easily complete all patterns within time (no frustration condition), and; a 'difficult version' where it was impossible to complete the patterns (frustration condition). Prior to the frustration manipulation task, participants who had previously completed the AMT were grouped according to their AM retrieval style, high-specific (n = 24) vs. low specific (n = 19). They were then randomly assigned to either the frustration or no frustration condition. The authors developed the Impact of Puzzle Task Scale (based on the Impact of Events Scale: IES; Horowitz, Wilner & Alvarez, 1979) to assess participants subjective distress following the tangram puzzle task. A 2 x 2 ANOVA revealed a significant interaction between specificity and frustration ($F(1, 39) = 5.56, p < 0.05$). Raes et al.'s (2003) main findings were that a negative event (impossible tangram task) led to a greater increase in distress in individuals who were high-specific in comparison to low-specific individuals. Further, high-specific individuals were found to think back more often to the negative event and subsequently experienced more subjective distress.

In a series of studies, Raes, Hermans, Williams and Eelen (2006) examined the effect of specificity of AM on the affective impact of an emotional event. They replicated Raes et al.'s (2003) findings and reported that individuals with overgeneral AMs experienced less distress following a negative event compared to individuals whose memory retrieval was more specific. In summary, the exact mechanisms by which these factors are linked remain unclear. In some individuals, being less specific, at least in the short-term, may be an advantage and may therefore be viewed as protective and functional. However, in the long-term, reduced specificity may prove to be maladaptive (Hermans, Defranc, Raes, Williams & Eelen, 2005).

Clinical implications

The challenge we face as clinicians, is to explore ways in which overgeneral AM style can be changed in therapy, with a view to improving problem-solving ability. If effective problem-solving ability relies upon the retrieval of specific AMs, then it is important for clinicians to employ strategies and techniques to encourage individuals to be more specific when talking about problematic situations or events. For example, Evans et al. (1992) highlight the importance of the 'diary keeping' aspect of cognitive-behavioural therapy. First, it encourages specific encoding of current episodes, thus reducing the likelihood of future overgenerality, and consequently, reduces the probability of future hopelessness and the possibility of parasuicide. Thus, diary keeping allows an individual to have access to specific memory information, giving rise to better problem-solving strategies.

Studies that have looked at the relationship between AM and problem-solving clearly provide evidence for the effectiveness of providing problem-solving therapy in the treatment of depression and suicidal behaviour in clinical practice. On the other hand, given Startup et al.'s (2001) findings, we need to exert caution when applying such interventions as it is essential that we do not inadvertently increase people's risk to engage in parasuicidal behaviours. Our knowledge of the cognitive aspects of overgeneral AM in clinical groups clearly needs to be thoroughly investigated as it noticeably facilitates difficulties in problem-solving.

Summary

AM is a clearly a "complex and multiply determined skill, consisting of neurological, social, cognitive, and linguistic components" (Reese, 2002, p.125). There are a number of clinical populations that experience difficulty in recalling specific AMs. Traditionalist accounts of AM suggest that it can result in poor problem-solving ability and is therefore, an indicator of vulnerability to depression.

In summary, the majority of traditional research within the field of AM suggests that overgeneral AM is related to emotional problems, namely depression, whereas high specificity is related to emotional well-being. Although overgeneral AM is associated with poor problem solving ability (e.g. Evans et al., 1992), difficulties in imagining future events (Williams et al., 1996) and delayed recovery (e.g. Dalgleish et al., 2001), there is evidence to suggest that it is not associated with increased parasuicide (Startup et al.,

2001) nor increased depression and hopelessness (Swales et al., 2001). Indeed, recent findings imply that overgeneral AM can be viewed as providing an adaptive, protective function (e.g. Raes et al., 2003). These findings support Williams' (1996) affect regulation hypothesis, suggesting that individuals who are less specific in their retrieval of AM regulate their affect that is associated with past adversities.

As researchers and clinicians, it is naïve for us to say whether overgeneral AMs are certainly a protective factor or a vulnerability marker with regard to problem-solving ability. Rather than accepting the findings of traditional research, the AM field might indeed advance by asking the following set of questions: "*What* treatment, by *whom*, is most effective for *this* individual, with *that* specific problem, under *which* set of circumstances?" (Paul, 1967, p.111). Through identifying the circumstances, contexts and settings where AM functions as an advantage to an individual, and conversely, as a disadvantage, future studies need to undertake a more detailed functional analysis of the role of overgeneral AM. It is by moving away from this over-simplistic dichotomy that we will begin to fully understand the complex and interacting role of this variable as it relates to psychopathology.

References

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression.* New York: Guilford Press.

Brennan, A. (2001). *Autobiographical memory and its relationship to psychological functioning in adolescents*. Unpublished doctoral dissertation, University of Wales, Bangor.

Brewin, C. R., Reynolds, M., & Tata, P. (1999). Autobiographical memory processes and the course of depression. *Journal of Abnormal Psychology, 108,* 511–517.

Brittlebank, A. D., Scott, J., Williams, J. M. G., & Ferrier, I. N. (1993). Autobiographical memory in depression: State or trait marker? *British Journal of Psychiatry, 162,* 118–21.

Burnside, E., Startup, M., Byatt, M., Rollinson, L., & Hill, J. (2004). The role of overgeneral autobiographical memory in the development of adult depression following childhood trauma. *British Journal of Clinical Psychology, 43,* 365–376.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self- memory system. *Psychological Review, 107,* 261–288.

Dalgleish, T., Spinks, H., Yiend, J., & Kuyken, W. (2001). Autobiographical memory style in seasonal affective disorder and its relationship to future symptom remission. *Journal of Abnormal Psychology, 110,* 335–340.

D'Zurilla, T. J., & Goldfried, M. R. (1971). Problem solving and behavior modification. *Journal of Abnormal Psychology, 78,* 107–126.

Evans, J., Williams, J. M. G., O'Loughlin, S., & Howells, K. (1992). Autobiographical memory and problem-solving strategies of parasuicide patients. *Psychological Medicine, 22,* 399–405.

Goddard, L., Dritschel, B., & Burton, A. (1996). Role of autobiographical memory in social problem solving and depression. *Journal of Abnormal Psychology, 105,* 609–616.

Goddard, L., Dritschel, B., & Burton, A. (1997). Social problem solving and autobiographical memory in non-clinical depression. *British Journal of Clinical Psychology, 36,* 449–451.

Harvey, A. G., Bryant, R. A., & Dang, S. T. (1998). Autobiographical memory in acute stress disorder. *Journal of Consulting and Clinical Psychology, 66,* 500–506.

Healy, H. & Williams, J. M. G. (1999). Autobiographical memory. In T. Dalgleish & M. Power (Eds.), *Handbook of cognition and emotion* (pp. 229–242). New York: Wiley.

Hermans, D., Defranc, A., Raes, F., Williams, J. M. G., & Eelen, P. (2005). Reduced autobiographical memory specificity as an avoidant coping style. *British Journal of Clinical Psychology, 44,* 583–589.

Hermans, D., Van den Broeck, K., Belis, G., Raes, F., Pieters, G., & Eelen, P. (2004). Trauma and autobiographical memory specificity in depressed inpatients. *Behaviour Research and Therapy, 42,* 775–789.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine, 41,* 209–218.

Jones, B., Heard, H., Startup, M., Swales, M., Williams, J. M. G., & Jones, R. S. P. (1999). Autobiographical memory and dissociation in borderline personality disorder. *Psychological Medicine, 29,* 1397–1404.

Kuyken, W., & Brewin, C. R. (1995). Autobiographical memory functioning in depression and reports of early abuse. *Journal of Abnormal Psychology, 104,* 585–591.

Kuyken, W., & Dalgleish, T. (1995). Autobiographical memory and depression. *British Journal of Clinical Psychology, 34,* 89–92.

Lyubomirsky, S., & Nolen-Hoeksema, S. (1995). Effects of self-focused rumination on negative thinking and interpersonal problem solving. *Journal of Personality and Social Psychology, 69,* 176–190.

Mackinger, H. F., Pachinger, M. M., Leibetseder, M. M., & Fartacek, R. R. (2000). Autobiographical memories in women remitted from major depression. *Journal of Abnormal Psychology, 109,* 331–334.

Marx, E. M., Williams, J. M. G., & Claridge, G. C. (1992). Depression and social problem solving. *Journal of Abnormal Psychology, 101,* 78–86.

McNally, R. J., Lasko, N. B., Macklin, M. L., & Pitman, R. K. (1995). Autobiographical memory disturbance in combat-related posttraumatic stress disorder. *Behaviour Research and Therapy, 33,* 619–630.

McNally, R. J., Litz, B. T., Prassas, A., Shin, L. M., & Weathers, F. W. (1994). Emotional priming of autobiographical memory in posttraumatic stress disorder. *Cognition and Emotion, 8,* 351–367.

Norman, D. A., & Bobrow, D. G. (1979). Descriptions: An intermediate stage in memory retrieval. *Cognitive Psychology, 11,* 107–123.

Paul, G. L. (1967). Strategy of outcome research in psychotherapy. *Journal of Consulting Psychology, 31,* 109–119.

Peeters, F., Wessel, I., Merckelbach, H., & Boon-Vermeeren, M. (2002). Autobiographical memory specificity and the course of major depressive disorder. *Comprehensive Psychiatry, 43,* 344–350.

Platt, J. J., & Spivack, G. (1975). *Manual for the means–ends problem solving procedure.* Philadelphia: Department of Mental Health Services, Hahnemann Community Mental Health/Mental Retardation Center.

Pollock, L. R., & Williams, J. M. G. (2001). Effective problem solving in suicide attempters depends on specific autobiographical recall. *Suicide and Life-Threatening Behavior, 31,* 386–396.

Raes, F., Hermans, D., de Decker, A., Eelen, P., & Williams, J. M. G. (2003). Autobiographical memory specificity and affect regulation: An experimental approach. *Emotion, 3,* 201–206.

Raes, F., Hermans, D., Williams, J. M. G., Demyttenaere, K., Sabbe, B., Pieters, G., & Eelen, P. (2005). Reduced specificity of autobiographical memories: A mediator between rumination and ineffective problem solving in major depression? *Journal of Affective Disorders, 87,* 331–335.

Raes, F., Hermans, D., Williams, J. M. G., & Eelen, P. (2006). Reduced autobiographical memory specificity and affect regulation. *Cognition and Emotion, 20,* 402–429.

Reese, E. (2002). Social factors in the development of autobiographical memory: The state of the art. *Social Development, 11,* 124–142.

Sidley, G. L., Whitaker, K., Calam, R., & Wells, A. (1997). The relationship between problem-solving and autobiographical memory in parasuicide patients. *Behavioural and Cognitive Psychotherapy, 25,* 195–202.

Startup, M., Heard, H., Swales, M., Jones, B., &Williams, J. M. G. (2001). Autobiographical memory and parasuicide in borderline personality disorder. *British Journal of Clinical Psychology, 40,* 113–120.

Swales, M. A., Williams, J. M. G., & Wood, P. (2001). Specificity of autobiographical memory and mood disturbance in adolescents. *Cognition and Emotion, 15,* 321–331.

Watkins, E., & Baracaia, S. (2002). Rumination and social problem solving in depression. *Behaviour Research and Therapy, 40,* 1179–1189.

Wessel, I., Meeren, M., Peeters, F., Arntz, A., & Merckelbach, H. (2001). Correlates of autobiographical memory specificity: The role of depression, anxiety and childhood trauma. *Behaviour Research and Therapy, 39,* 409–421.

Williams, J. M. G. (1996). Depression and the specificity of autobiographical memory. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory* (pp. 244–267). Cambridge, England: Cambridge University Press.

Williams, J. M. G., Barnhofer, T., Crane, C., & Beck, A. T. (2005). Problem solving deteriorates following mood challenge in formerly depressed patients with a history of suicidal ideation. *Journal of Abnormal Psychology, 114,* 421–431.

Williams, J. M. G., & Broadbent, K. (1986). Autobiographical memory in suicide attempters. *Journal of Abnormal Psychology, 95,* 144–149.

Williams, J. M. G., & Dritschel, B. H. (1988). Emotional disturbance and the specificity of autobiographical memory. *Cognition and Emotion, 2,* 221–234.

Williams, J. M. G., & Dritschel, B. H. (1992). Categoric and extended autobiographical memories. In M. A. Conway, D. C. Rubin, H. Spinnler, & W. A.

Wagenaar (Eds.), *Theoretical perspectives on autobiographical memory* (pp. 391–410). Dordrecht, the Netherlands: Kluwer Academic.

Williams, J. M. G., Ellis, N. C., Tyers, C., Healy, H., Rose, G., & MacLeod, A. K. (1996). The specificity of autobiographical memory and imageability of the future. *Memory and Cognition, 24,* 116–125.

Williams, J. M. G., & Scott, J. (1988). Autobiographical memory in depression. *Psychological Medicine, 18,* 689–695.

Williams, J. M. G., Teasdale, J. D., Segal, Z. V., & Soulsby, J. (2000). Mindfulness-based cognitive therapy reduces overgeneral autobiographical memory in formerly depressed patients. *Journal of Abnormal Psychology, 109,* 150–155.

Appendix 2.a – Notes for contributors: '*Clinical Psychology Review*'

Section 3: Empirical paper

Running head: AUTOBIOGRAPHICAL MEMORY AND SCHOOL TRANSITION

The relationship between autobiographical memory, coping and symptoms of depression following transition to secondary school

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Abstract

Objectives A number of studies have reported that difficulty in retrieval of specific autobiographical memories (AMs) is associated with psychopathology. This study extends the study of AM in children following their transition to secondary school. More specifically, we investigated whether AM specificity was related to higher or lower levels of depression following transition, and whether avoidant coping was related to these variables.

Design In the first instance, the study employed a between-groups design using cross-sectional data to look at differences between higher and lower levels of depression and AM. The study also employed a correlational design to investigate differences within-groups.

Method The autobiographical memory test (Williams & Broadbent, 1986) was used to assess retrieval of specific memories to both positive and negative emotionally valenced cue words in two non-clinical groups: 'high depressive symptoms' and 'low depressive symptoms'.

Results Results indicated no significant differences between groups for AM specificity. However, there was a significant interaction between lack of specific AM and levels of depressive symptoms, that is, participants with more depressive symptoms retrieved fewer specific memories to positive cue words than to negative cue words. In addition, avoidant coping was significantly related to current affect.

Conclusions Children who report high symptoms of depression demonstrate reduced specificity to positive cue words. Limitations of the study, clinical implications and areas for future research are discussed.

The relationship between autobiographical memory, coping and symptoms of depression following transition to secondary school

Autobiographical memory (AM) is central to our functioning and refers to the aspect of memory that is concerned with the recollection of personally experienced past events (Conway & Pleydell-Pearce, 2000). In a seminal study, Williams and Broadbent (1986) addressed why suicidal patients displayed relatively long latencies to retrieve personal memories, especially in response to positive cue words. They found that when asked to retrieve a specific memory in response to a cue word, these individuals seemed to have particular difficulties, and produced more overgeneral AMs than the control group. Williams (1996) suggests that people who are depressed respond with a summary description, a category of events (i.e. "I'm happy when I'm with my family"), rather than retrieving a specific event that happened at a particular place and time (i.e. "I was happy when I visited the Taj Mahal with my family").

Over the past twenty years, research has established a robust link between psychopathology and overgeneral AM. In 2004 van Vreeswijk and de Wilde performed a meta-analysis investigating the role of depression in the specificity of AM, and reported that individuals who suffer from depression have difficulty retrieving specific memories and instead retrieve summarised schematics. Since Williams and Broadbent's (1986) unexpected finding, a wealth of studies have found evidence of lack of specific AM retrieval in other clinical groups, other than depression: post-traumatic stress disorder (e.g. McNally, Lasko, Macklin & Pitman, 1995); acute stress disorder (e.g. Harvey,

Bryant & Dang, 1998); borderline personality disorder (Jones et al., 1999); obsessive-compulsive disorder (Wilhelm, McNally, Baer & Florin, 1997), and; those who have been victims of childhood abuse (e.g. Hermans et al., 2004).

The phenomenon of overgeneral AM is an important memory bias to study given that it is associated with the following aspects of psychological functioning: impaired problem-solving (e.g. Goddard, Dritschel & Burton, 1996); difficulties in imagining future events (Williams et al., 1996), and; delayed recovery from episodes of affective disorders (e.g. Brittlebank, Scott, Williams & Ferrier, 1993).

Despite the theoretical attention devoted to AM, few studies have examined lack of specificity or overgenerality in children and adolescents. As expected from the adult literature, clinically depressed adolescents have been reported to demonstrate more overgeneral AMs in comparison to their non-depressed controls (Kuyken & Howell, 2000; Park, Goodyer & Teasdale, 2002). Kuyken, Howell and Dalgleish (2006) examined overgenerality of AM in adolescents with or without a significant history of trauma. They were the first to report in an adolescent sample, that adolescents with major depression, who had no reported trauma history, exhibited an overgeneral AM bias. Therefore, Kuyken et al. (2006) strongly suggest that overgeneral AM in adolescents could be a function of depression, over and above influence of early childhood trauma.

Drummond, Dritschel, Astell, O'Carroll and Dalgleish (2006) examined the roles of age, dysphoria, and emotion-focusing, on the production of specific AMs in children. They

found that dysphoria was indeed linked to less specific retrieval of positive memories in children. More recently, Vrielynck, Deplus and Philippot (2007) investigated whether depressive disorders in a clinical sample of children were associated with overgeneral AM. They reported that depressed children gave fewer specific memories in comparison to children with no, or other psychiatric disorders (i.e. behavioural or anxiety disorders), irrespective of cue valence. Further, Vrielynck et al. (2007) suggested that potential traumatic life events in addition to verbal cognitive processes, could not fully explain the origins of the overgenerality bias.

Swales, Williams and Wood (2001) investigated specificity of AM and mood disturbance in an adolescent population. As expected from the adult literature, the group of clinically depressed adolescents reported more overgeneral responses to cue words in comparison to a non-depressed control group. However, Swales et al. (2001) also reported an unusual finding, that is, they found a positive correlation within the clinical population, with the more depressed and hopeless adolescents demonstrating greater specificity to negative cues.

One hypothesis that accounts for the overgeneral AM bias is Williams' (1996) 'affect regulation' hypothesis, that proposes that reduced specificity in memory retrieval might be used as a functional 'avoidance' strategy to protect oneself from distress following a negative experience or aversive life event. Evidence for the affect regulation hypothesis has largely been confined to correlational studies, although Raes, Hermans, de Decker, Williams and Eelen (2003) were the first to experimentally examine this. Raes et al.

(2003) first reported that a negative event leads to less subjective distress in individuals with low AM specificity in comparison with individuals with high AM specificity.

Raes, Hermans, Williams and Eelen (2006) examined the effect of specificity of AM on the affective impact of an emotional event. They replicated Raes et al.'s (2003) findings and reported that individuals with overgeneral AMs experienced less distress following a negative event compared to individuals whose memory retrieval was more specific. The exact mechanisms by which these factors are linked remain unclear. In some individuals, being less specific, at least in the short-term, may be an advantage and may therefore be viewed as protective and functional. However, in the long-term, reduced specificity may prove to be maladaptive (Hermans, Defranc, Raes, Williams & Eelen, 2005). Given that the process of collecting AMs begins in childhood (Nelson & Fivush, 2004) and studies have reported mixed findings, it would be helpful to further investigate specificity within a developmental framework to elucidate the development of AM retrieval style and its associated vulnerability to psychopathology, or conversely, its adaptive function.

Major depressive disorder is common during childhood and prevalence estimates are approximately one percent for pre-pubertal children and three percent for post-pubertal adolescents (Angold & Costello, 2001), with up to 25 percent lifetime prevalence by the end of adolescence (Kessler, Avenevoli & Merikangas, 2001). Depression has its peak incidence in mid-to-late adolescence and young adulthood, and shows continuities with depression in adult life. Cross-sectional studies with children and adolescents have found that depressive symptoms are significantly correlated with cumulative life events, hassles,

and chronic stress (Robinson, Garber & Hilsman, 1995). The transition to secondary school is considered to be one of the most stressful experiences during early adolescence and marks a period of change in school environment, academic and social activities, and pubertal development (Hirsh & Dubois, 1992). However, there has been relatively little psychological research in this field. With this in mind, the study aimed to investigate whether overgenerality was related to childhood depression, and secondly, to determine whether overgenerality was protective for such children as they underwent the transition to secondary school.

The main objective of the present study was to therefore, look at the relationship between symptoms of depression and AM specificity following transition to secondary school. The following questions were addressed: Is there a difference in level of AM specificity between children who score high and low for depressive symptoms? Is AM retrieval style related to avoidant coping? Does avoidant coping relate to levels of depressive symptoms? Ultimately, is lack of specificity associated with successful transition because it is related to a reduced reaction to stressful situations? (as commented by Raes et al., 2003), or will it be associated with poor transition because of its relationship with psychopathology and poor problem-solving?

Method

Participants

A group of 195 children were identified who had previously taken part in an investigation of the relationship between emotional intelligence and transition to secondary school (Williams, 2007). This initial study had recruited participants during their final year at primary school (ten schools in North Wales), who had all completed the Beck Depression Inventory for Youth (BDI-Y; Beck, Beck & Jolly, 2001) as part of the study (Time 1).

The Local Education Authority was initially contacted to sanction the research proposal. Research approval was then obtained from the relevant ethical bodies. All 195 children, who were currently first year pupils attending a secondary school in North Wales, were invited to participate in the present study (Time 2). An opt-in policy was employed and the parents/guardians of 102 children (39 males: 63 females) provided written consent for their children to take part in this study.

The mean age of participants was 11.77 years (SD = .30; range: 11-12). Three participants had missing data due to absences during the period of testing, therefore the final sample consisted of 99 children (36 males: 63 females) with a mean age of 11.77 years (SD = .31; range: 11-12).

Measures

Autobiographical Memory Test (AMT)

Ten emotionally valenced words (taken from Williams & Broadbent, 1986) were used to cue memories: five positive (happy, surprised, safe, successful, and interesting) and five negative (sad, lonely, hurt, careless, and angry). Cue words were presented on 21cm x 10cm flash cards and were written in black ink in lower case letters approximately 3.5cm high. Words were presented in a fixed alternating order of valence.

Participants were given the following instructions: "I am interested in your memory for events that have happened in your life. I am going show you some cards, each with a word on. For each word, I want you to think of an event that happened to you which the word reminds you of. The event could have happened recently (yesterday, last week) or a long time ago. It might be an important event or a trivial (unimportant) event. Just one more thing: The memory you recall should be a specific event which lasted less than one day. So if I said the word 'good' it would not be OK to say 'I always enjoy a good party' because that does not mention a specific event, but it would be OK to say 'I had a good time at Jane's party last week' because that is a specific event".

Memories were classified according to the following criteria: (1) *Specific memories*. A memory lasting less than one particular day, including event specific time and place information (e.g. "when I went to my friend's birthday party last Saturday") (2) *Generic memories*. A memory of a general class of repeated events (e.g. "watching my favourite

television programme") (3) *Extended memories.* A memory of a single event lasting more than one day (e.g. "my holiday in New York") (4) *Semantic memories.* Verbal associations to the cue word (e.g. "that reminds me of my uncle") (5) *No memories.*

To familiarise participants with the procedure, participants were given three practice words (enjoy, friendly, bold [brave]) with direct feedback about correctness before the test began. Participants were given 30 seconds to retrieve a memory. If the first response was not a specific memory, participants were verbally prompted to describe a particular time or a particular event (e.g. "Can you remember a particular time when…?"). This prompting served as an ongoing reminder of the task instruction to provide specific memories, and only first responses before this prompt were recorded. Any trials on which participants did not respond within 30 seconds were coded as an 'omission', and the experimenter went on to present the next cue word. All participant responses were recorded on audiotape and later transcribed and coded by the experimenter.

A sample of 10 percent of audio-taped responses was independently coded by a second rater. Inter-rater agreement was high ($k = .90$) as established by Landis and Koch (1977). The mean numbers of specific memories for each participant were used as the main data for analysis.

Digit Span Test

Working memory was assessed using the Digit-Span test from the Wechsler Intelligence Scale for Children - Third Edition (WISC-III: Wechsler, 1991) to determine whether

overgeneral AM was related to reduced working memory capacity as it has been reported to be significantly associated in previous studies (e.g. de Decker, Hermans, Raes & Eelen, 2003). This test required the examiner to verbally present digits at a rate of one per second. The forward test required the participant to repeat the digits verbatim. The backward test required the participant to repeat the digits in reverse order. The number of digits increased by one until the participant consecutively failed two trials of the same digit span length. The unit of analysis was the correct number of digits recalled. The Digit-Span test, a measure of working memory capacity, is standardised for children six years of age and older. Split-half reliability coefficients of the WISC-III Digit-Span test range from .79 to .91, and stability coefficients average .73 across children of 6–15 years old.

Coping Scale for Children and Youth

The Coping Scale for Children and Youth (CSCY; Brodzinsky et al., 1992) was used to measure coping. The CSCY is a self-report inventory comprised of 29 items to be answered on a 4-point Likert scale (1 = Never; 2 = Sometimes; 3 = Often; 4 = Very Often). It consists of four subscales: assistance seeking, cognitive-behavioural problem solving, cognitive avoidance, and behavioural avoidance.

Assistance seeking comprises four items involving interpersonal problem-solving. Examples include getting advice or sharing feelings with another person. Cognitive-behavioural problem solving includes eight items that have both cognitive/affective and direct behavioural components. Examples include making a plan to solve the problem

and then following the plan, and thinking about the problem in a new way so as to minimise distress. Cognitive avoidance includes 11 items that involve emotional management, cognitive redefinition, selective attention, and minimisation of the problem. Examples include putting the problem out of one's mind, and trying to pretend that the problem did not happen. Behavioural avoidance includes six items that involve taking oneself out of the vicinity of the stressor or reducing tension by indirect means as displacement of anger onto another person. Examples include staying away from people who remind you of the problem, or being mean to people even though they did not deserve it.

Factor analysis of the CSCY has indicated that these strategies form reliable factors in a sample of 10-14-year olds (Brodzinsky et al., 1992). The CSCY has been found to be both reliable and valid in previous studies (Brodzinsky et al., 1992; Smith & Brodzinsky, 1994). Correlation coefficients for each subcategory display acceptable levels of reliability (assistance seeking, $r = .72$; cognitive-behavioural problem solving, $r = .81$; cognitive avoidance, $r = .80$; and behavioural avoidance, $r = .70$). In the present study, Cronbach's α was .63 for assistance seeking, .81 for cognitive-behavioural problem solving, .78 for cognitive avoidance, and .62 for behavioural avoidance.

Beck Depression Inventory for Youth (BDI-Y)

The BDI-Y (Beck et al., 2001) was used to assess current levels of depressive symptoms. This is a 20-item self-report inventory that allows for early identification of symptoms of depression in children and adolescents aged 7-14. It includes items that reflect children's

negative thoughts about themselves, their lives, and their future; feelings of sadness; and physiological indications of depression. Children rate symptom frequency on a 0-3 scale (never, sometimes, often, or always). The total raw score (summation of scores for each item) were transformed into a *T* score, based on child gender and age. The BDI-Y displays good internal consistency reliability (α coefficients from .87 to .92). It correlates highly with another widely used child self-report measure of depressive symptoms (Children's Depression Inventory; Kovacs, 1992) and demonstrates good test-criterion validity, with higher levels of distress found in special education and clinical samples than in control samples (Beck et al., 2001). In the present study, Cronbach's α for the BDI-Y was .90.

Procedures

Participants were tested individually. The AMT was administered first in order to prevent other measures affecting the memory process. The questionnaires were then administered in a fixed order: Digit Span test, CSCY. The time take to administer the measures ranged between 20-40 minutes. A second experimenter was employed to administer the BDI-Y within the same week as part of a follow-up study to Time 1 (Williams, 2007).

Results

Data preparation and analysis strategy

Total scores on the BDI-Y and CSCY were generated according to manual guidelines. For the CSCY this involved computing four sub-category variables (assistance seeking, problem solving, behaviour avoidance and cognitive avoidance) in which all scores for the relevant sub-category were summed. Total specific scores were computed as the total number of specific responses given to cue words. Specific scores were broken down according to type of cue word, giving totals for positive and negative cues.

The data, which was continuous, was subjected to a descriptive analysis. Prior to this, the Komolgorov-Smirnov test was used to check the normality of data distribution. Data was normally distributed for the BDI-Y, AMT and the 'assistance seeking', 'problem solving' and 'cognitive avoidance' sub-categories of the CSCY ($z \geq .74$, $p > .05$). However, data for the Digit Span test and 'behaviour avoidance' sub-category of the CSCY were not normally distributed ($z \geq 1.49$, $p < .05$). For the AMT and CSCY, the outliers (of which there were four and nine respectively) were removed and replaced with corresponding means, not including outliers. For all analyses, significance was taken at $p < .05$ (unless otherwise specified). Trends toward significance are also reported.

According to their Time 1 BDI-Y *T* scores, participants were organised into the following groups: high BDI-Y score (*T* = >54; 'mild', 'moderate' and 'extremely elevated' range)

and low BDI-Y score (T = <55; 'average' range). There were 34 participants (11 males: 23 females) in the high depressive symptoms group (M = 63.03, SD = 8.44) and 65 participants (25 males: 40 females) in the low depressive symptoms group (M = 46.37, SD = 5.44). At Time 2, participants BDI-Y T scores were as follows: 28 participants (8 males: 20 females) in the high depressive symptoms group (M = 61.21, SD = 9.01) and 71 participants (28 males: 43 females) in the low depressive symptoms group (M = 43.86, SD = 5.40). Difference in BDI-Y T scores (high vs. low) was used to effectively measure successful transition.

With regard to analysis, data that was reported as non-parametric was examined using non-parametric tests (i.e. Spearman's correlation). To examine the differences between high and low depressive symptoms groups, t tests were employed. A factorial ANOVA was used to investigate the interaction between valence of cue word and depressive symptomatology, with numbers of specific memories within each valence as the dependent variables. To look at the association between specific responses to cue word valence and coping style, parametric and non-parametric correlations were used.

<u>Relationship between working memory performance and AMT specificity</u>

To examine the relationship between working memory and specificity on the AMT a Spearman's correlation coefficient was computed. There was no statistical significance for Digit Span Forwards (r = .13, p > .05) or for Digit Span Backwards (r = -.06, p > .05). These results indicate that individuals who make fewer specific memories do so

independent of their working memory. Therefore, this relationship did not warrant control in subsequent analyses.

Relationship between levels of depressive symptoms and AMT specificity

In order to examine AMT specificity scores for participants with high and low depressive symptoms following transition, a two-way ANOVA, with valence of cue word (positive vs. negative) as a within-subjects factor, was computed for current (Time 2) high depressive symptoms score on the BDI-Y (between-subjects factor). There was no overall difference between high and low depressive symptoms groups ($F(1, 97) = .61, p > .05$). Test results indicated that there was not a significant main effect for valence of cue word ($F(1, 97) = .02, p > .05$). However, a significant interaction was found between high depressive symptoms score and valence ($F(1, 97) = 9.84, p = .002$).

A *post hoc* independent samples *t* test was employed to explore this interaction. This indicated that there was a significant difference between the two groups in their responses to positive cue words, the high depressive symptoms group giving fewer specific responses than the low depressive symptoms group. There were however, no significant differences between groups in their number of specific responses to negative cue words (see Table 1).

------- *Insert Table 1 about here* -------

Influence of transition on AMT specificity and depressive symptoms

To examine the influence of transition to secondary school on specificity, the following assumptions were made about transition, according to changes in participants' BDI-Y *T* scores: eight participants had a poor transition (Time 1 low depressive symptoms; Time 2 high depressive symptoms), 14 participants had a good transition to secondary school (Time 1 high depressive symptoms; Time 2 low depressive symptoms). In addition, 57 participants maintained a low depressive symptoms score and 14 participants maintained a high depressive symptoms score following transition.

In order to investigate the relationship between participants who had a good or poor transition and specificity, an independent samples *t* test was employed. Participants with stable high depressive symptoms scores and stable low depressive symptoms scores were excluded from analysis. There were no significant differences on performance for total specific scores, positive cue scores, or negative cue scores (see Table 2).

------- *Insert Table 2 about here* -------

Relationship between coping style and AMT specificity

Pearson correlation coefficients (and Spearman's rho where appropriate) were computed to investigate the relationship between participants' coping style and specificity of AMs. It is worth noting that three participants did not complete the CSCY measure as they

could not identify a current problem or worry. Correlations between coping strategies and specificity of AM were not statistically significant (see Table 3) indicating that individuals who reported greater numbers of specific AMs did not report better levels of coping style.

-------- *Insert Table 3 about here* --------

In order to examine differences in coping style between those who scored high and low depressive symptoms following transition, an independent *t* test and Mann-Whitney U test were conducted. The results indicated that participants who currently had high depressive symptoms were more likely to employ both cognitive avoidant and behaviour avoidant coping strategies (see Table 4).

-------- *Insert Table 4 about here* --------

<u>Coping problems reported</u>

The flexibility of the CSCY measure allowed us to gather qualitative data regarding participants' transition to secondary school. Thirty-seven percent of participants reported that they were worried about family (i.e. argument, bereavement, health/illness, parent separation, other); 14 percent were worried about friends (i.e. argument, other); as previously stated five percent reported no problems; six percent were worried about self-concerns, and; 35 percent identified elements of the transition experience as a current

problem. More specifically, participants worried about the following aspects of transition: academic work, bullying, peers, size of school, and travelling to and from school.

Discussion

The principal aim of this study was to investigate the relationship between AM and psychopathology, in terms of depressive symptomatology, following transition to secondary school. The main findings of this study are summarised below.

There were no significant differences between children with more depressive symptoms and low depressive symptoms, in view of their ability to recall specific AMs. This is inconsistent with previous work reporting significant correlations between depressive symptoms and overgeneral AM in both adult (van Vreeswijk & de Wild, 2004) and child populations (Drummond et al., 2006; Vrielynck et al., 2007). Given Williams' (1996) suggestion that deficits in AM specificity may only result in vulnerability to affect in the longer term, this may explain the lack of significant results in the child sample.

However, we did find a significant interaction between level of depressive symptoms and cue word valence. That is, children with more depressive symptoms retrieved fewer specific memories to positive cue words than to negative cue words, in comparison to children who had lower levels of depressive symptoms. These results are consistent with Drummond et al. (2006) and Williams (1996) in that, participants who currently had high depressive symptoms had difficulty recalling specific memories, and in particular,

specific positive memories. Indeed, the majority of studies employing participants with clinically diagnosed depression have reported that these individuals are less specific in their response to positive, than to negative cues, in comparison to their respective control groups (e.g. Williams & Broadbent, 1986; Williams & Scott, 1988; McNally et al., 1995).

There were no significant differences in AM specificity between children who had a good transition or poor transition. There are several reasons that account for this. First, there was a considerably small number of children in this sub-sample which meant that the statistical power of this analysis was limited. Second, measure of good and poor transition was assessed based upon changes in children's BDI-Y scores between pre- and post-transition alone.

There were no significant differences between AM specificity and children's coping styles. Children who demonstrated a more specific AM retrieval style did not necessarily have a better coping style. These results are inconsistent with Raes et al.'s (2003; 2006) findings that AM specificity is negatively associated with avoidant coping. Therefore, the results contrast with Williams' (1996) affect regulation hypothesis, which states that reduced specificity is used as a functional, protective strategy against negative experiences. One possible explanation for this finding is the content of the self-report coping psychometric measure that was employed. It is possible that the CSCY may not have adequately assessed avoidant coping. The ability to recognise and acknowledge cognitive avoidance requires some level of reflective ability and a more sensitive measure to assess this may be needed in future studies. Despite limited findings between these

variables, transition was clearly a concern for children as 35 percent identified transition as a current worry.

There was however, a significant difference between the coping styles employed by children and their levels of depressive symptoms. More specifically, children who reported higher levels of depressive symptoms following the transition process were more likely to adopt both cognitive and behaviourally avoidant coping strategies. This suggests that that AM specificity does not relate to avoidant coping but avoidant coping (both cognitive and behavioural) is associated with poor transition to secondary school.

Limitations

There are some methodological issues concerning the present study that merit some discussion. First, the study involved a non-clinical sample of children who were divided into high and low depressive symptoms groups according to a self-report measure of depression; thus, there was no formal diagnostic assessment of major depressive disorder in the high depressive symptoms group. Therefore, appropriate caution must be exercised when seeking to extrapolate findings from the present data to the performance of children with a confirmed clinical diagnosis of major depressive disorder. If the study had employed a clinical sample, it is likely that we would have observed relatively more marked effects.

Another limitation of this study was its correlational nature, thus inference of causality is limited as we cannot rule out other unknown variables that might play a role. Additionally, no measure of AM specificity was taken prior to the transition to secondary school (Time 1), so it is not possible to comment on how memory specificity may have changed during the six-month period before Time 2 data was collected. However, previous studies have indicated that lack of specificity of AM remains relatively stable over time (e.g. Brittlebank et al., 1993).

With regard to the coping data, it is worth noting that although not assessed, participants' levels of reading age may have impacted upon their ability to adequately complete the CSCY measure. Therefore, a more suitable method to assess coping should be considered in future studies. In addition, it is essential to consider a child's developmental status when assessing memory and further studies should employ such methodology.

Clinical implications and future research

Given that the results of the present study are correlational, and as such, do not imply causality, further longitudinal research should address this issue directly and further clarify the precise relationship between symptoms of depression and lack of, or reduced, AM specificity following transition to secondary school. As good and poor transition was measured by changes in participants' BDI-Y *T* scores, future studies need to employ more robust measures of transition and psychopathology that provide more detailed

information regarding aspects of the transition process (i.e. behavioural problems, number of detentions, number of school exclusions).

In order to further investigate the transition experience, studies should incorporate a qualitative assessment of the transition process, including how children coped with it (e.g. did they receive any form of support? if so, what kind of support?). In light of Raes et al.'s findings (2003; 2006) this information would be useful in terms of addressing a less-specific or overgeneral retrieval style following the transition period, and may lead to preventing individuals from adopting such strategies that subsequently increase vulnerability to psychopathology. Future studies should investigate the potential factors that contribute towards poor transition, and interventions must be aimed at promoting positive attitudes. With regard to AM specificity, the impact of mindfulness-based cognitive therapy in terms of modifying overgenerality has been reviewed to be successful with adult populations (Williams, Teasdale, Segal & Soulsby, 2000). Clinicians should consider extending and adapting similar methods to child populations. Whilst transition is considered to be a stressful life event for some, further studies may also benefit from investigating the relationship between AM and other stressful life events (i.e. bereavement, separation) as this was clearly identified by the coping measure to be a current concern for over a third of the sample.

Conclusions

The present study examined the relationship between AM specificity, depression and coping following the transition to secondary school. In conclusion, the present results provide evidence that lack of specific AM to positive cue words was related to high levels of depressive symptoms and that avoidant coping was significantly related to current affect. Despite limitations, the study is an important first step in establishing the utility of coping style and AM specificity following transition to secondary school. Continued research in this area is important as it promises to yield information regarding the role of avoidant coping strategies in childhood depression and psychopathology.

References

Angold, A., & Costello, E. J. (2001). The epidemiology of depression in children and adolescents. In I. M. Goodyer (Ed.), *The depressed child and adolescent* (pp. 143–178). Cambridge, England: Cambridge University Press.

Beck, J., Beck A. T., & Jolly, J. (2001). *Beck depression inventory for youth*. San Antonio, TX: Harcourt Assessments, Inc.

Brittlebank, A. D., Scott, J., Williams, J. M. G., & Ferrier, I. N. (1993). Autobiographical memory in depression: State or trait marker? *British Journal of Psychiatry, 162,* 118–21.

Brodzinsky, D. M., Elias, M. J., Steiger, C., Simon, J., Gill, M., & Clarke Hitt, J. (1992). Coping scale for children and youth: Social development and validation. *Journal of Applied Developmental Psychology, 13,* 195–214.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self- memory system. *Psychological Review, 107,* 261–288.

de Decker, A., Hermans, D., Raes, F., & Eelen, P. (2003). Autobiographical memory specificity and trauma in inpatient adolescents. *Journal of Clinical Child and Adolescent Psychology, 32 (1),* 22-31.

Drummond, L. E., Dritschel, B., Astell, A., O'Carroll, R. E., & Dalgleish, T. (2006). Effects of age, dysphoria and emotion-focusing on autobiographical memory specificity in children. *Cognition and Emotion, 20,* 488–505.

Goddard, L., Dritschel, B., & Burton, A. (1996). Role of autobiographical memory in social problem solving and depression. *Journal of Abnormal Psychology, 105,* 609–616.

Harvey, A. G., Bryant, R. A., & Dang, S. T. (1998). Autobiographical memory in acute stress disorder. *Journal of Consulting and Clinical Psychology, 66,* 500–506.

Hermans, D., Defranc, A., Raes, F., Williams, J. M. G., & Eelen, P. (2005). Reduced autobiographical memory specificity as an avoidant coping style. *British Journal of Clinical Psychology, 44,* 583–589.

Hermans, D., Van den Broeck, K., Belis, G., Raes, F., Pieters, G., & Eelen, P. (2004). Trauma and autobiographical memory specificity in depressed inpatients. *Behaviour Research and Therapy, 42,* 775–789.

Hirsch, B. J. & DuBois, D. L. (1992). The relation of peer social support and psychological symptomatology during the transition to junior high school: A two-year longitudinal analysis. *American Journal of Community Psychology, 20,* 333–347.

Jones, B., Heard, H., Startup, M., Swales, M., Williams, J. M. G., & Jones, R. S. P. (1999). Autobiographical memory and dissociation in borderline personality disorder. *Psychological Medicine, 29,* 1397–1404.

Kessler, R. C., Avenevoli, S., & Merikangas, K. R. (2001). Mood disorders in children and adolescents: An epidemiologic perspective. *Society of Biological Psychiatry, 49,* 1002–1014.

Kovacs, M. (1992). *Children's depression inventory*. Tonawanda, NY: Multi-Health System.

Kuyken, W., & Howell, R. (2000). Facets of autobiographical memory in adolescents with major depressive disorder and never-depressed controls. *Cognition and Emotion, 20 (3/4),* 466–487.

Kuyken, W., Howell, R., & Dalgleish, T. (2006). Overgeneral autobiographical memory in depressed adolescents with versus without a reported history of trauma. *Journal of Abnormal Psychology, 115,* 387–396.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159–174.

McNally, R. J., Lasko, N. B., Macklin, M. L., & Pitman, R. K. (1995). Autobiographical memory disturbance in combat-related posttraumatic stress disorder. *Behaviour Research and Therapy, 33,* 619–630.

Nelson, K. D., & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural developmental theory. *Psychological Review, 111,* 486–511.

Park, R. J., Goodyer, I. M., & Teasdale, J. D. (2002). Categoric overgeneral autobiographical memory in adolescents with major depressive disorder. *Psychological Medicine, 32,* 267–276.

Raes, F., Hermans, D., de Decker, A., Eelen, P., & Williams, J. M. G. (2003). Autobiographical memory specificity and affect regulation: An experimental approach. *Emotion, 3,* 201–206.

Raes, F., Hermans, D., Williams, J. M. G., & Eelen, P. (2006). Reduced autobiographical memory specificity and affect regulation. *Cognition and Emotion, 20,* 402–429.

Robinson, N. S., Garber, J. & Hilsman, R. (1995). Cognitions and stress: Direct and moderating effects on depressive versus externalizing symptoms during the junior high school transition, *Journal of Abnormal Psychology, 104 (3),* 453–463.

Smith, D. W. & Brodzinsky, D. M. (1994). Stress and coping in adopted children: A developmental study. *Journal of Clinical Child Psychology, 23,* 91–99.

Swales, M. A.,Williams, J. M. G., &Wood, P. (2001). Specificity of autobiographical memory and mood disturbance in adolescents. *Cognition and Emotion, 15,* 321–331.

van Vreeswijk, M. F., & de Wilde, E. J. (2004). Autobiographical memory specificity, psychopathology, depressed mood and the use of the Autobiographical Memory Test: A meta-analysis. *Behaviour Research and Therapy, 42,* 731–743.

Vrielynck, N., Deplus, S., & Philippot, P. (2007). Overgeneral autobiographical memory and depressive disorder in children. *Journal of Clinical Child and Adolescent Psychology, 36 (1),* 95–105

Wechsler, D. (1991). *Wechsler Intelligence Scale for Children - Third Edition.* San Antonio, TX: The Psychological Corporation.

Williams, C. E. (2007). *Adjustment of adolescents during the transition to secondary school: The role of emotional intelligence.* Unpublished doctoral dissertation, University of Wales, Bangor.

Wilhelm, S., McNally, R. J., Baer, L., & Florin, I. (1997). Autobiographical memory in obsessive–compulsive disorder. *British Journal of Clinical Psychology, 36,* 21–31.

Williams, J. M. G. (1996). Depression and the specificity of autobiographical memory. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory* (pp. 244–267). Cambridge, England: Cambridge University Press.

Williams, J. M. G., & Broadbent, K. (1986). Autobiographical memory in suicide attempters. *Journal of Abnormal Psychology, 95,* 144–149.

Williams, J. M. G., & Scott, J. (1988). Autobiographical memory in depression. *Psychological Medicine, 18,* 689–695.

Williams, J. M. G., Ellis, N. C., Tyers, C., Healy, H., Rose, G., & MacLeod, A. K. (1996). The specificity of autobiographical memory and imageability of the future. *Memory and Cognition, 24,* 116–125.

Williams, J. M. G., Teasdale, J. D., Segal, Z. V., & Soulsby, J. (2000). Mindfulness-based cognitive therapy reduces overgeneral autobiographical memory in formerly depressed patients. *Journal of Abnormal Psychology, 109,* 150–155.

Table 1. Post hoc *t* test comparing differences between high and low depressive symptoms groups (Time 2) and valence of cue word

	Mean (*SD*) for high depressive symptoms group (n = 28)	Mean (*SD*) for low depressive symptoms group (n = 71)	*t*	df	*p*
Positive	2.61 (1.32)	3.30 (1.13)	-2.61	97	0.01*
Negative	3.07 (1.41)	2.79 (1.54)	0.84	97	0.40

* $p < 0.05$

Table 2. *t* test comparing differences between poor and good transition and valence of cue word

	Mean (*SD*) for poor transition (n = 8)	Mean (*SD*) for good transition (n = 14)	*t*	df	*p*
Total	5.88 (1.64)	6.50 (1.91)	-0.77	20	0.45
Positive	2.50 (1.41)	3.36 (1.22)	-1.50	20	0.15
Negative	3.38 (1.30)	2.93 (1.39)	0.74	20	0.47

* $p < 0.05$

Table 3. Correlation coefficients between coping strategies and specificity of autobiographical memory

	Ass. Seek. (n = 96)	Prob. Solv. (n = 96)	Cog. Avoid. (n = 96)	Beh. Avoid. # (n = 96)
Total	0.04	0.11	-0.00	0.07
Positive	0.08	0.15	-0.08	-0.03
Negative	-0.00	0.06	0.07	0.12

* $p < 0.05$

Spearman's rho

Table 4. Independent samples *t* test and Mann Whitney U test comparing coping style and current depressive symptoms

	Mean (*SD*) for high depressive symptoms (n = 27)	Mean (*SD*) for low depressive symptoms (n = 69)	*t*	df	*p*
Ass. Seek.	10.07 (2.32)	10.62 (2.09)	-1.12	94	0.27
Prob. Solv.	19.19 (3.98)	18.94 (4.47)	0.65	94	0.52
Cog. Avoid.	23.85 (5.26)	20.88 (5.06)	2.76	94	0.01*
Beh. Avoid.	11.67 (3.16)	9.22 (2.61)	-4.23 #		0.00**

* $p < 0.05$

** $p < 0.01$

z value

Appendix 3.a – Notes for contributors: '*British Journal of Clinical Psychology*'

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Section 4: Critical review

Contributions to theory, clinical practice and learning

Autobiographical memory (AM) in adult populations has received a great deal of attention within psychological research (van Vreeswijk and de Wilde, 2004), however both the theoretical and applied literature regarding child samples is limited (e.g. Drummond, Dritschel, Astell, O'Carroll & Dalgleish, 2006; Vrielynck, Deplus & Philippot, 2007). To my knowledge, no research has been conducted that examines the relationship between AM, coping and symptoms of depression following transition to secondary school. In addition to findings from the literature review and the empirical paper, a more detailed consideration of the implications of the present study is reviewed in this final section with regard to future research, theory development and clinical practice.

Implications for future research and theory development

As mentioned in the discussion section of the empirical paper, future research should address: the correlational nature of the study; include the provision of more robust measures of transition and psychopathology, and; investigate the factors that contribute towards poor transition. This is in the context of a wider debate about the importance of AM as a theoretical construct.

Given that the phenomenon of overgeneral AM represents a likely trait-marker for depression (e.g. Brittlebank, Scott, Williams & Ferrier, 1993), future study of the

phenomenon needs to focus on the clarification of the mechanisms that underlie its contribution to depression and further relapse. More specifically, the issue of whether AM can be viewed as a protective factor, both in the long-term or short-term requires further clarification. To date, the majority of research in the AM field has focused on the vulnerability characteristics associated with AM, namely poor problem-solving (e.g. Goddard, Dritschel & Burton, 1996), problems in imagining future events (Williams et al., 1996), and delayed recovery from mood (e.g. Dalgleish, Spinks, Yiend & Kuyken, 2001). We need to ask ourselves whether we have over-emphasised the negative contributory factors of AM? In light of Startup, Heard, Swales, Jones and Williams' (2001) study, that demonstrated that overgeneral AMs were negatively associated with engagement in episodes of parasuicide; and Raes, Hermans, Williams and Eelen's (2006) series of experimental investigations revealing the adaptive function of AM as predicted by Williams' (1996) affect regulation hypothesis; future theory development needs to conduct a more in-depth analysis of these paradoxical findings.

With this in mind, further studies may benefit from expanding the development of performance-based measures of AM. To date, the Autobiographical Memory Test (AMT; Williams & Broadbent, 1986) is the predominant measure used by researchers to assess AM. In addition to this, we need to encourage a more process-focused method of assessment. As researchers, we need to ask whether we have become too obsessed with defining AM only in relation to the AMT? In relation to the present study, perhaps the phenomenology of AM is a rich, yet untapped resource of important information about children and adolescents' construal of their psychological world.

Are there better ways of measuring AM with regard to the school transition experience? Future studies could for instance, ask participants to write short essays on their memories of transition to secondary school and retrospectively review AM specificity and overgenerality. Other possibilities include conducting focus group research, and employing qualitative methods, including for example, open-ended interviews. Procedures such as these are more likely to capture the occurrence and quality of more spontaneous AMs. Although AM specificity is an important aspect of AM as a whole, it is not the only aspect and specificity perhaps should not be regarded as the gold standard of AM research.

In their meta-analysis of AM studies, van Vreeswijk and de Wilde (2004) raised important considerations with regard to the implementation of the AMT. Caution must be made when making strong conclusions about studies conducted to date, given the variation in AMT methodology employed. These variations include: the presentation of stimulus words; method of recording participants' responses, and; time allocated for participants to respond. As suggested by van Vreeswijk and de Wilde (2004), the present study used oral and visual presentation of stimulus words in order to counteract influence by the researcher, and used voice recording to minimise experimenter bias. However, the present study only allocated 30 seconds for a response. If more time had been given, perhaps more specific memories would have been reported.

Given the variation in AMT methodology, future research could benefit from defining a clear protocol for the AMT, in addition to more replication studies, in order to address the

discrepancy between results from previous studies. Another aspect of AMT methodology, that is reported by Kangas, Henry and Bryant (2005), is that the majority of studies conducted in the AM field make the assumption that a positive cue word is likely to generate a positive valence response and contrastingly, a negative cue word will elicit a negative valence response. Hence, with regard to valence of cue word, future research may benefit from focusing on the valence and content of retrieved memories rather than grouping them according to the cue words that elicit them.

Another important methodological issue concerns the measurement of depression. The present study examined AM specificity in relation to depressive symptoms, rather than actual diagnoses. This was due to the relative ease with which depressive symptoms could be addressed and the comparative cost of conducting clinical interviews. Therefore, it is possible that with a more severely depressed, or clinical sample, there would have been more evidence of reduced or lack of specificity in AM. Future studies should look to evaluate AM retrieval in clinically samples, utilising better ways of gaining clinical confirmation of depressive symptoms (i.e. other informant measures) thereby avoiding reliance upon self-report measures of psychopathology.

In the present study, participants were grouped according to their *T* scores on the Beck Depression Inventory for Youth (BDI-Y; Beck, Beck & Jolly, 2001) as follows: high depressive symptoms group (*T* = >54; 'mild', 'moderate' and 'extremely elevated' range), and; low depressive symptoms group (*T* = <55; 'average' range). This definition of high and low depressive symptoms scores may have masked effects that could be

observed at more extreme ends of the depressive spectrum. Small sample numbers reduce statistical power and introduce the possibility of Type II errors so the present study may have missed some findings that would have perhaps become apparent with larger numbers. Therefore, it would be advisable to replicate the study with a larger sample to allow more precise predictions about the associations between overgeneral AM and the respective measures, namely coping and transition. Furthermore, both longitudinal and experimental studies are needed to further elucidate the relationship between overgeneral AM and coping in depressed populations. For example, it would be interesting to conduct a follow-up study of the participants in the present study during the following academic year (Year 8). Would we see more school-related problems arise then? Would there be an increase in the number of children reporting high symptoms of depression?

The present study did not look at the content of retrieval of AMs specifically in relation to transition to secondary school. It would have been interesting to see how many participants recalled memories that were related to the transition stressor. It is possible that a focus on transition-related specific memories may have influenced participants' ability to produce specific memories of other autobiographical events. This issue is important, given that lack of AM specificity is associated with poor problem-solving ability in terms of coping with difficult life experiences (e.g. Goddard et al., 1996). Future research may benefit from looking at transition-related AMs and other AMs separately.

With regard to assessing coping strategies, the study may have benefited from looking at the Coping Scale for Children and Youth (CSCY; Brodzinsky et al., 1992) more specifically in relation to transition to secondary school. Brodzinsky et al. (1992) have previously altered the CSCY instructions to focus on a particular type of stressor (e.g. being adopted) which has involved slight changes to the wording of the items in the scale. They have not found this to change the reliability of the scale, as long as the basic meaning of the item is kept intact. Indeed, the authors encourage others to use the scale to study children's coping with specific stressors. Therefore, it may have been more useful to employ the CSCY in relation to focusing on coping and adaptation across the transition stressor. However, an advantage of generically using the CSCY in the present study, allowed us to gain important qualitative information regarding children's transitional experiences (i.e. 35 percent of participants identified transition to be a difficult process).

Another point to note in relation to the CSCY measure was that although internal consistency reliability for the present study, as assessed by Cronbach's α, was adequate (> .6), there is a possibility that items in sub-categories of the CSCY did not adequately assess coping styles. A more suitable method of assessing coping style would ascertain this. Although the results of the present study suggested that current depressive symptoms influenced the type of coping strategies employed, reciprocal relationships may or may not exist that warrant further investigation: (1) if an individual has an avoidant coping style, is this more likely to make them depressed?; (2) if an individual is depressed, are they more likely to have poor, avoidant coping strategies? or; (3) is there an unknown variable (e.g. parenting style) that causes an individual to be both depressed

and have poor, avoidant coping strategies? Longitudinal studies may be useful in teasing out these relationships.

Implications for clinical practice

Given that overgeneral AM is thought to be a relevant vulnerability marker for depression, this suggests that there are significant implications to future clinical interventions. Both clinicians in the mental health field and educational services need to be mindful of the stresses that potentially occur during the secondary school transition process as it is clearly a time of developmental concern. In the present study, while many children made an appropriate transition, for those that found the transition stressful and depressing, the seeds of future depression may be sewn in their inability to recall future positive memories, which has been linked to poor problem-solving.

Whilst AM is important in depression overall, the results of this study showed that it did not seem to be an important factor with regard to transition to secondary school. With this in mind, we need to address whether interventions that focus on transition need to necessarily focus on encouraging specificity, and subsequent problem-solving ability. However, the present study did demonstrate that reduced specificity was evident for positive cues but not for negative cues in the high depressive symptoms sample. Given this finding, which has also been confirmed by other studies (e.g. Williams & Broadbent, 1986; Williams & Scott, 1988; McNally, Lasko, Macklin & Pitman, 1995), clinical

interventions need to address the factors that contribute towards poor transition and aim towards facilitating healthy AM retrieval styles.

With regard to early intervention, programmes that concentrate on preventing depression and other psychopathology in children and adolescents need to be encouraged. Such interventions can be typically conducted in schools, and focus on cognitive and behavioural skills training, including cognitive restructuring, anxiety management, relaxation, problem-solving skills, emotion-focused coping, anticipating consequences and assertiveness (Clarke, Hawkins, Murphy & Sheeber, 1993). Given that the number of young people referred to child and adolescent mental health services is increasing, this would be one way in which early detection and prevention of psychopathology could be targeted.

Tobell (2003) interviewed a cohort of 30 pupils following their transition to secondary school and found that the majority of the sample did not find the experience a positive one. More specifically, children reported the following: changes in the style of interaction with pupils; teacher expectations; a sudden change in role from child to young adult; multiple difficulties with the organisation of the school, and; an increase in stress and anxiety that impacted upon their learning experience. Therefore, developing effective and comprehensive transition interventions may indeed improve children's' transitional experiences.

Galton, Gray and Ruddock (1999) have identified five main categories of activity that schools can incorporate into their transition programmes. These categories or areas of action are: administrative (i.e. information exchange); social and personal (i.e. developing positive relationships between children, parents/caregivers and peers); shared information regarding curriculum; pedagogy (i.e. shared understanding of effective learning), and; management of learning (i.e. development of independent learning and reflection skills). Hence, children undergoing secondary school transition may benefit from whole-school group approaches which would provide them with an opportunity to discuss any concerns about their transition experiences, so that overwhelming situations may be appraised as being more manageable.

Process/personal issues arising from the conduct of the research

My interest in conducting this study came about for several reasons: Firstly, having worked as a clinician in a child and adolescent mental health service (CAMHS), child health service, and pre-school and school-age learning disability service, I came across several clients for whom transition to school, posed a particular challenge. Secondly, I had previously conducted a service-related research project examining the factors associated with deliberate self-harm (DSH) in a Tier 3 CAMHS. During the course of this project, schooling issues (including transition to secondary school, academic worries and school refusal) were identified as stressful life events that contributed to psychological difficulties in both DSH and non-DSH child and adolescent populations. Further

discussion with my supervisor, whose research interests included AM, led to the development of this large scale research project.

At times, I felt slightly overwhelmed by the mass of literature focusing on AM, given that it is a "complex and multiply determined skill, consisting of neurological, social, cognitive, and linguistic components" (Reese, 2002, p.125). In order to motivate myself, it was helpful for me to focus on parts of the project that I found particularly stimulating. Beginning data collection represented a major milestone for this research project, and I recall breathing a huge sigh of relief when this project finally got off the ground. It was very rewarding to see months of planning go into practice. Given the importance of evidence-based practice in clinical work, this large scale research project provided me with the opportunity to utilise explicit training in research methodology. I particularly enjoyed the data collection process as this enabled me to marry my skills both as a clinician and as a researcher, with regard to gaining rapport with participants and subsequently collecting data successfully.

With regard to more practical aspects of the study, transcription of the AMT data proved to be a lengthy, time consuming process. During the planning stages of the research project, I had not anticipated the time involved to perform this. In hindsight, I would have considered employing another individual to carry out the transcriptions. However, transcribing the data myself provided me with the opportunity to become familiar with the content of the data.

In summary, I have learned great discipline and demonstrated determination, professionalism and self-motivation through conducting this large scale research project. I value the importance of working both within a clinical and research context; research developments will clearly strengthen my everyday clinical work while my practice will undoubtedly address important research questions.

References

Beck, J., Beck A. T., & Jolly, J. (2001). *Beck depression inventory for youth*. San Antonio, TX: Harcourt Assessments, Inc.

Brittlebank, A. D., Scott, J., Williams, J. M. G., & Ferrier, I. N. (1993). Autobiographical memory in depression: State or trait marker? *British Journal of Psychiatry, 162,* 118–21.

Brodzinsky, D. M., Elias, M. J., Steiger, C., Simon, J., Gill, M., & Clarke Hitt, J. (1992). Coping scale for children and youth: Social development and validation. *Journal of Applied Developmental Psychology, 13,* 195–214.

Clarke, G. N., Hawkins, W., Murphy, M., & Sheeber, L. (1993). School-based primary prevention of depressive symptomology in adolescents: Findings from two studies. *Journal of Adolescent Research, 8,* 183–204.

Dalgleish, T., Spinks, H., Yiend, J., & Kuyken, W. (2001). Autobiographical memory style in seasonal affective disorder and its relationship to future symptom remission. *Journal of Abnormal Psychology, 110,* 335–340.

Drummond, L. E., Dritschel, B., Astell, A., O'Carroll, R. E., & Dalgleish, T. (2006). Effects of age, dysphoria and emotion-focusing on autobiographical memory specificity in children. *Cognition and Emotion, 20,* 488–505.

Galton, M., Gray, J., & Ruddock, J. (1999). The impact of school transitions and transfers on pupil progress and attainment. *Research Report RR131.* Nottingham: DfEE Publications.

Goddard, L., Dritschel, B., & Burton, A. (1996). Role of autobiographical memory in social problem solving and depression. *Journal of Abnormal Psychology, 105,* 609–616.

Kangas, M., Henry, J. L., & Bryant, R. A. (2005). A prospective study of autobiographical memory and posttraumatic stress disorder following cancer. *Journal of Consulting and Clinical Psychology, 73,* 293–299.

McNally, R. J., Lasko, N. B., Macklin, M. L., & Pitman, R. K. (1995). Autobiographical memory disturbance in combat-related posttraumatic stress disorder. *Behaviour Research and Therapy, 33,* 619–630.

Raes, F., Hermans, D., de Decker, A., Eelen, P., & Williams, J. M. G. (2003). Autobiographical memory specificity and affect regulation: An experimental approach. *Emotion, 3,* 201–206.

Raes, F., Hermans, D., Williams, J. M. G., & Eelen, P. (2006). Reduced autobiographical memory specificity and affect regulation. *Cognition and Emotion, 20,* 402–429.

Reese, E. (2002). Social factors in the development of autobiographical memory: The state of the art. *Social Development, 11,* 124–142.

Startup, M., Heard, H., Swales, M., Jones, B., & Williams, J. M. G. (2001). Autobiographical memory and parasuicide in borderline personality disorder. *British Journal of Clinical Psychology, 40,* 113–120.

Tobell, J. (2003). Students' experiences of transition from primary to secondary school. *Education and Child Psychology, 4,* 4–13.

van Vreeswijk, M. F., & de Wilde, E. J. (2004). Autobiographical memory specificity, psychopathology, depressed mood and the use of the Autobiographical Memory Test: A meta-analysis. *Behaviour Research and Therapy, 42,* 731–743.

Vrielynck, N., Deplus, S., & Philippot, P. (2007). Overgeneral autobiographical memory and depressive disorder in children. *Journal of Clinical Child and Adolescent Psychology, 36 (1),* 95–105.

Williams, J. M. G. (1996). Depression and the specificity of autobiographical memory. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory* (pp. 244–267). Cambridge, England: Cambridge University Press.

Williams, J. M. G., & Broadbent, K. (1986). Autobiographical memory in suicide attempters. *Journal of Abnormal Psychology, 95,* 144–149.

Williams, J. M. G., & Scott, J. (1988). Autobiographical memory in depression. *Psychological Medicine, 18,* 689–695.

Williams, J. M. G., Ellis, N. C., Tyers, C., Healy, H., Rose, G., & MacLeod, A. K. (1996). The specificity of autobiographical memory and imageability of the future. *Memory and Cognition, 24,* 116–125.

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