

THE UNIVERSITY OF HULL

*Anxiety and Depression in the Undergraduate Transition to
University*

**being a dissertation submitted in partial fulfilment of the requirements
for the degree of Doctor of Clinical Psychology, in the University of
Hull**

by

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A. Overview

The portfolio has three parts:

Part one is a systematic literature review, in which the theoretical, conceptual and empirical literature relating to the problems, causes and interventions associated with the transition to university is reviewed.

Part two is an empirical paper, which explores anxiety and depression in the undergraduate transition to university.

Part three comprises the appendices.

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Part One

Transition to University: Problems, Causes and Interventions

This paper is written in the format ready for submission to the Journal of Social and Clinical Psychology. Please see Appendix B for Guideline for Authors.

Word Count: 8935 (excluding references, tables and figures)

Running Head: MATRICULATION: PROBLEMS, CAUSES AND INTERVENTIONS

Transition to University: Problems, Causes and Interventions

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Abstract

Matriculating students are at particularly high risk of developing mental health problems which presents a significant public health problem. Despite this there is a paucity of research and much of what exists is exploratory with little focus on clearly establishing problems, perceptions of causality, or interventions to address this. The current study aimed to systematically review the literature to provide an overview and highlight areas for development. In total 382 articles were identified of which 25 were reviewed. Problems identified included adjustment difficulties, psychological distress in terms of depression and stress, loneliness, missing home and friends, worries about social support, and psychological distress as characterised by 'problem behaviour' and aggression. Attachment style, family background and parenting style, the ability to identify and manage emotions and individual factors such as self-esteem were commonly reported causes. Evidence for interventions was limited but indicated that social support group interventions and psychoeducation are effective. Areas for development included further detailed exploration of each area to identify when problems occur, their duration and longer term consequences, to establish causality and to explore effective ways of facilitating the transition.

Transition to University: Problems, Causes and Interventions

Introduction

A major life transition faced by some 2.5 million students in 2011-2012 in the UK alone (HESA; Higher Education Statistics Agency, 2013) is the matriculation to university. For many this is a period of exciting new experiences; with many viewing the transition as a typical developmental step that they have elected to take, holding a positive attitude towards the event (Birnie-Lefcovitch, 2000).

However for others this can be more problematic; it is a situation that evokes significant levels of uncertainty due its novel nature (Gurin, Dey, Hurtado & Gurin, 2002) and is a major life stressor (Pennebaker, Colder & Sharp, 1990). Sears (2004, pp. 166) has gone as far as to describe the transition as a “leap across the great chasm” as “an astonishing act of daring and skill”. It hardly seems surprising that students experience problems.

In the United Kingdom almost 90% of all applications to university in 2011 were made and accepted by individuals younger than 24 years of age. This age group, from 18-25 years, is a distinct developmental stage known as ‘emerging adulthood’ (Arnett, 2000). Arnett argues that during this period individuals face significant and important life changes during which many may leave home, make decisions about further study or entering a profession, and make decisions related to romantic partners. Similarly Erikson’s psychosocial development theory (1968) would suggest that at the time of university entrance individuals are between 2 developmental stages in which a sense of self is developed and individuals strive to form meaningful relationships or remain alone. In developmental terms the age at which many students apply to and enter university is an important time in and of itself without the additional stressor of transitioning to university.

Additionally Clark (2005) suggests that transition is not a passive process but something that students must work at in order to negotiate the many challenges that it can entail. It is a period of “flux” which can be unsettling (Sheridan & Dunne, 2012, pp. 237). Research has indicated that as a direct consequence of the personal, emotional and social stressors encountered during this time that students are at particularly high risk of both physical and mental health problems (Voelker, 2003; Hall, Chipperfield, Perry, Ruthig & Goetz, 2006) which represents a neglected public health problem (Stewart-Brown et al., 2000).

Gold, Miller & Rotholz (2001) indicate that tasks required of students during the transition to university include moving on from things in the past and embracing, acclimatising and settling in their new situation. These are big demands when faced individually, let alone together and it is possible that problems may occur during this time. These tasks are important however; investment in committing to the academic and social aspects of university life is related to decreased attrition (Tinto, 1993).

Research is conflicted about the most prevalent time of attrition. It has been suggested that the greatest risk is during the initial transition period in the first semester (Dodgson & Bolam, 2002), whilst elsewhere it has been found to be the period leading up to summer examinations (NAO; National Audit Office, 2007). Reasons cited for failed retention include an array of factors across personal, academic, social and financial domains (NAO, 2007). It is important to review the current research into these factors, to gain a greater understanding of their drivers so that interventions can be designed and implemented to assist students during this time.

Whilst it is reasonable to propose that the successful transition to university is related to multiple factors such as social support, accommodation issues and academic support, much of the current research is exploratory, describing issues based upon anecdotal assumptions without methodically examining associations, or establishing

causality (Hunt & Eisenberg, 2010). Furthermore there is a potentially significant gap in the literature exploring student perceptions of factors that are instrumentally responsible for how the transition is experienced (Clark, 2005).

Despite evidence to warrant the use of interventions there is a paucity of research with regards to support being offered or contributed to by mental health professionals (Waller, Mahmood, Gandi, Delves, Humphreys & Smith, 2005; Hunt & Eisenberg, 2010). It is possible that this reflects a lack of existing interventions (Ames et al., 2011). Given the problems that students are known to experience, particularly in terms of psychological health, it is important that there is a review of the evidence to assist in clearly identifying gaps for future work.

The Current Study

Rationale

Research suggests that the transition to university can be a particularly challenging time for students. Yet despite this, research seems to consistently highlight a lack of evidence regarding the process, the problems, the causes and interventions in place to manage this (Briggs, Clark & Hall, 2012; Monk, 2004; Waller et al., 2005). A review of the current published literature is required to provide a systematic overview of the problems faced by students and the factors that underpin and/or contribute to these. Targeted interventions can then be designed for a more preventative and supportive approach to facilitate students' transition.

Aims

The current study sought to systematically review the existing base of published literature to provide an overview of the problems faced by matriculating students, the causes of these problems and the interventions designed to address them. This review

aims to highlight areas for development and provide recommendations for future research.

Questions

1. What are the problems associated with the transition to university?
2. What are the causal factors for the problems associated with the transition to university?
3. What interventions are currently available to aid the transition to university and how effective are they?

Method

Search Strategy and Sources

Scoping searches were carried out to ascertain that there was no existing review of the literature in this area. Initial searches used the search terms (*universit* OR college* OR tertiary OR student**) AND (*enter* OR transit* OR start* OR begin**). Search terms and strategies were adapted based on these initial searches.

A systematic review of the literature was carried out between October 2012 and February 2013 inclusive across a range of electronic databases to include papers from a range of psychological, educational, medical, and social research areas. Search terms were systematically entered into the EBSCO interface to search PsycINFO, PsyARTICLES, MEDLINE, ERIC, Education Research Complete, and CINAHL Plus with Full Text.

Selection Criteria

Search Terms

Search terms were selected based upon the questions being asked and relevant key words found in databases, abstracts and article titles during the initial scoping searches. Search terms used for a title search were:

- universit* OR college* OR tertiary OR student
- AND transit* OR enter* OR start
- AND adjust* OR mental health OR well?being

Search Limits

- Papers published in peer reviewed publications.
- Papers which include search terms in the paper title to attract only the most relevant papers.
- Published after 1998 when the Teaching and Higher Education Act came into force in the United Kingdom introducing ‘top-up fees’ whereby students wishing to study at an English institution were required to pay a fee each year of study as opposed to a one-off payment.
- Papers written in the English Language.

Inclusion Criteria

- Empirical studies which measure a defined variable.
- Papers that included a measure of psychological health or adjustment to university.

Exclusion Criteria

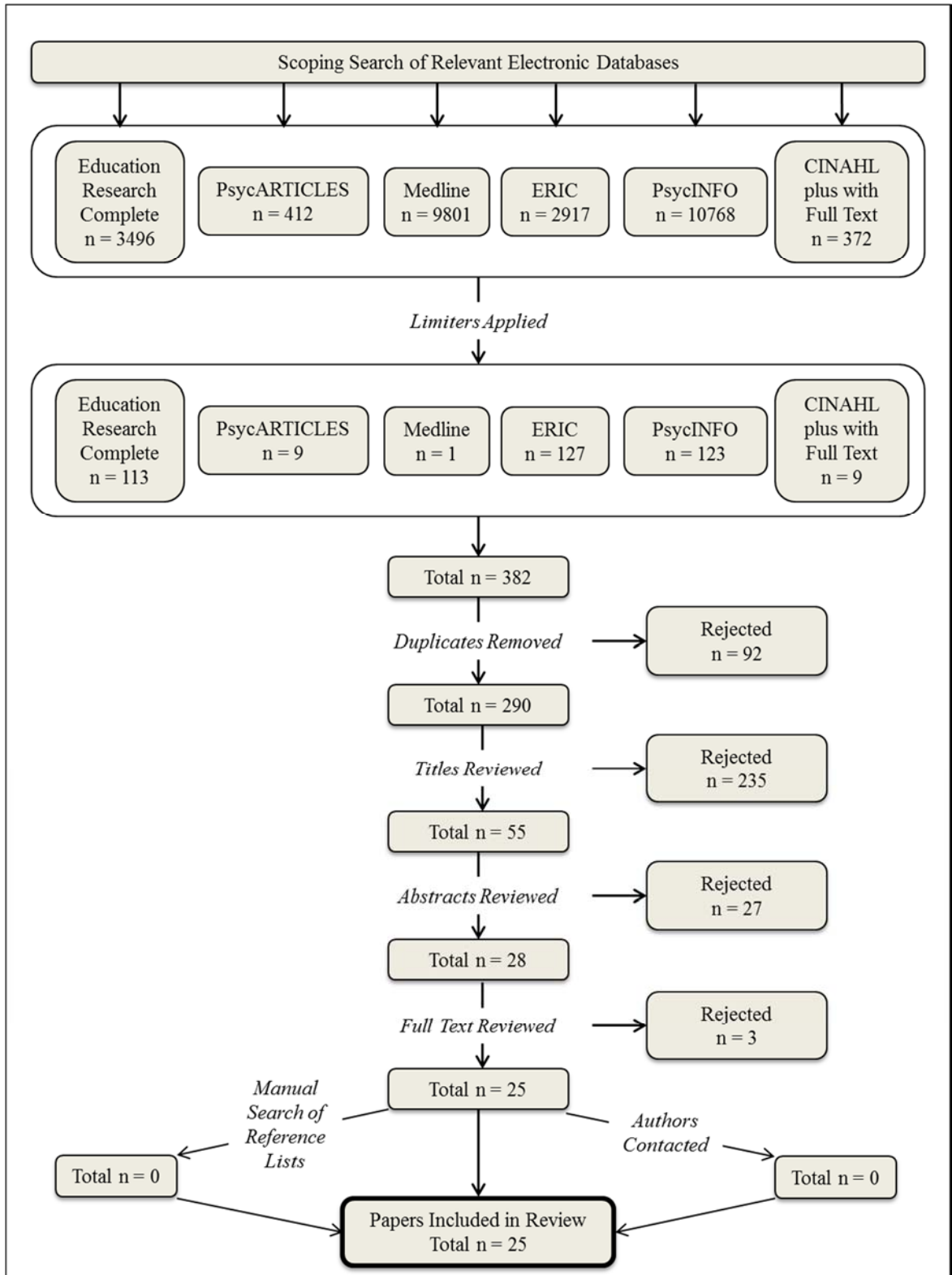
- Papers with a sole focus on international students to the university.
- Papers with a specific participant group (i.e. females only).

- Papers from Eastern society (i.e. published outside of Europe, North America, Australasia) to increase generalizability to the United Kingdom where this review originates.
- Not case studies due to the limited generalizability of such research.
- Conference extracts to allow for a clearer picture to be gained of the current research base.
- Literature reviews due to possible reporting biases and the reporting of multiple studies.

Article Selection Summary

Duplicates ($n=92$) were removed and titles ($n=290$) were assessed using the inclusion and exclusion criteria with non-compliant papers being rejected ($n=235$). Abstracts of the remaining papers ($n=55$) were further assessed in accordance with the inclusion and exclusion criteria; papers failing to meet the criteria were rejected ($n=27$). Corresponding authors were also contacted during this process. The full text of the remaining articles ($n=28$) was assessed again and papers satisfying the criteria were included in the review ($n=25$). Reference lists of the accepted papers were searched for additional relevant literature yielding no further studies. A summary of the article selection process can be found in Figure 1. Of the full text articles assessed, 25 were selected for inclusion in the review and 3 rejected (see Appendix C for references of full text articles rejected).

Figure 1. Article Selection Summary



Quality Assessment

An adapted version of the Downs and Black (1998) Quality Checklist was used to assess the quality of studies included in this review (Appendix D). The checklist contained 16 items which were scored either 1 to indicate compliance with the criterion or 0 to indicate non-compliance, thus a higher score indicated higher quality. The quality score obtained by a study did not affect its inclusion or exclusion but served as an additional piece of information when synthesizing results.

Quality assessments were carried out by 2 independent reviewers, with the second reviewer assessing 20% ($n=5$) of the total number of papers included in the review. One paper reached 100% inter-rater agreement (Mattanaha, Ayres, Brand & Brooks, 2010). The average inter-rater reliability score for 4 of the articles which didn't reach 100% agreement was $K=0.71$. Discrepancies were discussed between the raters and agreement was reached on the awarded score. Quality assessment scores ranged from 10 ($n=1$; Baruch-Runyon, VanZandt & Elliot, 2009) to 16 ($n=1$; Mattanah et al., 2010) with a maximum possible score of 16. Modal scores were 15 ($n=8$) and 14 ($n=8$). The mean quality assessment score was 13.88 ($SD=1.30$). Results are presented in Appendix E.

Data Extraction

Data was extracted from the relevant papers using a pro-forma designed for this review (Appendix F). Focus was upon the problems, causes and interventions found in the literature in addition to study characteristics, participant characteristics and study conclusions. Key findings are reported in Table 1.

Data Synthesis

Due to the heterogeneity of the studies reviewed quantitative synthesis was inappropriate so extracted data was synthesised narratively allowing a more detailed discussion of the findings.

Results

Details of Included and Excluded Studies

Figure 1 indicates the process via which studies were selected for inclusion in this review. In total twenty-five studies were included, a summary of which can be found in Table 1.

Table 1. Summary Table for Key Findings of Reviewed Papers

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Alfeld-Liro & Sigelman (1998) USA	Within Group Exploratory Longitudinal (3)	First-year students at a private urban university (287 complete data sets)	BDI	Adapted SSIQ		<p><i>Before Transition:</i> No gender difference. Depression associated with an increased mismatch between participants' ideal and real self-perceptions.</p> <p><i>During/after transition:</i> Increased depression, more so in females. Males' positive perceptions increased. Decreased perceptions of how participants are (as opposed to wish to be) associated with lower depression. Less difference associated with lower depression scores in females.</p> <p><i>Follow-up:</i> Self-concept in females rose to same as males.</p>	15

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Bishop & White (2007) <i>USA</i>	Within and Between Groups Exploratory 4 year duration	Final year school students accepted to university and first-year university students across all 5 subjects offered (451)	SACQ	GPA's 'Drop Survey'	Online course to 'ease transition' and 'face-to-face' control with mix of school and college students.	All groups showed increased adaptation to university. Online course showed poorer outcomes compared to face-to-face.	14
Baruch- Runyon, VanZandt, & Elliot (2009) <i>USA</i>	Within Group Longitudinal Qualitative (3: pre, follow up midway and second follow up)	First and second year students (15)	Indicators of Stress scale		3 semi- structured group workshops on transitional issues	4 themes surrounding adjustment to university: engagement and balance, what works and what does not work, coping, follow up connections. Perceptions of reduced stress following use of skills from group intervention.	10

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Bohnert, Aikins, & Edidin (2007) USA	Within Group Longitudinal over 10 months (2)	Entering students to large public university (85 at T1 and 81 at T2)	Loneliness and Social Dissatisfaction Q	OAIQ SMAIQ FQQ		Participants less happy with their social situation and more lonely pre-university rated friendships higher when there was greater involvement in range of activities at university.	15

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Gall, Evans, & Bellerose (2000) USA	Within Group Longitudinal over academic year (4)	Psychology first-year students (73 with 68 available for analysis)	GBI LSQ	LEI CAQ SSQ PHI Illness S Coping S		<p>Ratings across domains consistently negative initially but become more positive over time. Transition as a significant stressor with initial entry impact the greatest (significantly more for females) resulting in poor psychological health which improves over time.</p> <p>Support satisfaction (females' greater than males') remained static despite increase in support levels.</p> <p>Females less positive about academic factors.</p> <p>Coping style linked to well-being. Less avoidant coping and more active style; better long-term well-being</p> <p>Perceptions of difficult living situations related to lower psychological health and adjustment.</p>	15

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Hiester, Nordstrom, & Swenson (2009) USA	Within Group Longitudinal over first semester (2)	First-year History and English General Education Students (488 with 271 available for analysis)	BSI SACQ	IPPA SPP-CS		Lower psychological health, adjustment and self- perceptions of participants' abilities significantly related to perceptions of attachment to parents. Living at home related to more negative perceptions of attachment in males compared to more positive in females over time.	15

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Jackson, Pancer, Pratt, & Hunsberger (2000) <i>Canada</i>	Within Group Longitudinal over 4 years (5)	First-year students registered for immediate matriculation at a medium-sized institution (356 with 107 completers, all data used for analysis)	CES-D SACQ	Expectation Q PSS LOT SES Loneliness Scale Hassles S		Pre-University expectations classified into 4 categories which predict adjustment and psychological health. Fearful expectation of university related to poorer overall outcome (lower adjustment, more stress, and higher depression). Prepared expectations have best adjustment.	14

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Johnson, Gans, Kerr, & LaValle (2010) USA	Within Group Exploratory (1 at end of first semester)	First-year students on a Psychology Introductory course open to all majors. (320 over 2 cohorts)	TMMS SACQ	FES		Participants' perception of how their family operates and how they manage their emotions related to adjustment to university. High expression of emotion positively associated with higher scores on personal and social factors of adjustment. Discord amongst families related to poor academic and social adjustment, in part due to poorer differentiation and management of emotions.	13
Kenyon & Koerner (2009) USA	Within Group, Longitudinal over 3 months (2)	First-year students (75)	HSC-R PAS PANAS CSEI	LAIQ HBSC-SCL Revised IIS GPAs Distance from Parents		Participants securely attached but distinct from parents (individuated) report decreased depression and psychosomatic scores and therefore better adjustment to university compared to participants who are physically but not emotionally close to parents.	12

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Kerr, Johnson, Gans, & Krumrine (2004) <i>USA</i>	Within Group Longitudinal using cohorts (3 over 9 months)	First-year students from 2 years intake at a medium-sized public university (56 with 40 used for analysis)	SCL-90-R SACQ	PSS TAS-20 GPAs		Difficulties identifying emotions significantly predicts participants' adjustment over the first semester more than perceived stress, but this is less predictive than psychological distress in the second semester. Individuals who convey emotions have fewer adjustment difficulties.	15
Larose & Boivin (1998) <i>Canada</i>	Within Group Longitudinal (2 over 6 months)	Matriculating first-year students (459 with 298 available for analysis)	IAS UCLA-LS	IPPA ISEL MPSS-E SNI		Perception of confidence in parental attachment more constant than emotional adjustment or social support during transition. Males have less positive perceptions than females of social support. Living situation interacts with attachment to predict loneliness (Fathers when at home and Mothers when away).	14

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Lopez & Gormley (2002) <i>USA</i>	Within Group Exploratory Longitudinal (2, Semester 1 and 2)	First-year students at a large university (245, with 207 used for analysis)	CES-D PPI SI subscale	PDQ RQ ECR-SF PEI PF-SOC DSQ-40		Attachment style stability modest during transition. Better psychological health found in individuals with steady secure attachment style – more self-confidence and adaptive coping, and less depressive symptoms and depersonalisation. Insecure attachment resulted in poorer adjustment with increased scores on distress measures. Changes in attachment style resulted in changes in psychological health correspondingly.	15

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Low (2011) USA	Within Group (1)	First-year students at specialist Arts university (450 of which 428 used for analysis)	MHC-SF CES-D	Substance use Q CIRP Freshman Survey		One fifth of students scored highly on measures of depression. Positive affect, psychological and social function is related to reduced depressive symptoms and therefore improved engagement across several domains. Substance use not related to positive adaptation or psychological health.	14
Mattanah, Ayres, Brand, & Brooks (2010) USA	Between Groups Longitudinal over 2 years (3 over academic year)	First-year students at a large 4 year university (184 with 171 at analysis. Control = 83, Intervention group = 88)	SACQ UCLA -LS NCSCS	SPS Demo GPAs SAT scores	Semi-structured social support group. 6-10 participants per group for 9 sessions across semesters 1 and 2	Worries about the transition and settling at university associated in the longer term with decreased perceptions of support and more loneliness. Group attendance facilitated perceptions of increased social support in the second semester (but not first) compared to control group.	16

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
McBroom, Fife, & Nelson (2008) USA	Within Group Exploratory (1 in second semester)	First-year students enrolled in a General Communicatio ns class at a large university (296)	UCLS-LS	SAQ Attitudes and Perceptions Q		Negative correlation found between loneliness and alcohol consumption. Gender difference found: Males had higher ratings for quantity of alcohol consumed, problems associated with alcohol and loneliness. Problems and GPA scores positively predicted by number of drinks and loneliness perceptions.	14

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Mounts, Valentiner, Anderson, & Boswell (2006) <i>USA</i>	Within Group Exploratory (1)	First-year students attending introductory level lectures at a large university (350)	BAI BDI UCLA-LS	Shyness Q Sociability Q Parental Support Q McGill-FQ- FF		Positive relationship between loneliness and anxiety and depression. Negative relationship between social support and loneliness. Individuals rated as being shyer, less sociable and with less support score higher on loneliness ratings. Parental support positively predicts ratings of friendship quality.	13
Paul, Pool, & Jakubowyc (1998) <i>USA</i>	Within Group Exploratory (1 at end of first semester)	First-year students at an urban university (325, with 297 for analysis)	POMS	Romantic Status Q MPD		Poorer psychological health associated with participants with underdeveloped intimacy who were either maintaining a pre-university relationship or were not in a relationship.	14

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Paul & Brier (2001) <i>USA</i>	Within Group Exploratory Longitudinal (2)	First-year students at a public university (70, with 68 used for analysis)	Differential Loneliness Scale Hartners SPP-CS	Precollege Concerns Discrepancy between precollege expectation and college experiences Friendsickn ess Scale New friends in social network		Fears of old friendships dissipating and developing new ones predict perception of friendsickness during the transition as does maintaining pre-university friendships within social network once at university, and concerns about acceptance. Ratings of self-worth within friendships and feelings of isolation predicts adjustment at university. Pre-university worries and unmet expectations related to experience of friendsickness.	13

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Pittman & Richmond (2008) USA	Within Group Longitudinal (2, one in each semester)	First-year students enrolled on an Introduction to Psychology course at a state university (163 with 79 in analysis)	ASR	Demo PSSM IPPA SPP-CS		Higher prevalence of poor psychological health than expected for a non-clinical sample. Over transition negative correlation between perceptions of academic aptitude, fitting into university, self-worth and psychological difficulties. Strong association between ratings of fitting into university life and friendship quality.	13

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Pratt, Hunsberger, Pancer, Alisat, Bowers, Mackey, Ostaniewicz, Rog, Terzian, & Thomas (2000) <i>Canada</i>	Between Group Experimental Longitudinal (10, one pre- university then through semester 1 and midway through semester 2)	First-year students at a small university (110, control= 50, Intervention= 60 with 96 used at analysis)	CES-D SACQ PSS	Demo SPS UCLA-LS LOT Behavioural Problems Q	Small semi- structured social support discussion group (n=7-10) intervention. 9 sessions, 4 weekly, 5 bi- weekly.	Intervention participants showed greater adjustment, with females indicating higher scores in the longer term. Intervention group showed less symptoms of poor psychological health (i.e. less stress, depression, problem behaviour) and increased adjustment.	14

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Srivastava, Tamir, McGonigal, John, & Gross (2009) USA	Within Group Exploratory Longitudinal (12, 1 pre- university, 1 per week during 1 st semester)	First-year students (278, weekly = 233, end=204, each part analysed separately)	ERQ suppression scale	Social Support S Closeness to others scale Social Activity Q Social and Academic satisfaction Q		Suppression as emotional coping predictive of perceptions of poorer social factors (closeness, support, satisfaction)	15

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Tognoli (2003) <i>USA</i>	Within Group Exploratory Qualitative semi-structured interview and questionnaires (1 with interviews between weeks 9 and 32 of academic year)	First-year students studying Psychology, Sociology or History (27)	Self Esteem S	Tan Ego Identity S Internal Locus of Control S		Homesickness characterised by desire for home and denial associated with lower self-esteem, ego identity and locus of control, more likely if further from home. Homesick participants living closer to home visited more frequently. Homesickness viewed as a process aided by friend support. Adjustment associated with increased value of new friends, sustained communication with home and making surroundings homely.	14
Wilson & Gillies (2005) <i>Australia</i>	Within Group Exploratory (1)	First-year students (185)	GSES Stress-Transition Questionnaire	Social Support Q		Self-efficacy negatively correlated with stress relating to broader university factors, environmental factors and course requirements. Social and family support not predictive of perceived stress.	12

Authors (Date) Country	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Wintre, Ames, Pancer, Pratt, Polivy, Birnie- Lefcovitch, & Adams (2011) <i>Canada</i>	Within Group Exploratory Longitudinal over 2 year cohorts (3: Pre, Semester 1 and Semester 2)	First-year students from 6 universities over 2 years. (2728 with dropout)	CES-D SACQ PSS	Demo POPRS SPUSS		Gender and parental divorce predictors of adjustment. Divorce related to higher depression and stress in females than males and poorer personal and emotional adjustment. Increased adjustment scores related to divorce over intact family for males.	15

Authors (Date) <i>Country</i>	Design (Number of time points)	Participants (n)	Psychological Health and Adjustment Measures	Other Measures	Intervention	Key Findings	Quality Score (n/16)
Winter & Sugar (2000) <i>Canada</i>	Within Group Exploratory Longitudinal (2; first week and second semester)	Unmarried first-year students enrolled on an Introductory Psychology course. (419)	SACQ	PAQ POPRS NEO-FFI GPAs		Positive correlation between parental reciprocity and adjustment. Greater personal and emotional adjustment for males, with females indicating greater neuroticism. Differences exist between maternal and paternal parenting styles and adjustment. Authoritative parenting style negatively correlated with academic adjustment for females with maternal negatively correlated with personal and emotional adjustment. Maternal permissiveness negatively correlated with social adjustment in males and paternal authoritarian style positively correlated with personal and emotional adjustment.	13

KEY Acronyms: Demo (Demographic), GPAs (Grade Point Averages), Q (Questionnaire), S (Scale), PDQ (Personal Demographics Questionnaire), OAIQ (Organised Activity

Involvement Questionnaire), SMAIQ (Social Motivations for Activity Involvement Questionnaire) **Psychological Health and Adjustment Measures:** Beck Depression Inventory (BDI; Beck, 1961), Student Adaptation to College Questionnaire (SACQ, Baker & Siryk, 1986), General Behaviour Inventory (GBI; Evans, Burns, Lidkea, & Shatford, 1980), Life Satisfaction Questionnaire (LSQ; Campbell, Converse, & Rodgers, 1976), Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983), Trait Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 2002), Hopkins Symptom Checklist Revised (HSC-R; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), Positive Affect Scale (PAS; Diener & Emmons, 1984), Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988), College Self-Efficacy Inventory (CSEI; Solberg, O'Brien, Villareal, Kennel, & Davis, 1993), Symptom Checklist-90-R (SCL-90-R; Derogatis & Lazarus, 1994), Interaction Anxiousness Scale (IAS; Leary, 1983), UCLA Loneliness Scale (UCLA-LS; Russell, Peplau, & Cutrona, 1980) Personal Problems Inventory (PPI; Cash, Begley, McCown & Weise, 1975), Splitting Index (SI; Gould, Prentice & Ainslie, 1996), Mental Health Continuum- Short-Form (MHC-SF; Keys & Magyar-Moe, 2003), New College Students Concern Scale (NCSCS; Brooks, 2005), Beck Anxiety Inventory (BAI; Beck et al., 1988), Profile of Mood States (POMS; McNair, Lorr & Droppleman, 1981), Differential Loneliness Scale (Schmidt & Sermat, 1983), Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), Self-Esteem Scale (Bachman & O'Malley, 1977), General Self-Efficacy Scale (GSES; Jerusalem & Schwarzer, 1992), Adult Self-Report (ASR; Achenbach & Rescorla, 2003), Loneliness and Social Dissatisfaction Questionnaire (Asher & Wheeler, 1985), Coping Scale (Billings & Moos, 1981), Centre for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) . **Other Measures:** Defense Style Questionnaire (DSQ-40; Andrews, Singh, & Bond, 1993), Shyness Questionnaire and Sociability Questionnaire (Cheek & Buss, 1981), McGill Friendship Questionnaire-Friends Function (McGill FQ-FF; Mendelson & Aboud, 1999), Harters Self-Perception Profile for College Students (Harters SPP-CS; Neemann & Harter, 1986), Pre college Concerns (Belle & Paul, 1989), Sherwood Self-Identity Questionnaire (SSIQ; Sherwood, 1965), Friendship Quality Questionnaire (FQQ; Parker & Asher, 1993), Life Events Inventory (LEI; Garrett, 1983), Cognitive Appraisal Questionnaire (CAQ; Osgood, Suci & Tannebaum, 1957), Coping Scale (Billings & Moos, 1981), Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983), Physical Health Inventory (PHI; Evans et al., 1980), The Illness Scale (Marx, Garrity, & Bowers, 1975), Inventory of Parent and Peer Attachment (IPPA; Armsden, & Greenberg, 1987), Self-Perception Profile for College Students (SPP-CS; Neeman & Harter, 1986), Perceived Stress

Scale (PSS; Cohen, Kamarck & Mermelstein, 1983), Self-Esteem Scale (SES; Rosenberg, 1965), Life Orientation Test (LOT; Scheier & Carver, 1985), Hassles Scale (Blankstein, Flett & Koledin, 1991), Loneliness Scale (Russel, Peplau & Cutrona, 1980), Family Environment Scale (FES; Moos & Moos, 1976), Late Adolescence Individuation Questionnaire (LAIQ; Baik, 1997), HBSC Symptom Checklist (HBSC-SCL; Haugland, Wold, Stevenson, Aaroe & Woynarowska, 2001), Institutional Integration Scales (IIS; Pascarella & Terenzini, 1980), Toronto Alexithymia Scale-20 (TAS-20; Bagby, Parker, & Taylor, 1994), Interpersonal Support Evaluation List (ISEL; Cohen & Hoberman, 1983), Measure of Perceptions of Social Support Specific to Worrisome Events (MPSS-E; Larose & Bovin, 1997), Social Network Inventory (SNI; Perl & Trickett, 1988), Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), Experiences in Close Relationships (ECR-SF; Brennan, Clark & Shaver, 1998), Personal Evaluation Inventory (PEI; Shauger & Schohn, 1995), Problem-Focused Style of Coping (PF-SOC; Heppner, Cook, Wright & Johnson, 1995), CIRP Freshman Survey (Higher Education Research Institute, 2009), Perceived Social Support (SPS; Cutrona & Russel, 1987), Student Alcohol Questionnaire (SAQ; Engs, 2002), Measures of Psychosocial Development (MPD; Hawley, 1988), Psychological Sense of School Membership (PSSM; Goodenow, 1993), Tan Ego Identity Scale (Tan, Kendis, Fine & Porac, 1977), Internal Locus of Control Scale (Rotter, 1966), Perception of Parental Reciprocity Scale (POPRS; Wintre, Yaffe & Crowley, 1995), Students Perception of the University Support and Structure (SPUSS; Winter, Gates, Pancer, Pratt, Polivy, Birnie-Lefcovitch et al., 2009), Parental Authority Questionnaire (PAQ; Buri, 1991), NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992). **Measures not listed were devised by the study authors and do not have additional references.**

Overview of Included Studies

Methodology and quality

All studies were quantitative and used questionnaires as the primary source of data collection, with 2 (Baruch-Runyon et al., 2009; Tognoli, 2003) making additional use of interviews with participants. Twenty two of the studies used a within-group design and of these longitudinal data collection was the predominant method ($n=18$) using 2 or more time points. Two studies employed a between-group design over 3 or more time points (Mattanah et al., 2010; Pratt et al., 2000) and Bishop and White (2007) employed a within and between groups design. Study duration varied from a one off sample ($n=7$) to 4 years with a maximum of 12 time points (Sirivastava et al., 2009). Studies were largely exploratory in that they aimed to assess the relationship between specific variables of interest and psychological health/adjustment through the transition to university, with 4 studies having a more evaluative role in relation to interventions conducted and their relationship with psychological health and adjustment to university. The mean quality rating of 13.88 out of a possible 16 suggests an overall good level of methodological quality. The main issues that were identified in terms of methodology were that only 4 studies used control groups, 3 of which were intervention studies, and also sampling representativeness which scored poorly in the quality assessment.

Participants

All selected studies used first year undergraduate students with 7 of the studies taking baseline measures in the summer before matriculation. A further 3 studies (Baruch-Runyon et al., 2009; Bonert et al., 2007; Larose & Bovin, 1998) recruited final year school students due to attend university at the start of the next academic year. The participants' course enrollment varied with some participants being sampled from across the whole institution (Bishop & White, 2007). Subjects studied by participants that were specified included Psychology (Gall et al., 2000; Johnson et al., 2010; Pittman

& Richmond, 2008; Tognoli, 2003; Wintre & Sugar, 2000) History and English General Education Classes (Hiester et al., 2009) and General Communication (McBroom et al., 2008).

All studies used a single cohort, with the exception of 3 (Johnson et al., 2010; Kerr et al., 2004; Wintre et al., 2011) who used 2 cohorts and Bishop and White (2007) who conducted the recruitment and data collection over 4 years.

The age range of participants was narrow in the studies reviewed, with all recruiting participants of the traditional age. The widest age range reported is 16-21 year olds (Bohnert et al., 2007).

Male and female participants were included in all studies, with females making up a larger proportion of the sample for most papers. Only 1 study (Bishop & White, 2007) had a greater proportion of males (60%) which was reflective of the population within the institution the sample was taken from.

In terms of ethnicity six studies do not clearly discuss this (Baruch-Runyon et al., 2009, Jackson et al., 2000; Low, 2011; Tognoli, 2003; Wilson & Gillies, 2005; Wintre & Sugar, 2000). Where ethnicity is reported the samples were predominantly White/Caucasian, with this representing over 60% of the participants' ethnicity for each paper, with this making up the whole sample for 2 studies (Gall et al., 2000; Larose & Boivin, 1998).

Geographical Origin

The origin of the studies included in this review is limited. The majority of studies are American ($n=19$) which is representative of 76% of the selected papers, with an additional 20% of studies originating in Canada ($n=5$) and one paper from Australia. There were no studies that met the inclusion criteria from the United Kingdom where this review originates.

Sample Size

There was a wide range of sample sizes within the selected studies from 15 (Baruch-Runyon et al., 2009) to 2728 (Wintre et al., 2011). Nine of the 25 studies had sample sizes under 100. Mean sample size was 315.64 ($SD=520.76$). The smallest sample size ($n=15$) was a qualitative study and small numbers are a feature of the design. Twelve studies used only complete data sets for analysis.

Measures of Psychological Health and Adjustment

All studies employed self-report questionnaires to capture data. Where adaptation to university was directly assessed this was done most commonly ($n=9$) using the Student Adaptation to College Questionnaire (SACQ; Baker & Siryk, 1986). Ten studies reviewed used general measures of psychological health including: The General Behaviour Inventory (GBI; Evans et al., 1980), Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983), Trait Meta-Mood Scale (TMMS; Salovey et al., 2002), Hopkins Symptom Checklist (HSC; Derogatis et al., 1974), Symptom Checklist-90-R (SCL-90-R; Derogatis & Lazarus, 1994), Personal Problems Inventory (PPI; Cash et al., 1975), Splitting Index (SI; Gould et al., 1996), Mental Health Continuum- Short-Form (MHC-SF; Keys & Magyar-Moe, 2003), New College Students Concern Scale (NCSCS; Brooks, 2005), and the Profile of Mood States (POMS; McNair et al., 1981). Depression was measured in 5 studies using the Centre for Epidemiologic Studies Depression scale (CES-D; Radloff, 1977), and the Beck Depression Inventory (BDI; Beck, 1961) in one study (Alfeld-Liro et al., 1998). Six studies used loneliness as a measure of psychological health or adjustment and a further 4 used measures of stress.

Main Findings

The aim of this review was to establish: which problems are associated with the transition to University, the potential causes of those problems and to consider the

benefits of interventions adopted in the transitional period. The main findings are presented under each of these headings.

Problems

Adjustment

Each of the 25 studies examined problems with adjustment to university life and the secondary problems that arise from this adjustment. Nine studies used the SACQ (Baker & Siryk, 1986) as a specific measure of adjustment (Bishop & White, 2007; Hiester et al., 2009; Jackson et al., 2000; Johnson et al., 2010; Kerr et al., 2004; Mattanah et al., 2010; Pratt et al., 2000; Wintre et al., 2011; Wintre & Sugar, 2000) to explore how participants were managing to acclimatize to different domains of their new environment. Whilst it is difficult to draw direct comparison between the studies, due to the heterogeneity in methodology and aims, there seemed to be agreement that students experience difficulties with adjustment.

Generic Psychological Distress

All 25 studies dealt with psychological distress associated with the transition, 4 of which dealt with it broadly (Hiester et al., 2009; Kerr et al., 2004; Paul et al., 1998; Pittman & Richmond, 2008) using generic psychological health measures. With the exception of 1 which uses a cross-sectional within-group design (Paul et al., 1998) all studies use a longitudinal, within group design. No one study used the same measure so results are difficult to compare however psychological distress was found across all 4 studies. Importantly, Pittman and Richmond (2008) found that levels of psychological distress as measured by the Adult Self-Report (ASR; Achenbach & Rescorla, 2003) which assesses across constructs of depression, anxiety, aggression and other problem behavior, were more similar to those amongst a clinical population due to the elevated scores.

Depression

Seven papers considered psychological distress in the more specific terms of symptoms of depression (Alfeld-Liro & Sigelman, 1998; Kenyon & Koerner, 2009; Lopez & Gormley, 2002; Low, 2011; Mounts et al., 2006; Pratt et al., 2000; Wintre et al., 2011). Depression was measured in various ways, most commonly using the CES-D (Radloff, 1977), with the BDI (Beck, 1961) used by 2 studies (Alfeld-Liro & Sigelman, 1998; Mounts et al., 2006) and Kenyon and Koerner (2009) using a more generic measure to capture symptoms. The lack of standardised measures makes the studies harder to directly compare, but without exception depressive symptoms were associated with the transition to university, although no study gave a clear indication if symptoms reached clinically significant levels. Low's (2011) cross-sectional study however suggests that participant scores for symptoms of depression were high, but these appear to be responsive to intervention; with reduced scores following a social support discussion (Pratt et al., 2000).

In their study of gender effects of parental divorce Wintre et al., (2011) found that females were more likely to report depression and that their scores were higher when they were reported. This was consistent across time points unlike findings in one study which found no gender difference pre-matriculation to university (Alfeld-Liro & Sigelman, 1998). Additionally Pratt et al. (2000) found that females were more receptive to a social support intervention which reduced depression.

Stress

In 5 studies stress was cited as a problem during transition (Jackson et al., 2000; Kerr et al., 2004; Pratt et al., 2000; Wilson & Gillies, 2005; Wintre et al., 2011).

Jackson et al. (2000) conducted a study that followed students across their 4 year university career. They found a significant positive relationship between participants' negative expectations about the academic and social domains of university life and

stress, however this was shown to lose significance over time. This would suggest that stress is a highly significant factor during the initial transition period. Looking at this in greater detail Kerr et al. (2004) found that mean scores on a measure of stress were significantly elevated in the first semester of university compared to pre-matriculation scores.

Factor analysis in one study (Wilson & Gillies, 2005) revealed that stress was reported to be associated with 3 factors: Prerequisites of university life such as contacting lecturers, making friends and time management; Situational factors such as moving out of home, leaving friends and family behind and accommodation issues; and Course related factors such as academic workload and time demands, and misgivings about subject choice.

Stress was also found to be resistant to intervention (Pratt et al., 2000). Whilst the intervention was not designed to target stress, participant ratings were not found to be significantly reduced as compared to pretest scores in either the first or second semesters.

None of the studies reported above make reference to gender difference. However females were found to report greater levels of stress than males before and during the transition (Wintre et al., 2011).

Loneliness

Five studies directly measured loneliness (Bohnert et al., 2009; Larose & Boivin, 1998; McBroom et al., 2008; Mounts et al., 2006; Pratt et al., 2000). With the exception of one (Bohnert et al., 2007) which used the Loneliness and Social Dissatisfaction Questionnaire (Asher & Wheeler, 1985) all studies used the UCLA Loneliness Scale-Revised (Russel et al., 1980).

In the only paper that specifically set out to investigate loneliness, McBroom et al. (2008) found a negative association between loneliness and alcohol consumption.

Mounts et al. (2006) found high scores on measures of loneliness that were significantly positively associated with perceptions of shyness and anxiety and depression symptomatology.

One study predicted the existence of loneliness and found a relationship between this and the transition to university (Bohnert et al., 2007).

Social Connections

Perception of social support was found by several studies to be problematic (Baruch-Runyon et al., 2009; Larose & Boivin, 1998; Srivastava et al., 2009; Wilson & Gillies, 2005).

Srivastava et al., (2009) found that perception of amount of social support, and perceptions of closeness in addition to satisfaction with support were important and were moderated by participants' coping styles. Bohnert et al. (2007) also found a link between satisfaction with social support and the transition.

During interviews in one study (Baruch-Runyon et al., 2009) participants expressed difficulties faced with regard to forging connections not only with peers but also with university lecturers.

Missing family and friends

Three studies shared a theme of missing friends and family and the effects of maintaining contact (Paul et al., 1998; Paul & Brier, 2001; Tognoli, 2003).

Tognoli (2003) carried out interviews with students who resided at university to explore the experience of leaving home and found that a significant difficulty experienced by students is homesickness; students reported feelings of longing for their families and friends at home. Homesickness was described as being cyclical in nature and therefore not a linear process..

'Friendsickness' was found to be a problem faced by students. Paul and Brier (2001) found that missing pre-university friends was a problem that had implications for

feelings of loneliness and adjustment. Unlike the previously described study, Paul and Brier's results suggest that maintaining these connections only serves to increase the problem, a similar finding to Paul et al. (1998) who found that maintaining romantic relationships resulted in poorer psychological health.

Causes

Attachment / Separation

Five studies found that participants' attachment style was related to psychological health and adaptation and associated to participants' level of separation.

Lopez and Gormley (2002) found that Secure, Dismissing, Preoccupied and Fearful attachment styles changed little during the transition. Hiester et al. (2009) also found significant stability in attachments but revealed an association between a change in attachment style and psychological distress.

Three studies (Hiester et al., 2009; Kenyon & Koerner, 2009; Larose & Boivin, 1998) looked at relationships specific to the parent-child dyad, with Larose and Boivin, and Hiester et al. focusing upon attachment and Kenyon and Koerner's focus being on individuation (i.e. being highly attached and separate); whilst Paul and Brier (2001) explored separation of attachment relationships to friends.

Both studies that explored the parental attachment relationship found this to be an important contributing factor to the development of problems associated to the transition. It was found that attempts to maintain existing attachment relationships with friends during the transition to university was associated with poorer outcomes in terms of psychological health, as measured by loneliness (Paul & Brier, 2001). Larose and Boivin (1998) noted a negative association between insecurity in the parental attachment relationship and loneliness and Hiester et al. (2009) reported a negative association with psychological distress, adjustment and participants perception of their own ability. Kenyon and Koerner (2009) similarly found that individuals with insecure

attachment styles and who were physically separate from their parents had increased scores on measures of psychological health indicating poorer adjustment and increased distress.

Alcohol

The 2 papers that concerned themselves with alcohol as a variable during the transition reported conflicting findings. Low (2011) found no association between alcohol consumption and psychological health. Conversely, McBroom et al. (2008) found an indirect negative association between alcohol consumption and loneliness wherein participants reported that not engaging in drinking behaviour resulted in increased perceptions of loneliness.

Family Background

Four studies (Johnson et al., 2010; Mounts et al., 2006; Wintre et al., 2011; Wintre & Sugar, 2000) discussed how the influence of family environmental background can be a causal factor for poor psychological health and adjustment during the university transition.

Family conflict (Johnson et al., 2010), the divorce of parents for females (Wintre et al., 2011), style of parenting (Wintre & Sugar, 2000) and parental support (Mounts et al., 2000) were all found to be causal factors for adjustment and psychological health difficulties in first year students.

Individual factors

Individual factors that were identified as potential causes of poor adjustment and psychological health included low 'self-esteem', low 'ego identity', little development towards developing intimate relationships and a poor 'locus of control', (Alfeld-Liro & Sigelman, 1998; Paul et al., 1998; Tognoli, 2003; Wilson & Gillies, 2005).

In addition to internal individual factors it was also suggested that the amount and accuracy of information provided to individuals is also a causal factor in the

development of poor psychological health and adjustment to university as this results in a mismatch between expectations and the reality of university life (Jackson et al., 2000).

Additionally Wintre et al. (2011) suggest that a further individual cause of problems may be a gender vulnerability. They found that females reported significantly elevated depression and stress scores than compared to males prior to matriculation. The assertion that gender plays a role as a vulnerability/causal factor is also made by Alfeld-Liro et al. (1998) who found that females reported greater symptomatology than males with increased scores on measures of depression in the short and longer term data collection points.

Emotion Identification and Coping

Two studies (Johnson et al., 2010; Srivastava et al., 2009) found that the ability to identify and subsequently manage emotions was a potential cause of problems associated with poor psychological health and adjustment.

Johnson et al. (2010) found that females were more able to notice their emotions, in line with gender differences found in other reviewed papers (Wintre et al., 2011; Alfeld-Liro et al., 1998). They also found a relationship between participants' perception of how emotions were expressed and managed in their family of origin and psychological health and adjustment. Avoidant emotion coping was significantly associated with poorer global adjustment to university and therefore can be viewed as a causal factor for problems during the transition. On a similar theme Srivastava et al. (2009) found negative outcomes across several social domains associated with emotional suppression, an avoidant coping style. Using a pre-matriculation baseline and data collected through the first semester of university they found an increase in the prevalence of suppression as an emotion coping strategy and found a significant negative association across social domains.

Interventions

Three papers used a group intervention (Baruch-Runyon et al., 2009; Mattanah et al., 2010; Pratt et al., 2000) whilst the other (Bishop & White, 2007) compared efficacy of an online course to a group intervention.

Bishop and White (2007) found that early intervention can assist the transition, particularly face-to-face, in both the short and longer term (i.e. faster adaptation to university life and improved retention).

Group discussions focused on increasing social support, managing the academic and social elements of university life, issues related to living situations, and students expectations of university life in relation to the reality were the central component for the delivery of social support and psychoeducational material (Mattanah et al., 2010; Pratt et al., 2000). Decreased symptomatology and improved adjustment to university was found, with participants reporting fewer feelings of loneliness and stress and increased perceptions of social support. However findings only reached significance in the spring semester despite the general trend being evident in the autumn semester. A control group was used and pre-university measures were collected providing evidence that the results found are reliable.

Baruch-Runyon and colleagues (2009) used a similar design and found reduced scores on this following the intervention in line with findings from Pratt et al. (2000). Results indicate that there are 4 key themes surrounding the transition to university relating to the challenges of creating new social networks, balancing the different aspects of university life, engaging in the academic side of university, and coping. These themes map well onto the discussion topics in the above studies.

Discussion

Overview of Findings

This paper systematically reviewed the literature regarding the psychological problems relating to the transition to university, the causes of these problems and the interventions to address them.

Problems

The results suggest that common problems experienced during the transition to university include: adjustment difficulties, depression, stress, loneliness, worries about social connections, missing family and friends and general psychological distress. In the current review anxiety was not found to be explicitly reported by any studies. It is possible researchers have found it difficult to untangle naturally occurring anxiety as a result of a transition and clinically significant anxiety caused by the transition and so have avoided grappling with this. It is equally possible that anxiety is not experienced as a significant problem by students and hence has not been found in a research studies due to it being an anticipated and 'normal' part of this adjustment to change. It is possible however that this is being explored via different methods; measures of stress may tap into the same construct from a different perspective.

Although anxiety was not explicitly found to be a problem the use of generic psychological health measures in some studies provides further evidence of problems of adaptation during the transition process. Only one study looked at this in clinical terms, finding scores that were greater than expected for a non-clinical population on a self-report measure of internalising and externalising problems including anxiety, depression and aggression (Pittman & Richmond, 2008). This potentially highlights the significance of this problem with students experiencing distress as great as a clinical population and has important implications for the management and facilitation of the

transition process. Anecdotally it is recognised that the transition to university is a time of significant change for individuals which may result anxiety. With this in mind it is possible that scores for measures of psychological health were naturally elevated, as would be expected for individuals experiencing a life change, and a result of the situation rather than being a true reflection of clinical levels of distress. However, there did not seem to be any great exploration of how this distress develops or fluctuates; it is likely that it ebbs and flows which is important to track on a regular basis rather than cross-sectionally, providing evidence of whether it is a temporary issue which contributes to students not coping and resulting in it becoming a clinical issue.

The Oxford English Dictionary (2013) describes adjustment as being the process by which a person adapts emotionally, cognitively and behaviourally to fit with a new environment. A consensus in the results seems to suggest that adjustment problems are often experienced by students during the transition to university (i.e. that students had difficulties 'fitting into' their new environment either emotionally, cognitively or behaviourally, or a combination of the 3). However, it is unclear whether it is psychological distress that results in poor adjustment or poor adjustment that results in psychological distress, or indeed whether they are part of the same psychological construct. The many of the studies in this review did not use methods of study design or analysis, such as the inclusion of control groups, to more fully demonstrate causality. Whilst many of the studies are longitudinal, there is no age-matched control group to ascertain that the results found are as a specific result of the transition to university or the direction of the relationship between adjustment and psychological distress. Arguably adjustment is a problem in its own right if there are difficulties due to the implications it has upon general functioning. Clinically an adjustment disorder can be thought of as a maladaptive response to a transition resulting in psychological difficulties which can include anxiety and or depression (American Psychiatric

Association, 2000). Future research determining causality would be beneficial to enable prevention and intervention work to be designed and implemented appropriately.

Transitions, however positive they may be, incur some element of loss. Hopson and Adam's (1976) theory of transition postulates that there are 7 stages, one of which is depression. Research findings presented in this study support this with 7 papers (Alfeld-Liro & Sigelman, 1998; Kenyon & Koerner, 2009; Lopez & Gormley, 2002; Low, 2011; Mounts et al., 2006; Pratt et al., 2000; Wintre et al., 2011) directly assessing depression and all finding elevated scores on depression measures.

A further problem identified was stress. Five papers (Jackson et al., 2000; Kerr et al., 2004; Pratt et al., 2000; Wilson & Gillies, 2005; Wintre et al., 2011) showed a direct association between the transition to university and elevated scores on measures of stress. Wilson and Gillies (2005) found that stress was not discrete and is associated with three different areas of university life. Students reported stress in relation to settling into university life through making friends managing that their time between academic and social activities and connecting with staff members. In addition to this stress was associated with leaving home and subsequently leaving friends and family behind during the move to university in addition to worries about living situations once at university. On a more academic level students reported feeling stressed in relation to their ability to meet the academic demands, with concerns about their ability, and concerns about their choice of subject being poor.

During a study which assessed participants over their university careers stress was found to be highly significant in the initial measures taken during the first year but failed to reach significance at subsequent time points (Jackson et al., 2000). This goes some way to provide evidence that stress is a problem that is directly associated with the transition rather than university in general, suggesting that the transition to university is an acute stressor that resolves for many over time. One possible explanation for this

found within the literature is the model of social and cognitive transition (Brennan, 2001). In this theory it is proposed that stress is experienced as a result of unmet expectations about a situation.

As previously noted, anxiety was not found to be a difficulty, but it is possible that stress is a similar construct to anxiety, with both constructs tapping into the same distress concept. Whilst distress in any guise is clinically important, perhaps more attention should be given to stress, especially due to the persistent nature of stress that was found to be resistant to intervention (Pratt et al., 2000). Firstly the term anxiety implies a level of severity and has psychiatric connotations and it therefore could be argued that there is stigma attached to it; stress as a term does not have this and therefore may be a more socially acceptable way for individuals to communicate their distress. If this is the case then a focus upon this will allow for the identification of more individuals who would benefit from support. Additionally stress can be argued to have more of a present focus and therefore impact upon an individuals' capacity to cope in their current situation; if this can be increased then distress may reduce as a result.

Anecdotally, the time between the third and sixth weeks of the semester, known as the "week five blues" (The Student Room, 2013), is a time when students struggle due to the reality of work following the initial party period and homesickness setting in. It is interesting that only one paper (Tognoli, 2003) included in the review, explored homesickness as the potential implications, which include attrition, are significant. The findings by Tognoli have significant implications for universities where students are further from home, and particularly for international students. Further research in this area would be beneficial as papers with a specific focus upon international students were excluded.

Similarly studies exploring 'friendsickness' and romantic relationships supported the notion that full investment in the development of new social networks results in

better outcomes for students (Paul & Brier, 2001; Paul et al., 1998). In both studies where students attempted to maintain pre-university relationships with friends or romantic partners they were less able to invest in new relationships and therefore experienced more feelings of loneliness. Relationships provide an element of social support. Schlossberg's transition theory (1981) suggests that social support is an important factor during any transition. With this in mind it should hold that maintaining social support through the transition should aid this process, however this has not been fully supported by the results here. Perhaps more attention should be paid to the *type* of social support that an individual has, with the possibility that support from 'within' the transition with the individual as opposed to support from 'outside' the transition is more important; further research could seek to tease this out.

Causes

Potential causes of problems identified by the reviewed papers included participants' attachment style, alcohol use, family background, individual factors such as developmental milestones and an individual's level of self-esteem, and the individuals' emotional intelligence (i.e. their ability to identify and manage their emotions). Although potential factors were identified in 17 of the reviewed papers, many studies reviewed used correlational methods of analysis and conclusions regarding causality are therefore hard to draw. The strongest support for potential causal factors came from studies that looked at attachment and family background.

Poor psychological health and adjustment are related to an insecure attachment style (Lopez and Brennan, 2000). The studies reviewed here build upon the current research base. Kenyon and Koerner (2009) found that individuals who were securely attached to their parents but also separate from their parents had better scores on measures of psychological health and adjustment during the transition to university. Conversely, and somewhat counter-intuitively Paul and Brier (2001) found that attempts

to maintain attachment relationships with friends resulted in poorer outcomes for the individuals. Bowlby (1969) first proposed attachment theory and emphasised how humans are social beings who are reliant upon others. It can be argued that it is for this reason that individuals seek out others and strive to maintain emotional bonds. Attachment is something that develops in childhood as the result of interactions between the caregivers and child, and is strengthened throughout an individual's development, becoming an essential part of how a person interacts with the world; this in turn may give rise to difficulties as a causal factor. Depending upon attachment style students may approach the transition in different ways, some of which may result in poor psychological health (i.e. an insecurely attached individual may attempt to maintain pre-university relationships, which causes them to spend less time investing in the building of new social networks, resulting in feelings of loneliness and distress).

Perhaps more significantly than attachment style, family background and parenting style were found to be important influential factors for how students manage the transition. Positive relationships with parents, style of relating and support were found to be linked with better adjustment and improved relationships with peers (Wintre & Sugar, 2000; Mounts et al., 2006). It is possible that this is due to the role that parenting plays in the development of an individuals' attachment system.

There was less support for alcohol as a causal factor. There was some evidence for the role of alcohol however there were only 2 papers, which failed to reach a consensus, resulting in difficulties drawing conclusions (Low, 2011; McBroom et al., 2008). It is possible that the use of alcohol as a coping strategy may be a product of the individuals' family background as a result of social learning (Bandura, 1977); thus providing further support for the significance of attachment and family background as a causal factor.

Interventions

Three of the studies reviewed (Baruch-Runyon et al., 2009; Mattanah et al., 2010; Pratt et al., 2000) provided psychoeducational material in a group setting as part of their intervention. Bishop and White (2007) do not provide details of the contents of their intervention and it is possible that they too delivered psychoeducation. Due to this psychoeducational component, which focused upon various issues such as coping, communication and time management, it is possible that psychological health was indirectly improved as a result of improved global functioning, which reduced difficulties in the students' environment and therefore lessened causal factors for adjustment and psychological health problems.

The 4 intervention studies all report positive findings; students benefitted from participation in interventions when compared to control groups, reporting less stress, loneliness and improved perceptions of social support (Bishop & White, 2007; Baruch-Runyon et al., 2009; Mattanah et al., 2010; Pratt et al., 2000). This provides good evidence that group interventions prior to and during the transition are an effective way of supporting individuals through the process to achieve improved adaptation and psychological health.

It remains unclear if the individuals' perceptions of increased social support contribute to reduced scores on measures of psychological health. However the social element provided in a face-to-face group in comparison to an online group intervention was an important factor in students reporting to feel a sense of connectedness, which in turn reduced psychological distress (Bishop & White, 2007). Mounts et al. (2006) found that there was a positive relationship between loneliness and symptoms of anxiety and depression. It is possible that the intervention outcomes are related to the social support rather than the content of the intervention; future research could seek to untangle this.

Results for 2 of the studies failed to reach statistical significance until the spring; however during the autumn data collection the delivery of the intervention was incomplete. Both Pratt et al. (2000) and Mattanah et al. (2010) found that even though the general trend of results in autumn was headed towards significance it was not reached. Both studies indicate that this is a trend supported in previous literature and suggest that there a period of time is required for the full effects of the intervention to be evident. Another important factor that requires consideration is that towards the end of the autumn term many students face academic assessment it is possible that this had a detrimental effect on scores for measures of psychological well-being.

Limitations of Reviewed Studies

Geographical Location

There were several possible limitations surrounding the studies included in this review. Despite the vast numbers of papers gleaned in initial searches there was not a single study that originated in Europe. Twenty four studies originated in North America; 19 from America and 5 from Canada, with only 1 paper (Wilson & Gillies, 2005) from Australia. This limited geographical origin of the reviewed literature has implications for how well the findings can be generalised to other countries due to differences in university cultures in terms of fees, attendance, environment, support systems etc.. This however may be reflective of the published literature and therefore highlights a gap for future research.

Sampling Issues

One possible limitation is with regards to the sample used. Wintre et al. (2011) recruited participants across 6 different universities over 2 years, however this was the only reviewed study to use more than one institution. Other studies employed more than one cohort in their sample (Bishop & White, 2007; Johnson et al., 2010; Kerr et al.,

2004) however these were in the minority with most studies using a single cohort at one institution. The resulting effect is that it is unclear how well findings can be generalised, not only across different cohorts, but also across institutions.

Methodological design

In addition to the possible sampling limitations, many studies had possible limitations in terms of their methodological design. A control group was only employed in 4 of the reviewed studies (Bishop & White, 2007; Mattanah et al., 2010; Pratt et al., 2000; Wintre et al., 2011), three of which were controls for an intervention (Bishop & White, 2007; Mattanah et al., 2010; Pratt et al., 2000) and the other a control for students without divorced parents. With this in mind, none of the reviewed studies were able to report their findings in relation to a non-university population of age-matched samples to differentiate if the problems are unique to the matriculation process. It is possible that findings here reflect an age related issue that occurs irrespective of where the transition from school education is to; however most studies used a longitudinal design which allows for the observation of transition related development, providing a better understanding for the population sampled.

A further limitation is that there does not appear to be a clear definition of what is considered to be the 'transition' with one study using final year school students (Bishop & White, 2007), others measuring the 'transition' in the first semester of university (Hiester et al., 2009; Johnson et al., 2010) and others measuring into the second semester and up to the end of the first academic year (Alfeld-Liro & Sigelman, 1998; Bohnert et al., 2007). Comparison and drawing conclusions proved difficult; future research could focus on a clearly defined and agreed upon timespan constituting the 'transition period' or focus upon longitudinal research to explore how transitional problems fluctuate and resolve and their long term consequences.

Limitations of this Review

As with any literature review, despite how systematically it is carried out, this study has limitations. Publication bias is a significant limitation of any study that reviews the literature, as availability for review is likely to be dependent upon publication and inclusion in databases.

Whilst it is a strength that this review included papers that explored both psychological health *and* adjustment during the transition to provide a broad overview, this is also a limitation. Arguably both constructs are psychological concepts; however, by including both in the review it was more difficult to draw clear and direct comparisons due to the blurring of study aims and measures. Future reviews would benefit from greater clarity and specificity of reviewing specific constructs such as depression or anxiety rather than multiple issues.

Synthesis Issues

One possible limitation of this review is the variance between the included studies. Broadly speaking, the studies reviewed in this paper were heterogeneous in terms of their aims, the measures used, number of data collection points for longitudinal studies, etc.; this made direct comparison difficult and therefore firm conclusions harder to draw. This paper did not set out to explore in explicit detail the difficulties faced by students, but rather to open this field of literature for further exploration and discussion by providing a general overview of the problems, causes and interventions existing during the transition to university. Conclusions drawn from the reviewed studies serve as a starting point for future research to explore in greater detail.

Sampling and Inclusion/Exclusion Criteria Issues

In order to capture the data needed, search terms used were broad and subsequently yielded many results; the literature spans several areas of research including Psychology and Education. Due to the vast number of papers gleaned from

the different fields in initial scoping searches, tight criteria were placed upon subsequent searches of the relevant databases. Further to this, due to the still large number of papers, only title searches were carried out. It is possible that through the implementation of these criteria and methods, for which clear rationale was provided (i.e. the wider search was bringing up entirely inappropriate studies that were not relevant so to increase relevance and appropriateness of results the search field was narrowed), relevant papers were missed and therefore not included in the review. Arguably through using these methods only the most relevant papers, with a specific focus on psychological health and the university transition were included. The use of several databases, hand searches of the reference lists helped to minimise this.

There were only 4 intervention papers (Bishop & White, 2007; Baruch-Runyon et al., 2009; Mattanah et al., 2010; Pratt et al., 2000) included in this review; it is unclear why this is the case. The small number of studies limits the conclusions that can be drawn with regards to the available interventions and their efficacy. It is possible that the search strategy used was not specific enough to pick up intervention studies however it is also possible that this is reflective of the state of the current literature base.

The aim of this review was to gain a broad overview of the general difficulties students face during their transition to university and how institutions have gone about trying to manage this. However, in doing so specific populations have been excluded from the review, thus limiting the generalizability of the findings to predominantly Caucasian 17-20 year olds. Given that there has been no review in this area to date it was decided that the first step should be to look at the typical population; focus on specific populations should be the aim of future research.

Areas for Future Research

Due to the broad nature of this review, future research of the literature base around the transition to university could look at each of the individual sections reviewed here separately; the problems associated with university matriculation, their causes and interventions to manage them. Whilst the current paper identified several problems future research exploring when they occur, their duration and the longer term consequences of these would be beneficial. Additionally, causes were identified in the reviewed studies but causality was difficult to determine and symptoms and causes seemed to be blurred; future research would be beneficial to address this.

There were only a small number of intervention studies identified by the search strategy used in the current review. Further research with a specific focus on interventions would be beneficial to gain a clearer understanding of whether this is reflective of the current literature base or the search strategy used. A deeper understanding of available interventions and their efficacy is crucial to effectively manage and prevent student difficulties during the transition.

All of the studies, with the exception of 2 (Baruch-Runyon et al., 2009; Tognoli, 2003), used quantitative methods to explore the transition to university. Whilst this provides important data that allows for statistical analysis and easier comparison across studies, there is little scope to capture the individual *experience* in the way that qualitative interviewing does. Future research could seek to review studies with qualitative methods to understand students' experience of the transition.

Due to the wide range of measures employed by papers in this review it may be beneficial for future work to focus specifically on studies using specific measures. This would allow for more direct comparison across studies and subsequently provide a clearer picture from the synthesis.

As previously mentioned there are several limitations to the reviewed studies. The geographical origin of reviewed literature is limited, predominantly to North America. Future research could look to evaluate the literature for other locations, perhaps with a focus on Europe, or Eastern countries. Additionally, the population is specific. Further research could look at specific subsets of students, such as females or males only, international, part-time, or mature students.

Conclusions

Results from this review revealed an array of problems, complex causes but little in the way of intervention. Adjustment difficulties, depression, stress, loneliness, home and friend sickness, worries about social support and connectedness, and psychological distress as characterised by ‘problem behaviour’ and aggression were all problems reported by the studies. Common causes reported included individuals’ attachment style, family background, abilities to identify and manage emotions, developmental progression on social tasks and possibly alcohol. Whilst the evidence to support intervention studies was limited, results suggest that social support group interventions may be useful in promoting psychological health and adaptation during the transition period. Further work is needed however to attribute causality following which more appropriate and timely interventions could be put in place.

The results clearly indicate that students face some potentially serious problems, with multiple causes during a time of development and growth that is often expected to be quite the opposite of problematic. Further work is required to better understand the processes and factors involved during this period of transitions affects whether potential problems develop in to clinically relevant issues.

References

References marked with an asterisk indicate studies included in the review.

- Achenbach, T. M., & Rescorla, L. A. (2003). *Manual for the ASEBA adult forms & profiles*. Burlington, VT: University of Vermont, Research Centre for Children, Youth, and Families.
- *Alfeld-Liro, C., & Sigelman, C.K. (1998). Sex differences in self-concept and symptoms of depression during the transition to college. *Journal of Youth and Adolescence*, 27(2), 219-44.
- American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders, Revised, 4th Edition*. Washington DC: American Psychiatric Association.
- Ames, M.E., Pratt, M.W., Pancer, S.M., Wintre, M.G., Polivy, J., Birnie-Lefcovitch, S., et al. (2011). The moderating effects of attachment style on students' experience of a transition to university group facilitation program. *Canadian Journal of Behavioural Science*, 43(1), 1-12.
- Andrews, G., Singh, M., & Bond, M. (1993). The Defense Style Questionnaire. *Journal of Nervous and Mental Disease*, 181, 246–256.
- Armsden, G.C., & Greenberg, M.T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5), 427-454.
- Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480.
- Asher, S. R., & Wheeler, V. A. (1985). Children's loneliness: A comparison of rejected and neglected peer status. *Journal of Consulting and Clinical Psychology*, 53, 500-505.

- Bachman, J.G., & O'Malley, P.M. (1977). Self-esteem in younger men: A longitudinal analysis of the impact of education and occupational attainment. *Journal of Personality and Social Psychology*, 35, 365-380.
- Bagby, R.M., Parker, J.D., & Taylor, G.J. (1994). The twenty-item Toronto Alexithymia Scale: Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research*, 38, 23-32.
- Baik, J. (1997). Individuation, college adjustment and ego identity: Construction of a measure of individuation and psychometric analysis. *Pro-Quest Dissertations and Theses*, 58, 5157
- Baker, R. W., & Siryk, B. (1999). *SACQ: Student adaptation to college questionnaire*. Los Angeles, CA: Western Psychological Services.
- Bandura, A. (1977). *Social Learning Theory*. New York: General Learning Press.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four category model. *Journal of Personality and Social Psychology*, 61, 226-244.
- *Baruch-Runyon, A., VanZandt, Z., & Elliott, S.A. (2009). Forging connections: An investigation of new students' perspectives of their transition to the university. *NACADA Journal*, 29(1), 31-42.
- Birnie-Lefcovitch, S. (2000). Student perceptions of the transition from high school to university: Implications for preventative programming. *Journal of the First-Year Experience & Students in Transition*, 12(2), 61-88.
- Beck, A. T., Epstein, N., Brown, G., and Steer, R.A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Counselling Clinical Psychology*, 56, 893-897.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., and Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry* 5, 561-571.

- Belle, D., & Paul, E.L. (1989). *Structural and Functional Network Changes Accompanying the Transition to College*. Paper presented at the Society for Research on Child Development Biannual Conference, Boston.
- Billings, A.G., & Moos, R.H. (1981). The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine*, 4, 139-157.
- *Bishop, M., & White, S. (2007). The clipper project: Exploring whether early engagement through web-based instruction can help ease high school students' college transition. *Journal of College Student Retention: Research, Theory & Practice*, 9(3), 357-376.
- Blankstein, K. R., Flea, G. L., & Koledin, S. (1991). The Brief College Student Hassles scale: Development, validation, and relation with pessimism. *Journal of College Student Development*, 32, 258-264.
- *Bohnert, A.M., Aikins, J.W., & Edidin, J. (2007). The role of organized activities in facilitating social adaptation across the transition to college. *Journal of Adolescent Research*, 22(2), 189-208.
- Bowlby, J. (1969). *Attachment: Attachment and Loss. Vol 1. Loss*. New York: Basic Books.
- Brennan, J. (2001). Adjustment to cancer- coping or personal transition? *Psycho-Oncology*, 10, 1-18.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment. In J. A. Simpson & W. A. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.
- Briggs, A.R.J., Clark, J., & Hall, I. (2012). Building bridges: Understanding student transition to university. *Quality in Higher Education*, 18(1), 3-21.
- Brooks, L. (2005). *What are First-Year College Students Worried About? The*

Development of the New College Student Concerns Scale. Unpublished Manuscript.

- Buri, J.R. (1991). Parental authority questionnaire. *Journal of Personality Assessment*, 57, 110-119.
- Cash, T. J., Begley, P. J., McCown, D. A., & Weise, B. C. (1975). When counselors are heard but not seen: Initial impact of physical attractiveness. *Journal of Counseling Psychology*, 22, 273-279.
- Campbell, A., Converse, P., & Rodgers, W.L. (1976). *The Quality of American Life*. New York: Russell Sage.
- Cheek, J. M., and Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology*, 41, 330-339.
- Clark, M.R. (2005). Negotiating the freshman year: Challenges and strategies among first-year college students. *Journal of College Student Development*, 46(3), 296-316.
- Cohen, S., & Hoberman, H.M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13, 99-125.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
- Costa, P.T., Jr., & McCrae, R.R. (1992). *The NEO-PI-R/NEO-FFI Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Cutrona, C., & Russel, D. (1987). The provisions of social relationships and adaptation to stress. In W. Jones & D. Perlman (Eds.), *Advances in Personal Relationships: Vol 1*. (pp. 37-67). Greenwich, CT: JAI Press.

- Derogatis, L.R., & Lazarus, L. (1994). SCL-90-R, Brief Symptom Inventory, and matching clinical rating scales. In M. Maruish (Ed.). *The use of Psychological Testing for Treatment Planning and Outcome Assessment*. Hillsdale, NJ: Lawrence Erlbaum.
- Derogatis, L. R., Lipman, R. S., Rickels, K., Uhlenhuth, E. H., & Covi, L. (1974). The Hopkins Symptom Checklist (HSCL): A measure of primary symptom dimensions. In P. Pichot (Ed.), *Psychological measurements in psychopharmacology* (pp. 79-110). Paris: S. Karger.
- Derogatis, L.R., & Melisaratos, N. (1983). The brief symptom inventory: An introductory report. *Psychological Medicine*, 13(3), 595-606.
- Diener, E., & Emmons, R.A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, 47, 1105-1117.
- Dodgson, R., & Bolam, H. (2002). *Student Retention, Support and Widening Participation in the North East of England*. Universities for the North East.
- Downs, S.H. & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *Journal of Epidemiology & Community Health*, 52(6), 377-384.
- Engs, R. C. (2002). *The student alcohol questionnaire (SAQ)*. Retrieved May 14, 2013, from, <http://www.indiana.edu/~engs/quest/saq.html>
- Erikson, E.H. (1968). *Identity, Youth and Crisis*. New York: Norton
- Evans, D.R., Burns, S.R., Lidkea, D.L., & Shatford, L.A. (1980). The development of continuous measures of health behaviours. *Research Bulletin*, 525.
- *Gall, T.L., Evans, D.R., & Bellerose, S. (2000). Transition to first-year university: Patterns of change in adjustment across life domains and time. *Journal of Social and Clinical Psychology*, 19(4), 544-567.

- Garrett, O.J. (1983). *The role of cognitive appraisals, coping, lifestyle well-being and magnitude of event as factors mediating the impact of a stressful life event*. Unpublished Master's Thesis, University of Western Ontario, London, Ontario, Canada.
- Gold, J.M., Miller, M., & Rotholz, J. (2001). Grief experiences of first-year women students in the transition to college: Implications for individual and systemic interventions. *Journal of the First-Year Experience & Students in Transition*, 13(2), 37-54.
- Gurin, P., Dey, E.L., Hurtado, S., & Gurin, G. (2002). Diversity and higher education: Theory and impact upon educational outcomes. *Harvard Educational Review*, 72(3), 330-366.
- Goodenow, C. (1993). The Psychological Sense of School Membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30, 79-90.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and wellbeing. *Journal of Personality and Social Psychology*, 85, 348-362.
- Gould, J. R., Prentice, N. M., & Ainslie, R. C. (1996). The Splitting Index: Construction of a scale measuring the defense mechanism of splitting. *Journal of Personality Assessment*, 66, 414-430.
- Hall, N.C., Chipperfield, J.G., Perry, R.P., Ruthig, J.C., & Goetz, T. (2006). Primary and secondary control in academic development: gender-specific implications for stress and health in college students. *Anxiety, Stress, and Coping*, 19(2), 189-210.
- Haughland, S., Wold, B., Stevenson, J., Aaroe, L.E., & Woynarowska, B. (2001). Subjective Health complaints in adolescence: A cross-national comparison of prevalence and dimensionality. *European Journal of Public Health*, 11, 4-40.

- Hawley, G.A. (1988). *Measures of Psychological Development: Professional Manual*.
Odessa, FL: Psychological Assessment Resources, Inc.
- *Hiester, M., Nordstrom, A., & Swenson, L.M. (2009). Stability and change in parental attachment and adjustment outcomes during the first semester transition to college life. *Journal of College Student Development*, 50(5), 521-538.
- Heppner, P. P., Cook, S. W., Wright, D. M., & Johnson, C. W. (1995). Progress in resolving problems: A problem-focused style of coping. *Journal of Counseling Psychology*, 42, 279–293.
- Higher Education Research Institute. (2009). *CIRP Freshman Survey Overview*.
Cooperative Institutional Research Program (CIRP) at Higher Education Research Institute. Retrieved May 12, 2013, from <http://www.heri.ucla.edu/cirpoverview>
- Higher Education Statistics Agency. (2013). Retrieved on April 27, 2013, from <http://www.hesa.ac.uk/>
- Hopson, B. & Adams, J. (1976). Towards An Understanding of Transition: Defining some Boundaries of Transition Dynamics. In J. Adams, J. Hayes, & B. Hopson (Eds.), *Transition - Understanding and Managing Personal Change*. New Jersey: Allanheld, Osmun & Co
- Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behaviour among college students. *Journal of Adolescent Health*, 46, 3-10.
- *Jackson, L.M., Pancer, S.M., Pratt, M.W., & Hunsberger, B.E. (2000). Great expectations: The relation between expectancies and adjustment during the transition to university. *Journal of Applied Social Psychology*, 30(10), 2100-2125.
- Jerusalem, M., & Schwarzer, R. (1992). Self-efficacy as a resource factor in stress appraisal processes. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp. 195-213). Washington, DC: Hemisphere.

- *Johnson, V.K., Gans, S.E., Kerr, S., & LaValle, W. (2010). Managing the transition to college: Family functioning, emotion coping, and adjustment in emerging adulthood. *Journal of College Student Development, 51*(6), 607-621.
- *Kenyon, D.B., & Koerner, S.S. (2009). College student psychological well-being during the transition to college: Examining individuation from parents. *College Student Journal, 43*(4), 1145-1160.
- *Kerr, S., Johnson, V.K., Gans, S.E., & Krumrine, J. (2004). Predicting adjustment during the transition to college: Alexithymia, perceived stress, and psychological symptoms. *Journal of College Student Development, 45*(6), 593-611.
- Keyes CLM, Magyar Moe J. The measurement and utility of adult subjective well-being. In: Lopez SJ, Snyder CR, eds. *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington, DC: American Psychological Association; 2003:411–425.
- Larose, S., & Bovin, M. (1997). Structural relations among attachment working models of parents, general and specific support expectations, and personal adjustment in late adolescence. *Journal of Social and Personal Relationships, 14*, 579-601.
- *Larose, S., & Boivin, M. (1998). Attachment to parents, social support expectations, and socioemotional adjustment during the high school--college transition. *Journal of Research on Adolescence, 8*(1), 1-27.
- Leary, M.R. (1983). Social anxiousness: The construct and its measurement. *Journal of Personality Assessment, 47*, 66-75.
- *Lopez, F.G., & Gormley, B. (2002). Stability and change in adult attachment style over the first-year college transition: Relations to self-confidence, coping, and distress patterns. *Journal of Counselling Psychology, 49*(3), 355-364.
- *Low, K.G. (2011). Flourishing, substance use, and engagement in students entering college: A preliminary study. *Journal of American College Health, 59*(6), 555-561.

- *Mattanah, J.F., Brooks, L.J., Ayers, J.F., Quimby, J.L., Brand, B.L., & McNary, S.W. (2010). A social support intervention to ease the college transition: Exploring main effects and moderators. *Journal of College Student Development, 51*(1), 93-108.
- Marx, M.B., Garrity, T.F., & Bowers, F.R. (1975). The influence of recent life experiences on the health of college freshman. *Journal of Psychosomatic Research, 19*, 87-98.
- *McBroom, E.M., Fife, E.M., & Nelson, C.L. (2008). "Risky business": The college transition, loneliness, and alcohol consumption. *Journal of the First-Year Experience & Students in Transition, 20*(2), 45-63.
- McNair, D.M., Lorr, M., & Droppleman, L.F. (1981). *EITS Manual for the Profile of Mood States*. San Diego, CA: Educational and Industrial Testing Service.
- Mendelson, M. and Aboud, F. E. (1999). Measuring friendship quality in late adolescents and young adults: McGill Friendship Questionnaires. *Canadian Journal of Behavioural Science, 31*, 130-132.
- Monk, E.M. (2004). Student mental health. Part 2: The main study and reflection of significant issues. *Counselling Psychology Quarterly, 17*(1), 33-43.
- Moos, R., & Moos, B. (1976). A typology of family social environments. *Family Process, 15*, 357-371.
- *Mounts, N.S., Valentiner, D.P., Anderson, K.L., & Boswell, M.K. (2006). Shyness, sociability, and parental support for the college transition: Relation to adolescents' adjustment. *Journal of Youth and Adolescence, 35*(1), 71-80.
- National Audit Office (2007). *Staying the Course: The Retention of Students in Higher Education*. London: The Stationary Office.
- Neeman, J., & Harter, S. (1986). *Manual for the Self-Perception Profile for College Students*. Denver, CO: University of Denver.

Osgood, C.E., Suci, G.J., & Tannebaum, P.H. (1957). *The Measurement of Meaning*.

Chicago, Illinois: University of Illinois Press.

Oxford English Dictionary. (2013). Retrieved April 27, 2013, from

<http://dictionary.oed.com/>

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle

childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29, 611-621.

Pascarella, E.T., & Terenzini, P.T. (1980). Predicting freshmen persistence and

voluntary dropout decisions from a theoretical model. *The Journal of Higher Education*, 51, 60-75.

*Paul, E.L., & Brier, S. (2001). Friendsickness in the transition to college: Precollege

predictors and college adjustment correlates. *Journal of Counseling & Development*, 79(1), 77-89.

*Paul, E.L., Poole, A., & Jakubowyc, N. (1998). Intimacy development and romantic

status: Implications for adjustment to the college transition. *Journal of College Student Development*, 39(1), 75-86.

Pennebaker, J.W., Colder, M., & Sharp, L.K. (1990). Accelerating the coping process.

Journal of Personal and Social Psychology, 58(3), 528-537.

Perl, H.I., & Trickett, E.J. (1988). Social network formation of college freshmen:

Personal and environmental determinants. *American Journal of Community Psychology*, 16, 207-224.

*Pittman, L.D., & Richmond, A. (2008). University belonging, friendship quality, and

psychological adjustment during the transition to college. *Journal of Experimental Education*, 76(4), 343-362.

- *Pratt, M.W., Hunsberger, B., Pancer, S.M., Alisat, S., Bowers, C., Mackey, K., et al. (2000). Facilitating the transition to university: Evaluation of a social support discussion intervention program. *Journal of College Student Development, 41*(4), 427-41.
- Radloff, L. S. (1977). Center for Epidemiologic Studies Depression scale. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 2 12-2 15). New York, NY: Academic Press.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rotter, J.B. (1966). Generalized expectancies for internal vs. external control of reinforcement. *Psychological Monographs, 80*(1, whole no. 609).
- Russell, D., Peplau, L.A., & Cutrona, C.E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant reliability evidence. *Journal of Personality and Social Psychology, 39*, 472-480.
- Salovey, P., Mayer, J.D., Goldman, S.L., Turvey, C., & Palfai, T.P. (2002). Emotional attention, clarity and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale (pp. 125-154). In J.W. Pennebaker (Ed.), *Emotion, Disclosure, and Health*. Washington, DC: American Psychological Association.
- Sarason, I.G., Levine, H.M., Basham, R.B., & Sarason, B.R. (1983). Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology, 64*, 127-139.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247

- Schlossberg, N. (1981). A model for analysing human adaptation to transition. *Counselling Psychologist, 9*, 2-18.
- Schmidt, N., & Semat, V. (1983). Measuring loneliness in different relationships. *Journal of Personality and Social Psychology, 44*, 1038-1047.
- Sears, A. (2004). Mind the gap: Prospects for easing the transition from high school to university. *Guidance & Counselling, 19*(4), 166-172.
- Sheridan, V., & Dunne, S. (2012). The bigger picture: Undergraduate voices reflecting on academic transition in an Irish university. *Innovations in Education and Teaching International, 49*(3), 237-247.
- Sherwood, J.J. (1965). Self identity and referent others. *Sociometry, 28*, 66-81.
- Shrauger, J. S., & Schohn, M. (1995). Self-confidence in college students: Conceptualization, measurement, and behavioral implications. *Assessment, 2*, 255–278.
- Solberg, V.S., O'Brien, K., Villareal, P., Kennel, R., & Davis, B. (1993). Self-efficacy and Hispanic college students: Validation of the college self-efficacy instrument. *Hispanic Journal of Behavioral Sciences, 15*, 80-95.
- *Srivastava, S., Tamir, M., McGonigal, K.M., John, O.P., & Gross, J.J. (2009). The social costs of emotional suppression: A prospective study of the transition to college. *Journal of Personality and Social Psychology, 96*(4), 883-897.
- Stewart-Brown, S., Evans, J., Patterson, J., Petersen, S., Doll, H., Balding, J., et al. (2000). The health of students in institutes of higher education: An important and neglected public health problem? *Journal of Public Health Medicine, 22*(4), 492-499.
- Tan, A.L., Kendis, R.J., Fine, J.T., & Porac, J. (1977). A short measure of Eriksonian Ego Identity. *Journal of Personality Assessment, 41*(3), 279-284.

- The Student Room (2013). Retrieved May 19, 2013, from http://www.thestudentroom.co.uk/wiki/Cambridge_Slang
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.
- *Tognoli, J. (2003). Leaving home: Homesickness, place attachment, and transition among residential college students. *Journal of College Student Psychotherapy*, 18(1), 35-48.
- Voelker, R. (2003). Mounting student depression taxing campus mental health services. *Journal of the American Medical Association*, 289(16), 2055-2056.
- Waller, R., Mahmood, T., Gandi, R., Delves, S., Humphrys, N., & Smith, D. (2005). Student mental health: How can the psychiatrists better support the work of university medical centres and university counselling services? *British Journal of Guidance and Counselling*, 33(1), 117-128.
- Watson, D., Clark, L. A., and Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- *Wilson, G., & Gillies, R.M. (2005). Stress associated with the transition from high school to university: The effect of social support and self-efficacy. *Australian Journal of Guidance and Counselling*, 15(1), 77-92.
- *Wintre, M.G., Ames, M.E., Pancer, S.M., Pratt, M.W., Polivy, J., Birnie-Lefcovitch, S., et al. (2011). Parental divorce and first-year students' transition to university: The need to include baseline data and gender. *Journal of Divorce & Remarriage*, 52(5), 326-343.

- Wintre, M. G., Gates, S. K. E., Pancer, S. M., Pratt, M. W., Polivy, J., Birnie-Lefcovitch, S., et al. (2009). The Student Perception of University Support & Structure Scale: Development & validation. *Journal of Youth Studies, 12*, 289-306.
- *Wintre, M.G., & Sugar, L.A. (2000). Relationships with parents, personality, and the university transition. *Journal of College Student Development, 41*(2), 202-14.
- Wintre, M. G., Yaffe, M. & Crowley, J. (1995). Perception of parental reciprocity scale (POPRS): Development and validation with adolescents and young adults. *Social Development, 4*, 129-148.

Part Two

Anxiety and Depression in the Undergraduate Transition to University

This paper is written in the format ready for submission to the Journal of Social and Clinical Psychology. Please see Appendix B for Guideline for Authors.

Word Count: 9781 (excluding references, tables and figures)

Running Head: STUDENTS' TRANSITIONAL ANXIETY AND DEPRESSION

Anxiety and Depression in the Undergraduate Transition to University

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Abstract

Despite a rise in mental health difficulties in students, research in the UK has overlooked this area. The current study used a combined longitudinal and cross-sectional between-subjects design to explore the factors related to anxiety and depression during the transition to university using the 4 S's transition theory (Schlossberg, 1981) as a framework. First year Psychology undergraduates were invited to complete measures of optimism, expectations, social support satisfaction, coping style, and anxiety and depression at weeks 1 and 10 of the first semester, and to participate in a weekly diary study addressing helpful and unhelpful factors during the week. Anxiety and depression were both present, with anxiety presenting as more of a problem. Optimism and perception of expectations having been positively met were related to reduced anxiety and depression. Coping style was significantly positively associated with anxiety and depression. Satisfaction with social support reduced anxiety and depression initially but was associated with an increase in anxiety later in the semester. Perception of social life and friends were significant factors for the development of depression and alcohol was significant for anxiety. Further research is recommended using different constructs within the 4 S's theory, exploring causality and other mental health problems.

Anxiety and Depression in the Undergraduate Transition to University

Introduction

Background

There has been a significant increase in the number of university students with serious mental health difficulties in recent years (RCP; Royal College of Psychiatrists, 2003; Storrie, Ahern & Tuckett, 2010) and the increasingly high prevalence of mental health problems in the student population is equal to non-students of the same age (Hunt & Eisenberg, 2010). The RCP (2003) go on to note that whilst evidence does not suggest that students are more likely to experience mental health problems than their age-matched controls those students who do experience mental health problems experience more severe symptoms. Mental health difficulties faced within the undergraduate population are numerous and include: Schizophrenia, affective disorders, anxiety disorders, eating disorders, alcohol and substance misuse, suicide and suicidal ideation, deliberate self-harm and obsessive-compulsive disorder (RCP, 2003; Hunt & Eisenberg, 2010; Storrie et al., 2010; Turner, Hammond, Gilchrist & Barlow, 2007). There is also evidence of significant psychological difficulties and absent-mindedness in students following the transition to university (Fisher & Hood, 1987).

Starting university can be a time of great anxiety which varies in intensity throughout the year and places increased strain upon students' mental well-being than in comparison to pre-university levels (Cooke, Bewick, Barkham, Bradley & Audin, 2006). Additionally it has been suggested that due to the number of personal and emotional stressors that first-year university students face during the transition to university they are particularly at risk of both mental and physical health difficulties (Voelker, 2003; Hall, Chipperfield, Perry, Ruthig & Goetz, 2006).

Transition theory

Transition theory “describes the extraordinarily complex reality that accompanies and defines the capacity of human beings to cope with change in their lives” (Schlossberg, 1981, p.3). There are numerous factors that have a potential impact on the well-being of students in their transition. The decision to attend university prompts a significant change in many individual’s lives, for some this is the first major change that they will have experienced, with many leaving home for the first time.

Transition theory (Schlossberg, 1981) provides a framework around which to start to examine these factors and was developed to provide understanding that would inform interventions for professionals working with individuals in transition. It was further developed to include the “4 S’s” by Schlossberg, Waters and Goodman (1995). They propose that there are 4 factors that affect an individual’s ability to cope and manage transitions: the Self, i.e. an individual’s personal and demographic factors and their psychological resources such as their strengths, self-efficacy and optimism; the Situation, i.e. the individual’s perception of the transition, their control, their role in the transition, other stressors and previous experience of other similar transitions; Support, i.e. the individual’s family, friends and institutional support, and Strategies; i.e. the way in which the individuals goes about managing the transition by way of their coping style. This theory is a practical model for working with university students and is an appropriate framework around which to explore mental health within the undergraduate population.

Transition Literature

Some studies have looked at individual factors from Schlossberg’s Transition theory (1981) that might influence well-being in student populations. Ross, Cleland and Macleod (2006) explored a situational factor, medical student’s perception of debt, and found that it had a negative impact upon their performance in examinations and

indicated that student mental health may be poor. Similarly, Jessop, Herberts and Soloman (2005) conducted a study into the impact that students' financial situation impacted upon their mental health and found a significant linear relationship between concern about money and mental health. Monk (2004b) also found that stress amongst students appears to be predominantly related to financial difficulties but was also related to the additional situational factor of course demands, with many students experiencing a great fear of failure. Additionally the predominant emotional difficulty was found to be anxiety.

Studies have also looked at the impact of support, another of the 4 S's, on student well-being. It has been suggested that individuals who show less functional separation from their parents and lower emotional connectedness show poorer psychological well-being three months into university life than their peers who were highly functionally separated but also highly emotionally connected to their parents (Kenyon & Koerner, 2009).

Other research has found that whilst support might be available, students do not necessarily take advantage of it. For example Quinn, Wilson, MacIntyre and Tinklin (2009) found that there is a great reluctance amongst students to disclose problems that they may be experiencing, which is, in part, due to the stigma associated with mental health difficulties. They also found that students seemed not to want to admit either to themselves or others that they were struggling. Where help is sought, one readily available form of support is from peers. The RCP (2003, pp. 25) note that studies indicate that "Students tend to confide in and seek help from peers, and yet students have been shown to be poor at recognising the presence and severity of psychological symptoms in others". This finding bears significant importance to mental health in the undergraduate population, suggesting that there may be poor mental health and

psychological distress of clinical significance that is not being attended to or recognised in many of the research studies that have been conducted.

There is some evidence that the type of strategies used by students to deal with the transition to university relate to well-being. Monk (2004a) found a high level of psychological and physiological symptoms indicative of poor health and additionally that students' had poor coping strategies and resources for managing these symptoms. The study did not however focus on the transition to university and was completed only by second year students. Indeed the limited amount of research into student well-being, particularly in the UK, has focussed on general student populations and to date there is little research regarding the period when students make the transition to university. Furthermore, as most existing studies are descriptive in terms of measuring the extent of student mental health problems (Hunt & Eisenberg, 2010) there is a need to have a greater understanding of why such problems develop and what protects against them.

Rationale

Problems experienced during the transition to university, and their causes are numerous and experienced by a significant proportion of individuals. Whilst there appears to be widespread agreement that undergraduates represent a potentially vulnerable population there has been little research into the psychological, emotional and academic difficulties that they face. Furthermore, much of the available research has been conducted in other countries and "in the UK university issues and psychological problems among students appear to have been overlooked to a great extent" (Monk, 2004b, pp. 33).

Pathological morbidity in the undergraduate population is a public health problem which has been neglected (Stewart-Brown et al., 2000) and any advances in the understanding of how factors affect the adaptation to transition is vital for those

responsible for students' general well-being and care and for clinical psychologists who may work with individuals from this potentially vulnerable population.

Aims

This study was a first exploratory attempt to apply Schlossberg's Transition theory (1981) as a framework to examine the relationship between each of the 4 S's and their relationship with anxiety and depression in an undergraduate population. It sought to measure a key aspect from each of the 4 S's; the self (participants style of anticipating outcomes, i.e. levels of optimism), the situation (individuals expectations of the transition to university), support (individuals' satisfaction with their support) and strategies (the coping skills employed by individuals) in order to gain an overview of how undergraduates adaptation to transition can impact upon their mental health. It was hoped that research findings could provide targets for future interventions.

Research Questions and Hypotheses

The current study sought to explore the broader question: Which factors are related to anxiety and depression in the transition to university? It did this by addressing several questions using Schlossberg's transition theory as a framework. Hypotheses are presented below each question.

1. How is optimism related to the experience of anxiety and depression during the transition to university?
 - *Individuals who were more optimistic in their outlook were predicted to experience lower levels/no anxiety and depression during the transition to university.*

2. How do an individual's expectations of university life relate to anxiety and depression during the transition to university?

- *Time 1 (T1)*

Individuals who had more positive expectations were predicted to have lower levels/no anxiety and depression compared to individuals with more negative expectations who were predicted to be more anxious and/or depressed.

- *Time 2 (T2)*

Individuals who perceived their experience to have been better than expected were predicted to be more likely to have lower levels of anxiety and/or depression than those who perceived their experience to have been worse than expected.

3. How does social support satisfaction relate to anxiety and depression levels during the transition to university?

- *Individuals who were less satisfied with their levels of social support were predicted to be more vulnerable and therefore more likely to experience anxiety and/or depression compared to individuals who were satisfied with their perceived level of social support.*

4. How does an individual's coping style relate to anxiety and depression levels during the transition to university?

- *Individuals who used more negative coping strategies were predicted to be more likely to experience higher levels of anxiety and/or depression compared to those who did not rely on these styles as much.*

- *Individuals who used more positive coping strategies were predicted to be less likely to experience high levels of anxiety and/or depression compared to those who did not rely on these styles as much.*
5. Which factors are related to anxiety and depression during the transition to university?
- *Participants who rated factors as being unhelpful were predicted to experience higher levels of anxiety and/or depression.*
 - *Participants who rated factors as being helpful were predicted to experience lower levels of anxiety and/or depression.*
6. How do anxiety and depression levels change during the transition to university?
- *It was predicted that participants would become less anxious and more depressed from T1 to T2.*
 - *It was expected that anxiety levels would be high initially when students were settling into university life, making friends and starting to understand the course requirements.*
 - *It was expected that after the initial settling in period the anxiety levels would start to decrease as students may have experienced feelings of homesickness, realised that the experience was not what they thought it might be or felt that they should have made more friends.*
 - *It was predicted that students' anxiety levels would increase in comparison to the middle weeks of the study due to deadlines, but remain below the levels of anxiety experienced at the start of the transition to university and that students would experience greater levels of depression.*

Method

Main Study

Ethical approval

Ethical approval to conduct the study was given by the faculty ethics committee of the University (see Appendix G).

Design

The current study employed a combined longitudinal and cross-sectional between subjects design. Data were collected in weeks 1 and 10 of the first semester of the academic year 2012/2013. Quantitative and qualitative self-report data was collected via questionnaires. Participants were also invited to participate in the diary study component for which 2 questionnaires were completed on a weekly basis between weeks 1 and 10. Dependent variables across all time points were anxiety and depression. A pilot study was undertaken to ensure the items included in the diary study were appropriate (see Appendix H).

Participants

Participants ($n=113$) were male ($n=30$, 26.5%) and female ($n=80$, 70.8%) first year Psychology undergraduate students at a university in the north east of England. Three participants did not identify their gender (2.7%). Participants were recruited at an introductory lecture in the first week (T1) of the academic semester. The same cohort were also invited to take part in a weekly diary study and to complete questionnaires in week 10 (T2) of the same semester. At T1 ($n=107$) there were 77 females (72.0%) and 29 males (27.1%) with 1 participant not answering the question; for the strategies data there are less ($n=106$) due to a participant not answering the questionnaire. There were

21 females (70%) and 7 males (23.3%) at T2 ($n=30$) with 2 participants (6.7%) not answering the question. Seventy six participants (71%) at T1 said they would take part in the diary study, of which 37 completed week 1 data (48.7%). The mean number of participants each week was 24 (32.1%) with a maximum of 37 and minimum of 16 responses. No exclusion criteria were set. Participant numbers at each time point can be found in Table 1.

Table 1. Number of Participants at Each Time Point

Time Point	Number of Participants
T1	107
Diary Study	
Week 1	37
Week 2	30
Week 3	30
Week 4	25
Week 5	19
Week 6	19
Week 7	19
Week 8	16
T2	30
Participants from T1 and T2	24
Participants at T2 only	6
Total Number of Participants	113
(Participants at T1 and Participants at T2 only)	

Sample Size Calculation

Using the ‘rule of thumb’ (Tabachnick & Fidell, 2007) a sample size of approximately 104 plus the number of predictors (i.e. 6) was required in order to obtain a medium effect size for regression analysis with multiple independent variables. It was therefore estimated that a total sample size of 110 would give 80% power for a statistically significant relationship using a 5% significance level. The cohort was smaller ($n=170$) than in previous years ($n=220$). It was not possible to calculate a sample size requirement for the diary study but all students at the initial data collection point were invited to take part.

Measures

Psychological well-being

- Depression and Anxiety: The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) is a 14-item scale to provide a brief measure of anxiety and depression and designed to detect clinical cases and can be used at repeated intervals to gauge progress. The HADS was used to measure individuals’ feelings of anxiety and depression. The internal consistency, as assessed by Cronbach’s alpha is 0.93 for anxiety and 0.90 for depression (Moorey et al., 1991). It has cut-off points (with higher scores indicating greater anxiety or depression) to indicate if an individual falls ‘within the normal range’ (0-7) or is ‘mildly’ (8-10), ‘moderately’ (11-14) or ‘severely’ (15-21) anxious or depressed (see Appendix I).

Transition theory constructs

- SELF - Demographics: Brief demographics form to collect data about participants’ name, date of birth, gender, ethnicity, relationship status, if they were an international student, living arrangements, experience of living away

from home before, previous experience of university, if they had a gap year, and if they had a previous or current mental health problem (see Appendix J).

- **SELF - Optimism: The Life Orientation Test (LOT; Scheier & Carver, 1985)** is a 12 item scale designed to assess dispositional optimism (a habitual style of anticipating favourable outcomes). Internal consistency, as assessed by Cronbach's alpha, is 0.76 and test-retest reliability is 0.79 and 0.72 over a 4 and 12 week interval respectively (see Appendix K).
- **SITUATION – Expectations of university life:** An 11 item questionnaire was created specifically for the study regarding expectations of university life; at T1 it measured expectations of different aspects of university i.e. settling in, social life, making friends, academic demands, and financial demands. The semantic anchors for responses varied according to the measured aspect e.g. for the question 'How easy do you think it will be to settle into 'university life'?' a five point Likert scale with responses ranging from really easy to really hard was adopted and for the question 'How quickly do you expect to make friends with people on your course?' a five point Likert scale with responses ranging from very slowly to straight away was adopted. The questionnaire ended with a free response section where participants were asked whether there were any other expectations they had not already dealt with in the questionnaire (see Appendix L). At T2 the questionnaire was adapted to assess participants' perceptions of the degree to which their experience was better or worse than they had anticipated (see Appendix M). Psychometric properties of both the T1 and T2 version of this questionnaire were not established and were used based upon the face validity of the measure.
- **SUPPORT - Social Support: The Short Form Social Support Questionnaire (SSQ6; Sarason et al., 1987)** is a 6 item questionnaire designed to assess the

number of social supports an individual has and their satisfaction with these supports. Satisfaction with support across different domains (i.e. having support that can be counted on to distract the individual from their worries, make them feel more relaxed when under pressure, help them feel better when feeling 'down-in-the-dumps', to console them when upset, to care about them irrespective of the situation and support where the individual feels totally accepted) was rated on a 6 point Likert scale. It has high internal consistency, as assessed by Cronbach's alpha of 0.90 to 0.93 (see Appendix N).

- **STRATEGIES - Coping:** The Brief COPE (Carver, 1997) is a short form of COPE and includes 28 items which load onto 14 conceptually different coping strategies. Factor structure in the Brief COPE is similar to COPE. Factor analysis yielded 9 factors with eigenvalues greater than 1.0. Internal reliability analysis found that all scales met, or exceeded, .50, with all scales except Venting, Denial and Acceptance exceeding .60 (Carver, 1997). For the purposes of this study four strategies were subsequently selected for inclusion in the analysis as they were considered to be particularly relevant to the transition to University. Two of these were positive or adaptive coping strategies relating to seeking support i.e. emotional support and instrumental support and two were negative or maladaptive i.e. behavioural disengagement and substance abuse which includes reference to alcohol and drug use (see Appendix O).

Diary study

The weekly diary study comprised of one questionnaire which was in an electronic form created using Google Documents. Google Documents is a secure internet application which produces interactive questionnaires; a hyperlink was sent via e-mail to the participants. Answers to the questionnaires automatically populated a spread sheet. The questionnaire comprised of:

- Depression and Anxiety measure: The HADS (Zigmond & Snaith, 1983).
- A multiple choice questionnaire exploring factors that hindered/helped participants during the course of the week; it included academic work, friends, social life, sleep, alcohol use, money, being away from home and an ‘other’ free response field. The free response field was included to enable participants to provide more information about specific aspects that had helped or hindered them during the week (see Appendix P).

Procedure

During the introductory meeting held in the first week of Semester 1, the current cohort of 1st year Psychology undergraduate students were invited to fill in questionnaires as a base level measure of their functioning. The completed questionnaires were collected immediately after completion within the introductory lecture, or collected from the departmental office 1 week later. At the point of completion all participants were also invited to take part in the weekly diary study.

Individuals in the weekly diary study were e-mailed an electronic link to the 2 questionnaires which was to be returned as close to the date it was sent as possible.

During week 10 of semester 1 a first year Psychology lecture was attended and the undergraduate students were invited to complete the HADS, SSQ6, Brief COPE and a retrospective expectations questionnaire for the repeated measures.

Questionnaires were handed out, alongside the information sheets (see Appendices Q and R), stapled together with a consent form (see Appendix S) on the front at both time points inside an envelope that was sealed once the questionnaires were complete.

After the first data collection participant numbers were written on the consent forms and on the completed questionnaires. The consent forms were then detached from

the questionnaires; data from T2 was matched with the consent forms from T1 and again numbered.

Analysis of Data

Analysis was carried out using SPSS version 19.0 statistical package (IBM Corp., 2010). Descriptive statistics were used to analyse demographic data. General linear modelling was used for the interval level outcomes in research questions 1-4. Spearman's correlations were also carried out for research questions 2 and 4 to check for correlations between the independent variables.

Data relating to research question 6 were analysed using linear mixed models in addition to descriptive statistics and paired t-tests.

Expectations data were analysed in 2 groups, academic (ease of settling in, academic work, grade for first assessment, overall degree classification and free time) and social (number of nights out, contact with family, contact with friends from home, speed of making friends with housemates and speed of making friends with peers on the course as the other), as a safeguard against the model becoming unstable with too many variables being entered.

Linear mixed models were fitted to the dependent variables anxiety and depression from the diary study data in relation to research question 5. There were two levels: time point (week) the repeated measure at level 1 and individuals at level 2. Time was included in the model as a fixed effect and also as a random slope effect. Additionally, a random intercept was fitted. No correlation value was assumed between the random intercept and slopes (i.e. an unstructured correlation matrix was assumed). Each of the seven academic and social variables were entered as fixed effects. Initially, these seven variables were entered on their own in separate models and then subsequently entered together in a "combined" model. This analysis was repeated using

a subset of participants who had completed data at 8 or more time points. A non-linear relationship over time was also tested for; a quadratic time variable was entered into the model as a fixed effect. This method of analysis was adopted as it can tolerate missing data; Multiple ANOVA's would only have included the participants who completed data at all 10 time points and would therefore have excluded a large amount of collected data. Additionally hierarchal linear modelling can tolerate unequal sample sizes and can include predictors at each level of analysis.

Results

Descriptive Statistics

Participants in the current study were predominantly 'White', non-international, single females living in university halls of residence. Background demographic information is presented in Table 2.

Cronbach's Alpha for LOT scores in the current T1 sample was 0.8, for the satisfaction scale of the SSQ6 it was 0.93, and for the HADS it was 0.83 and 0.75 for anxiety and depression respectively.

Table 2. Demographic Information for all Participants (n=113)

	<i>n</i>	%
Gender		
Female	80	70.8
Male	30	26.5
No response to item	3	2.7
Race		
White	98	86.7
Black	4	3.5
Asian	4	3.5
Other	4	3.5
No response to item	3	2.7
Relationship Status		
Single	68	60
In a relationship	35	31
Married	5	4
Divorced	1	0.9
No response to item	5	3.5
International Student		
Yes	5	4.4
No	104	92
No response to item	4	3.5

Living Situation		
University Halls	59	52.2
Student House	13	11.5
Home	36	31.9
No response to item	5	3.5
Financial Support		
Yes	36	31.9
No	61	54
No response to item	16	14.2
Previous Diagnosis		
Yes	12	10.6
No	85	75.2
No response to item	16	14.2
Current Diagnosis		
Yes	9	8
No	88	77.9
No response to item	16	14.2

The means and standard deviations for each measured item are presented in Table 3.

Table 3. Means and Standard Deviations of Variables at T1 and T2

Variable	T1		T2	
	Mean	SD	Mean	SD
HADS score				
Anxiety score	7.64	4.42	7.90	4.74
Depression score	2.82	2.96	3.67	3.81
LOT Score (T1 only)	18.05	6.91	-	-
Expectations				
Ease of settling in	3.39	0.98	2.87	1.23
Academic work	2.61	0.96	2.58	0.99
Grade of first assignment	3.38	0.77	3.23	1.22
Overall degree classification (T1 only)	3.90	0.73	-	-
Number of nights out (T1 only)	2.13	0.66	-	-
Free time (hours)	6.18	3.07	2.81	1.01
Contact with family	3.64	1.50	2.91	1.13
Contact with friends	3.61	1.45	3.17	1.47
Speed of making housemate friends	4.29	1.31	4.57	1.73
Speed of making friends on the course	3.45	0.87	3.35	1.28
Social life (T2 only)	-	-	3.35	1.11
COPE score				
Behavioural disengagement	2.24	1.26	3.10	1.45
Substance use	2.68	1.62	3.27	1.80
Instrumental support	3.76	1.93	4.33	1.86
Emotional support	3.77	1.81	4.70	1.69

Research Question 1: How is optimism related to the experience of anxiety and depression during the transition to university?*Anxiety*

There was strong evidence that participants who were more optimistic were less anxious as hypothesised. General linear modelling revealed a significant association between optimism and anxiety at T1 ($F(1, 104)=15.79, p<0.001$) with a negative slope estimate of -0.25 ($SE=0.63$) as predicted with more optimism being associated with lower anxiety.

When controlling for completion status a significant association remained ($F(1, 103)=16.49, p<0.001$) with a similar slope coefficient ($Beta=-0.248, SE=0.06$). Participants who completed questionnaires at both time points were more anxious than those who completed T1 only ($F(1, 103)=6.63, p=.011$) with an estimated difference of 2.35 ($SE=0.91$).

Depression

There was also strong evidence supporting the hypothesis that participants who were more optimistic would be less depressed. Depression was significantly related to optimism at T1 ($F(1, 104)=30.57, p<0.001$) with a negative slope coefficient of -0.21 ($SE=0.04$). Significance remained at T2 ($F(1, 28)=5.17, p=0.03$) with a slope coefficient of -0.201 ($SE=0.09$).

When controlling for completion status a significant association remained ($F(1, 103)=30.30, p<0.001$) with a very similar slope coefficient ($Beta=-0.21, SE=0.04$).

Research Question 2: How do an individual's expectations of university life relate to anxiety and depression levels during the transition?*Inter-variable correlations*

Spearman's Rho correlations were carried out to assess for inter-variable correlations. These are presented in Appendix T.

Anxiety

As predicted, the easier participants thought it would be settling in the less anxious they were. Regression analysis showed that at T1 anxiety was significantly predicted by expectations about the ease of settling in ($t(98)=-6.54, p<0.001$), academic work ($t(98)=-2.04, p=0.044$), and speed of making friends with housemates ($t(94)=-2.54, p=0.013$).

Anxiety at T2 was significantly predicted by perceptions of how well expectations about the speed of making friends with housemates ($t(24)=-3.08, p=0.007$) and speed of making friends with peers on the course ($t(24)=2.38, p=0.030$) were met. As hypothesised participants whose expectations about how quickly they would make friends with their housemates and peers on the course were met or exceeded reported less anxiety.

Depression

As predicted the easier participants thought it would be to settle in, the better their grade for their first assignment and the faster they expected to make friends with peers on the course the less depressed they were. T1 depression was significantly predicted by expectations about the ease of settling in ($t(98)=-5.54, p<0.001$), grade for first assignment ($t(98)=-2.66, p=0.009$), and speed of making friends with peers on the course ($t(94)=-2.51, p=0.014$).

Contrary to the hypothesised results, how well participants expectations had been met or exceeded did not affect their depression levels. No expectations variables were significant predictors of depression at T2.

Free Response Expectations

Free responses were provided by 6 participants at T1 and are presented in Table 4. Responses covered all of the 4 S's in the transition theory (Schlossberg, 1981) except for strategies.

Table 4. Free Response Results for Participants' Expectations at T1 and T2

Transition Theory Factor	Free Response (Participant Number)	
	T1	T2
	Self	A change in personality - friends and family noticing a difference in behaviour and/or attitude (72)
Situation	I expect to find it tiring but fascinating (69)	I expected the course to become more demanding for work load and time- but I would enjoy this at present (1)
		I am enjoying university life very much. I find my new environment both stimulating and enlightening. I have great hopes and expectations for future modules and semesters. (55)
Situation and Support	I have 5 children, two of which have learning disabilities. I work 16 hours a week and study so will be opting out from the social life (77)	Positive - leaving home and being independent feels better than expected. Negative - Not used to living with people my age and younger. Wasn't prepared for having to console others when they're upset and would usually go to their home friends or family members. (72)

Support	I am worried I can't find the help I need. (1)	A little bit more support from lecturers would be nice. I have made appointments to have them cancelled on me. (96)
	How approachable are the teachers? (34)	I thought we'd receive more help, I didn't realise, and wasn't aware of the extent of how much we're meant to do by ourselves. It's been hard to adjust. (113)
	I expect it to be slightly harder to meet people due to living at home in Bridlington and I am slightly worried about feeling isolated however the first couple of days have reassured me as I've met a few people (35)	

Research Question 3: How does social support satisfaction relate to anxiety and depression levels during the transition?

Anxiety

There was some support for the prediction that the more satisfied participants were with their social support the less anxious they were, with specific elements of social support reaching significance. General linear modelling revealed that satisfaction with support that is wholly accepting of the individual is significantly related to anxiety

scores at T1 ($F(1, 74)=7.23, p=0.009$) with an estimated decrease of anxiety by 2 points for an increase of satisfaction by 1 point ($Beta=-2.14$). Satisfaction with support that participants could count on irrespective of the situation was found to be approaching significance ($p=0.082$). No other support variables reached significance.

There were no significant associations at T2, however satisfaction with support that participants could count upon regardless of what may be happening continued to almost reach significance ($F(1, 18)=3.86, p=0.065, Beta=-3.92$).

Depression

As hypothesised, the more satisfied with social support the participants were, the less depressed they were at both time points. General Linear Modelling found a significant relationship between anxiety and satisfaction with support that participants' could count on to help them relax when they were under pressure ($F(1, 74)=8.23, p=0.005$) with an estimated coefficient slope of -1.17 ($SE=0.41$). No other variables were significant.

At T2 support in which the participants' felt completely accepted was related to depression ($F(1, 18)=8.42, p=0.010$) with an estimated coefficient slope of -3.13 ($SE=1.08$). No other variables were significant.

Research Question 4: How does an individual's coping style relate to anxiety and depression levels during the transition to university?

Anxiety

As predicted coping style was related to anxiety at both time points; the more participants used negative coping the more anxious they were. Interestingly the prediction that the more participants engaged in positive coping the less anxious they

would be was not supported; the more they used positive coping strategies the more anxious they were.

Regression analysis showed that anxiety scores at T1 ($n=106$) were significantly related to the positive coping strategy of seeking emotional support ($t(4, 101)=2.31, p=0.023$) and the negative coping strategy of behavioural disengagement ($t(4, 101)=3.89, p<0.001$). Pairwise comparisons revealed medium significant positive correlations between anxiety and seeking emotional support ($r=0.36, p<0.001$) and behavioural disengagement ($r=0.40, p<0.001$), and weak positive correlations between anxiety and seeking instrumental support ($r=0.30, p=0.001$), and substance use ($r=0.21, p=0.015$).

There were no significant relationships between coping style and anxiety at T2 ($n=30$) when variables were entered into the multiple regression together, however statistical significance was found when variables were computed individually. Pairwise comparisons revealed strong positive correlations between anxiety and seeking instrumental support ($r=0.51, p=0.002$), and behavioural disengagement ($r=0.44, p=0.007$), and a medium positive correlation between anxiety and seeking emotional support ($r=0.39, p=0.017$).

Depression

Similarly to anxiety, support was found at both time points for the prediction that the more participants used negative coping strategies the more depressed they would be. The hypothesis that participants with more positive coping strategies would be less depressed was not supported. At T1 ($n=106$) there was a significant relationship between depression and behavioural disengagement ($t(4, 101)=5.54, p<0.001$), for which pairwise comparisons revealed a strong positive correlation ($r=0.51, p<0.001$).

Pairwise comparisons also revealed a weak positive correlation between depression and substance use ($r=0.17$, $p=0.038$).

When entered into the multiple regression there were no significant relationships between depression and coping style at T2 ($n=30$) but statistical significance was found when variables were computed individually. Pairwise comparison indicated that medium positive correlations remained between depression and substance use ($r=0.35$, $p=0.029$), and behavioural disengagement ($r=0.33$, $p=0.040$).

Research Question 5: Which factors are related to anxiety and depression during the transition to university?

Anxiety

Analysis of the diary study data revealed that alcohol was found to be significantly associated with increased anxiety ($F(2, 148.41)=8.89$, $p<0.001$). Pairwise comparison revealed specifically that when alcohol was reported as having been “not helpful” during the week participants also reported increased symptoms of anxiety ($t(141.80)=4.04$, $p<0.001$) with an estimated coefficient slope of 3.83 ($SE=0.95$). This finding remained robust when using a subset of participants with data at 8 or more time points ($F(2, 96.33)=6.91$, $p=0.002$) with alcohol being reported as “not helpful” being related to anxiety ($t(94.78)=3.66$, $p<0.001$). Participants who rated alcohol as being ‘not helpful’ during the week were significantly more anxious than those who said it was ‘helpful’ with an estimated difference of 3.29 ($SE=0.90$). In the combined model alcohol remained significantly associated with anxiety ($F(2, 135.30)=7.57$, $p=0.001$). Pairwise comparison indicated difficulties with alcohol were associated with increased anxiety ($t(122.34)=3.65$, $p<0.001$) and an estimated difference of 3.84 ($SE=1.05$) points in anxiety scores compared to when it was rated as helpful ($p<0.001$). This remained

significant for the subset of participants with data at 8 or more time points ($F(2, 81.17)=6.40, p=0.003$) with alcohol being reported as “not helpful” being related to anxiety ($t(78.50)=3.49, p=0.001$). The difference between anxiety scores when alcohol was rated as being “not helpful” and “helpful” was predicted to be 3.47 ($SE=0.99$). This provided support for the hypothesis that participants rating factors as unhelpful would be more anxious.

Alcohol remained significant when adding a quadratic time effect ($F(2, 149.04)=6.10, p<0.001$) with “not helpful” being significantly different to “helpful” by 3.27 points ($SE=0.96, p=0.001$).

No other significant relationships were identified by variables when entered into the multiple regression model individually or when combined with the other variables (see Table 5).

Depression

As predicted, participants who rated factors as being unhelpful experienced more depressive symptoms. When computed individually there was a significant relationship between friends and depression ($F(2, 162.16)=4.05, p=0.019$). Pairwise comparison revealed that when friends were rated as “not helpful” during the week they also reported increased depression scores ($t(155.99)=2.56, p=0.011$) with an estimated coefficient slope of 2.30 ($SE=0.90$). Significance remained with the subset of participants with data at 8 or more time points ($F(2, 88.47)=4.16, p=0.019$). Pairwise comparison revealed a significant increase in depression when friends were reported as being “not helpful” ($t(90.01)=2.88, p=0.005$) with a difference between friends being rated as “helpful” and “not helpful” of 2.80 ($SE=0.97$). Significance remained for the subset of participants with data at 8 or more time points ($F(2, 88.47)=4.16, p=0.019$). Pairwise comparisons revealed that participants rating friends as “not helpful” reported

more symptoms of depression ($t(90.01)=2.88, p=0.005$) with an estimated coefficient slope of 2.80 ($SE=0.97$).

A significant relationship was found between depression scores and social life when computed individually ($F(2, 159.29)=7.88, p=0.001$). Pairwise comparisons not controlling for other independent variables revealed that when social life was rated as “not helpful” participants reported more depression ($t(146.42)=3.97, p<0.001$) with an estimated coefficient slope of 3.55 ($SE=0.89$). Significance remained for the subset of participants with data at 8 or more time points ($F(2, 88.73)=4.11, p=0.020$). Pairwise comparisons revealed that participants rating social life as “not helpful” reported more symptoms of depression ($t(90.60)=2.84, p=0.006$) with an estimated coefficient slope of 3.67 ($SE=1.29$).

When all 7 variables were entered into the model friends no longer reached significance. Social life remained significant ($F(2, 151.66)=5.87, p=0.003$). Pairwise comparison revealed that participants who rated social life as being “not helpful” were significantly more depressed ($t(141.17)=3.37, p=0.001$) than those who said it had been “helpful” during the week with an estimated difference of 3.30 ($SE=0.98$). However this difference was not significant for the subset of participants with data at 8 or more time points, although it was similar with a difference of 2.64 ($SE=1.73$). No other variable was significantly associated with depression.

Further analysis controlling for a quadratic effect of time revealed evidence for a relationship between depression scores and friends ($F(2, 162.78)=3.53, p=0.031$) with friends being rated as “not helpful” resulting in an estimated 1.97 ($SE=0.92$) increase in depression scores ($t(156.74)=2.15, p=0.033$). Additionally a significant relationship was found between social life and depression ($F(2, 157.79)=6.98, p=0.001$) with an

estimated increase in depression scores of 3.39 ($SE=0.91$) when social life was rated as “not helpful” ($t(144.85)=3.74, p<0.001$).

Table 5. Relationship between Diary Study Variables and Anxiety and Depression for the Whole Sample Compared to Participants with Data at 8 or More Time Points

Variable	Anxiety		Depression	
	<i>F</i>	<i>Significance</i>	<i>F</i>	<i>Significance</i>
University Work				
Complete Sample	.639	.591	.324	.808
8+ Sample	1.447	.236	.736	.534
Friends				
Complete Sample	.322	.726	1.284	.280
8+ Sample	1.083	.344	.955	.389
Social Life				
Complete Sample	.528	.591	5.874	.003**
8+ Sample	.902	.410	2.005	.141
Sleep				
Complete Sample	.002	.998	1.733	.180
8+ Sample	1.281	.284	.541	.584
Alcohol				
Complete Sample	7.547	.001**	.414	.662
8+ Sample	6.404	.003**	.119	.888

Money				
Complete Sample	.110	.896	.668	.514
8+ Sample	1.844	.166	.425	.656
Being away from home				
Complete Sample	.099	.905	2.051	.132
8+ Sample	.207	.814	1.672	.194

****p<.01**

Research Question 6: How does anxiety and depression fluctuate over the transition period?

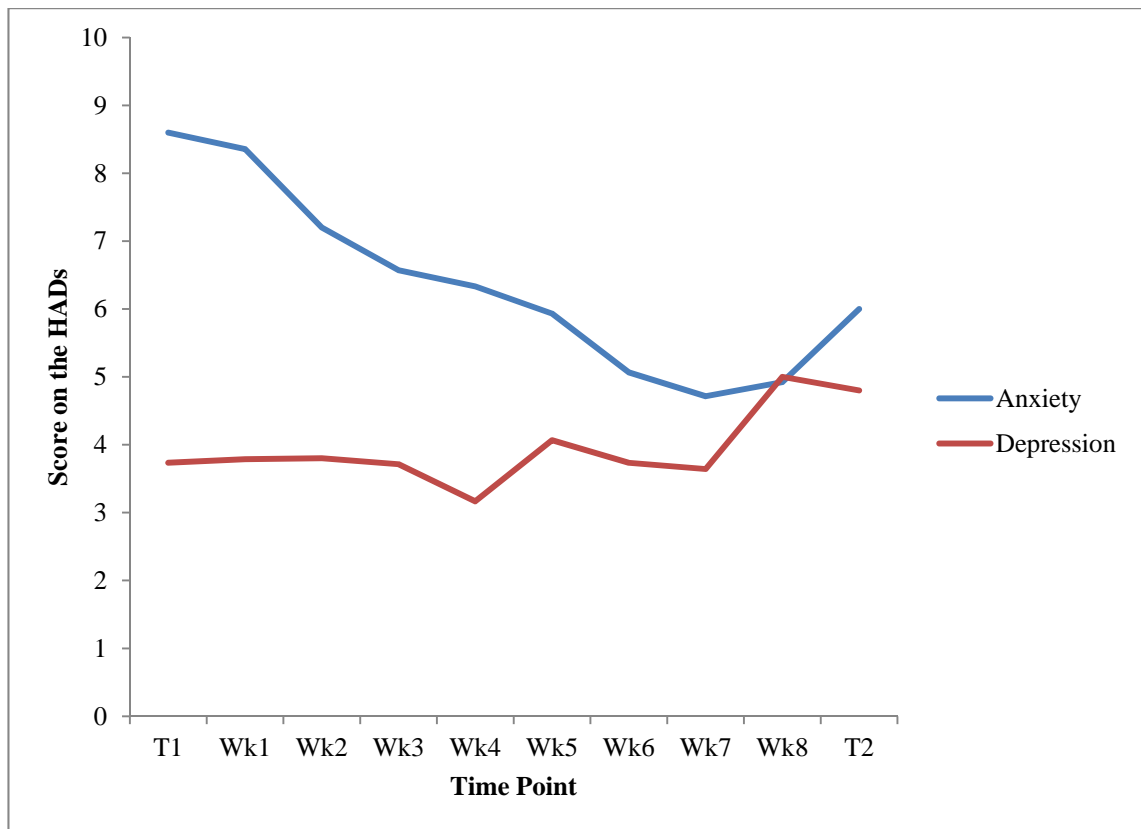
It was hypothesised that participants would be less anxious and depressed at T2; results did not support this. A paired samples t-test indicates that there was no significant difference between reported anxiety and depression levels between the start of university and 10 weeks into the semester ($p>0.05$).

Whilst there was no significant difference in mean scores there was a general trend indicating that anxiety scores decreased and depression scores increased. Mean scores for the subset of participants completing data at 8 or more time points are shown in Figure 1.

Further analysis revealed some evidence for a quadratic relationship between time and anxiety scores ($F(1, 147.84)=6.32, p=0.013$). Significance was not found for depression scores. Further investigation with a larger sample size would be beneficial.

Supporting diary study free responses were also obtained and are reported in Appendix U.

Figure 1. Mean Anxiety and Depression Scores for Participants Completing 8 or More Time Points



Discussion

This study explored the relationship between the transition to university and anxiety and depression. Schlossberg's 4 S's transition theory (1981; Schlossberg, Waters & Goodman, 1995) was supported by the results as being a helpful conceptual model to understand and predict the incidence of anxiety and depression during this time, with each of the 4 S's contributing significant results. Additionally this study explored factors during the transition and found that alcohol, friends and social life perceptions were all significantly associated with anxiety and depression. Whilst the

results do not indicate a significant difference in anxiety or depression symptoms from the start of the transition to the end of the first semester, as predicted, they indicate a general trend of reduction in anxiety and increase in depression during this time.

Findings

Schlossberg's 4 S's: Self

Research has consistently indicated strong associations between optimism and anxiety and depression (Zenger, 2010; Zirkel & Cantor, 1990; Bitsika, Sharpley, & Peters, 2010). Findings in this study are consistent with the current research base. As noted in Bitsika et al.'s work (2010), the significant association between optimism and anxiety and depression provides a focus for interventions to assist students during the transition period, and indeed before. Specifically in relation to the transition to university Zirkel and Cantor (1990) found that individuals who were more optimistic expected more positive experiences and experienced lower levels of stress than less optimistic peers. Within the current sample greater levels of optimism were associated with less depression at T1; this association remained at T2 for depression. Similarly to the current study's findings Zenger (2010) found that optimism continued to be predictive of anxiety and depression 3 months later and remained significant when baseline levels were controlled for.

Although optimism was significantly associated with reduced anxiety in the current study it is unclear why optimism failed to reach significant association with anxiety at T2. Tanaka and Huba (1987) found that anxiety and depression were commonly attributed to study. It is possible that the current sample were experiencing elevated anxiety due to academic pressures of essay deadlines at T2 which were more of a challenge than the more optimistic students had predicted. A further explanation may

be in line with the ‘freshman myth’ (Stern, 1966). Stern proposed that many students may enter university with idealistic expectations which are naïvely optimistic. For the current sample, optimistic expectations about academic work may have been incompatible with reality and resulted in a rise in anxiety due to this mismatch.

Schlossberg’s 4 S’s: Situation

It is possible that students have unrealistic expectations of university life due to the difficulties they have in accurately envisaging what it may be like. Gaps between students’ expectations and the reality of university life can have a negative affect across several domains of their life including academic performance, psychological wellbeing and adjustment (Lowe & Cook, 2003). The T2 measures in the current study explored the discrepancy between participants’ expectations and the reality of university life. Specifically, expectations regarding the social aspect of making friends were important and significantly related to anxiety; where expectations had been met or exceeded, students were less anxious.

In line with previous findings (Jackson, Pancer, Pratt, & Hunsberger, 2000) that individuals with fearful expectations reported more psychological distress and poorer adjustment, results from the current study indicate that students with more negative expectations experienced greater levels of anxiety and depression, supporting the hypothesis. It is interesting that a positive correlation was found between anxiety and difficulty of academic work expectations, and a relationship between expected grade of first assignment and depression. Academic work and grade of first assignment were found to be correlated, yet despite this did not have the same relationship. This may suggest that students may anticipate not achieving as well as they would hope on their first assignment and expect to be disappointed, hence the relationship with depression.

Results seem to indicate that expectations about making friends with peers on the course and with housemates results in anxiety, with housemate expectations retaining significance at T2 where the extent to which the expectations had been met was explored; as hypothesised students were more anxious at T2 if their expectations had not been met. In line with the social-cognitive transition model (Brennan, 2001) students experienced anxiety when their expectations were not met whilst they reorganised their internal working model of university life. It is possible that this reflects the importance that students place upon having positive relationships with the people that they live with. Understandably so, research has found increased psychological distress in students who perceive their living situation negatively (Gall, Evans, & Bellerose, 2000).

Schlossberg's 4 S's: Support

As predicted, social support factors were found to relate to anxiety and depression levels. The questionnaire used to explore this S factor measured 6 different aspects of social support satisfaction, which included satisfaction with support that can be: counted on to console the individual when they are upset; relied upon for distraction from worries; counted on to relax the individual when they feel under pressure; relied upon to care about them irrespective of the situation; counted on to help the individual feel better when they are down-in-the-dumps; and support where the individual feels completely accepted. At T1 a negative correlation was found between satisfaction with support that could be counted on to completely accept the individual and anxiety, however this did not remain significant at T2 for anxiety, but was significant for depression. One possible reason for this may be due to students' expectations surrounding social support during this time. If students feel that they are not accepted at T1 this may evoke feelings of anxiety about settling in and making friends; however at

T2 this may be more related to depression if students feel that they have not been accepted by their peers after the period of time that had elapsed and therefore feel lonely. This is consistent with the current literature that loneliness is a common problem which is associated with increased depressive symptoms (Mounts, Valentiner, Anderson & Boswell, 2006) that can be mediated by increased social functioning (Low, 2011). Diary study findings support this notion and suggest that social support is a significant factor relating to the experience of depression but not anxiety. When students perceived friends or their social life to be unhelpful they were more depressed than when these factors were rated as being helpful or neither helpful or unhelpful.

The relationship between social support and mental well-being was not entirely as expected in that a positive relationship was found between anxiety and satisfaction with support that individuals could count on irrespective of the situation. This suggests that as this sample became more content with support they could rely upon the more anxious they felt, which seems counter-intuitive on some level. One possible explanation for this may be that the anxiety is related to the fear of losing this support. An alternative explanation may be that satisfaction at T1 may have been with pre-university support such as friends or parents, and over the duration of the transition students' belief that this support network will help may lessen due to a belief that these supports won't be *able* to help. It is unclear from the results in this study why a positive association exists.

Results from the current study indicate that perceptions of and satisfaction with social support are important during the transition to university. Well established theories of human functioning (Yalom, 1980; Maslow, 1943; Bowlby, 1969) all indicate that connection to others to enable survival and prevent loneliness is an innate striving, that

when thwarted results in distress. These theories have been supported by the current study.

Schlossberg's 4 S's: Strategies

Coping is described as the behavioural and cognitive ways that an individual will manage their response to a difficult situation (Lazarus & Folkman, 1984) and has been linked to psychological distress (Compas, Connor-Smith, Saltzman, Harding-Thomsen, & Wadsworth, 2001). Avoidant coping has been shown to have a negative effect upon students' wellbeing and social functioning (Srivastava, Tamir, McGonigal, John & Gross, 2009). Anxiety and depression are correlated to coping strategies, with problem solving, support seeking and distraction being related to depression in particular (Wright, Banerjee, Hoek, Rieffe & Novin, 2010).

The current study's findings are consistent with previous research. Interestingly behavioural disengagement was significant for both anxiety and depression at T1. One possible explanation for this relates to the other S factors of Schlossberg's theory (1981). If, as the results suggest, social support, optimism and positive expectations are significantly related to decreased anxiety and depression levels then by disengaging this reduces individuals' opportunities for social interaction and therefore support, thus increasing the likelihood of lower mood. Brennan's social-cognitive transition theory (2001) may also go some way to explain the behavioural disengagement as a way to manage the disconfirmed expectations. This idea is supported by literature indicating that involvement (i.e. behavioural engagement) is related to positive psychological health, adjustment and achievement (Busseri, et al., 2010; Kuh, Hu & Vesper, 2000; Moore, Lovell, McGann & Wyrick, 1998). The study presented in this paper alongside this literature provides a strong case, and target, for interventions to facilitate the transition into university.

Whilst correlations between the coping styles remained at T2 it is of note that they were not found to be significant predictors of anxiety or depression further into the transition. Of particular interest is the lack of relationship between anxiety and substance use at T2, but presence of a relationship with depression. Results from the diary study suggest that alcohol is a significant factor related to anxiety during the transition; when students perceived alcohol as being unhelpful during the week they were significantly more anxious than those who had perceived it as being helpful or neither helpful or unhelpful. However, Low (2011) found no significant relationship between anxiety and depression and alcohol, whilst another study (McBroom, Fife & Nelson, 2008) found a negative relationship. In many ways this perhaps, in turn reflects the perception of alcohol amongst the student population; on the one hand there is a significant social element to it, however on the other there is a financial and physical cost. Cost in itself, may explain a lack of relationship if students have run out of money and therefore this coping strategy is no longer viable. Alternatively it is also possible that for the current study this is due to the smaller sample at T2 and therefore results being underpowered.

The current study was unable to confirm a causal relationship between coping and mental health or the direction of causality. It remains unclear whether an individual's coping style results in anxiety and depression, or if the coping style is in response to symptoms.

Anxiety and Depression Timecourse

It has been well documented in the literature that problems associated with the transition to university are anxiety and depression (Mounts et al., 2006; Storie et al., 2010; Turner et al., 2007). Results from the current study provide further evidence for this. At T1 mean anxiety scores were within the 'borderline' range for clinical caseness

and consistently decreased to week 8 of the diary study where they increased but to within the normal range by T2 indicating that students' anxiety reduces gradually as time elapses. This supported the hypothesis that anxiety would reduce and then increase again whilst remaining lower than T1 levels. It is possible that this increase in anxiety was as a result of imminent academic deadlines and without these anxiety scores may have continued to decrease. Mean anxiety scores were similar to those found in other studies (Nelson & Greg, 2010; Wong, Cheung, Chan, Ma & Tang, 2006) in which anxiety was found to be in the "mild" or "normal" ranges, indicating good generalizability of the current study's findings.

It is noteworthy that students mean depression scores rose from T1 to T2, as hypothesised, but continued to remain within the "normal" range throughout. These findings were comparable to other studies (Nelson & Greg, 2010; Wong et al., 2006) suggesting that results from this study are relatively generalizable across the first year population. Students have been found to attribute symptoms of depression with academic difficulties (Furr, Westefeld, McConnell & Jenkins, 2001). One possible explanation for the increase in depression found in this study may be that linked to academic pressures. There was an increase at week 5 of the diary study, which is the time that essay titles are released to students, and another increase in the final week of the diary study as the deadline drew near. These environmental factors may explain this fluctuation in mean scores. This is an important finding, as it may suggest that students are more vulnerable to symptoms of depression further into the first year of university, possibly when vigilance has reduced due to a belief that the acute stressor of matriculation has passed and therefore an assumption that vulnerability has reduced.

Interestingly the change in anxiety and depression between the start and end of the semester failed to reach significance. Two studies that explored the impact of an

intervention on students' psychological distress levels, in relation to anxiety and depression, found that results did not reach significance, despite indicating a general downwards trend, until the spring (Pratt et al., 2000; Mattanah, Brooks, Ayers, Quimby, Brand & McNary, 2010) suggesting that anxiety and depression take a period of approximately 9 months to significantly dissipate. It is possible that a similar trend may have occurred in this study if anxiety scores had been repeated in the spring.

Implications

Results from this study suggest that the transition to university can be a time in which students experience anxiety and depression. This is an important finding for professionals working with students, particularly those concerned with student welfare. This study indicates that all 4 of Schlossberg's S's (1981) are relevant and important to consider; through a greater understanding of the need, service provision can be assessed accordingly. Whilst perhaps seemingly little can be done to intervene in 'self' factors (despite awareness of this being important), specific, targeted interventions can be implemented to improve student support, situational expectations and the strategies that they access to manage the transition. Support structures and interventions can be developed and put into place with the knowledge that increasing student support and strategies will lead to a reduction in anxiety and depression.

Students were found to be anxious for quite a few weeks in the current study and that this anxiety rises again towards the end of the semester. In addition to this there is evidence that students' mood drops towards the end of the semester when deadlines are imminent. It is therefore important that this is recognised by universities and that systems are implemented to mitigate the psychological difficulties that exist in order to

afford students the best possible learning experience that promotes psychological wellbeing.

The current study found that students' expectations of university life have an impact upon their psychological health. These findings are important as they highlight the importance of accurate education about university before matriculation as a preventative strategy. Universities should be mindful of how they 'market' themselves and should implement programmes, which go into school settings, to educate students about the reality of university above and beyond the open days that are routinely held.

One possible implication for the future may involve training of faculty staff, who are in direct contact with students, to increase their knowledge of significant factors associated with distress so that they may be able to identify 'at risk' students. This may be particularly beneficial due to students' reluctance to disclose difficulties that they may be experiencing (Quinn et al., 2009).

Additionally talks could be offered by the university's disability service in introductory lectures or a poster campaign could be run to increase students own awareness of risk factors and reduce any associated stigma.

Results from this study indicate the importance of support. Research has indicated that peers are a source of support, and where students choose to disclose difficulties (RCP, 2003). An initiative could be set up to provide peer support, above and beyond that which may be provided by individual subjects, in which students could be trained to recognise symptomatology, reinforce positive coping strategies and signpost students to services.

In the longer term these preventative strategies could significantly reduce the distress experienced by matriculating students and so too the burden on public health services.

Limitations

A major limitation of this study was the nature of the sample. Participants were recruited from one Psychology cohort of one university in the north east of England. In addition to this a large proportion of participants fit the typical university demographic; aged between 18-20 years old, Caucasian, living in university accommodation and single. Additionally this sample consisted of more females than males which may be due to the nature of the subject that they were studying. Results from this study may not generalise to other groups of students (i.e. mature or international students), students studying other subjects or to other institutions. However, this study was an exploratory study with the aim that future research builds upon it to increase the understanding of this critical period faced by many individuals.

A further limitation of this study is the absence of a baseline measure to assess for pre-university levels of anxiety and depression, which unfortunately due to ethical clearance and administration practicalities was not possible. In this way it is more difficult to disentangle how much of the scores is genuinely attributable to the transition period. However, every effort was made to negate this as the T1 measure was carried out in an introductory lecture in the very first week of university, during the first contact that students had with the academic component of the transition. It is hoped that this measure, during 'freshers week' before the semester officially starts, is early enough to capture students' experience.

Attrition from T1 to T2 is expected as part of the nature of any longitudinal research; this study was no exception. Due to drop out it was possible that results were underpowered and variables that are important factors during the transition to university did not reach statistical significance for this reason, thus limiting the study's findings. In

order to account for this the methodology of the study included a diary study and statistical analysis that allowed for incomplete data.

In order to explore the transition in a meaningful way the current study used the 4 S's transition theory (Schlossberg, 1981). Due to both time constraints and the available students to participate in the current study, it was only feasible to include a selection of possible 'S' factors, thus limiting the findings. Whilst evidence was found to support the use of this theory each element was only assessed using one of many possible factors. A much larger sample would have been required to make analysis feasible for more variables.

Future Research

This study set out to broadly explore anxiety and depression during the undergraduate transition to university and as such there are many areas for future research to address.

Due to the broad nature of the study only one measure was used to explore an element from each of the constructs in the 4 S's transition theory (Schlossberg, 1981). Significant associations were found between each component assessed within the 4 constructs and mental health factors. Future research would be beneficial to repeat this study by exploring other factors within the 4 S's such as self-esteem, attachment, resilience (self), specific types of support such as parental (support), specific coping styles (strategies) and more detail about aspects of university academic and social life (situation). Additionally, for a more comprehensive understanding future research undertaking a more detailed exploration of each of the 4 S's individually would be beneficial. Future designs could also attempt to discover the relative contribution of each aspect to the development of anxiety and depression.

As previously noted a limitation of this study is the relatively small sample which results in difficulties with generalisation of the findings. Initially future research that spans several faculties across research sites would provide more power than could be generated by the current sample and increase generalizability of findings. Once this has been established it would then be beneficial to focus upon specific groups of students, such as mature or international students.

Additionally, whilst the current study has found evidence that anxiety and depression are significant during the transition to university future research is necessary for comparison with a non-student sample also going through a transition. One possible way of exploring this could be to follow a cohort of school leavers to university or their first full time job to see if there are differences or similarities between the different transition. This may also provide evidence of causality regarding the university transition, which the current study was not able to ascertain.

This study focused upon the experience of anxiety and depression. Research indicates that these are but two of a host of mental health problems that can affect students during the transition to university (Storrie et al., 2010). It may be helpful for further research to be conducted with a focus upon other difficulties experienced by students, such as eating disorders, self-harm, psychosis and obsessive-compulsive disorder.

Findings from the current study were not able to support a conclusion that there is a causal relationship between coping and mental health. Further research would be beneficial to explore causality and its direction for a greater understanding of the problems faced at the transition.

Additionally the current study found that the more social support participants had, the more anxious they were. The current study was unable to provide evidence for the reasons behind this; further research untangling this would be beneficial.

Conclusion

The current study was a first attempt to break down the factors that are related to anxiety and depression during the transition to university. Anxiety was found to be more of an issue than depression for students in the first semester, however both were salient features during the transition process.

The 4 S's transition theory (Schlossberg, 1981) was a useful conceptual framework to measure the transition. Individual factors are important; the current study found that optimism seems to be important, with those who are more optimistic experiencing less anxiety and depression. In line with previous research the current study also found that situational factors are also significant, particularly students expectations and their perception of how well these had been met, or not met. Expectations surrounding social factors such as making friends were particularly salient. However social support was another factor that was significant during the transition, not only in terms of students' expectations, but also their satisfaction with it. Interestingly findings from the current study are mixed; the relationship between satisfaction and anxiety and depression changes over the course of the semester, with it reducing anxiety and depression earlier on, but increasing anxiety later in the term suggest that social factors such as students' perception of their social life and friends have a significant effect on symptoms of depression during the transition, thus indicating the importance of this 'S' factor. Additionally students' coping styles were also found to be a significant factor in relation to experiences of anxiety during the transition period.

Results from the diary study support this, indicating that alcohol use, a coping strategy, was a factor significantly associated with anxiety and depression during the transition period.

Exploratory findings from the current study confirm that the transition to university is an important area for further research in terms of being able to understand the issues involved and being able to implement strategies to facilitate this major point in students' lives. Preliminary findings presented here indicate that the transition theory is a helpful way to approach this area.

References

- Bitsika, V., Sharpley, C.F., & Peters, K. (2010). How is resilience associated with anxiety and depression? Analysis of factor score interactions with a homogeneous sample. *German Journal of Psychiatry*, *13*(1), 9-16.
- Bowlby, J. (1969). *Attachment: Attachment and Loss. Voll. Loss*. New York: Basic Books.
- Brennan, J. (2001). Adjustment to cancer- coping or personal transition? *Psycho-Oncology*, *10*, 1-18.
- Busseri, M.A., Rose-Krasnor, L., Pancer, S.M., Pratt, M.W., Adams, G.R., Birnie-Lefcovitch, S., et al. (2010). A longitudinal study of breadth and intensity of activity involvement and the transition to university. *Journal of Research on Adolescence*, *21*(2), 512-518.
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, *4*, 92-100.
- Compas, B.E., Connor-Smith, J.K., Saltzman, H., Harding Thomsen, A., & Wadsworth, M.E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, *127*(1), 87-127.
- Cooke, R., Bewick, B.M., Barkham, M., Bradley, M., & Audin, K. (2006). Measuring, monitoring and managing the psychological well-being of first year university students. *British Journal of Guidance and Counselling*, *34*(4), 505-517.

- Fisher, S., & Hood, B. (1987). The stress of the transition to university: A longitudinal study of psychological disturbance, absent-mindedness and vulnerability to homesickness. *British Journal of Psychology*, 78, 424-441.
- Furr, S.R., Westefeld, J.S., McConnell, G.N., & Jenkins, J.M. (2001). Suicide and depression among college students: A decade later. *Professional Psychology: Research and Practice*, 32(1), 97-100.
- Gall, T. L., Evans, D. R., & Bellerose, S. (2000). Transition to first-year university: Patterns of change in adjustment across life domains and time. *Journal of Social and Clinical Psychology*, 19(4), 544-567. doi: 10.1521/jscp.2000.19.4.544
- Hall, N.C., Chipperfield, J.G., Perry, R.P., Ruthig, J.C., & Goetz, T. (2006). Primary and secondary control in academic development: gender-specific implications for stress and health in college students. *Anxiety, Stress, and Coping*, 19(2), 189-210.
- Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behaviour among college students. *Journal of Adolescent Health*, 46, 3-10.
- IBM Corp. (2010). IBM SPSS Statistics for Windows (Version 19.0) [Computer Software]. NY: IBM Corp.
- Jackson, L.M., Pancer, S.M., Pratt, M.W., & Hunsberger, B.E. (2000). Great expectations: The relation between expectancies and adjustment during the transition to university. *Journal of Applied Social Psychology*, 30(10), 2100-2125.
- Jessop, D.C., Herberts, C., & Solomon, L. (2005). The impact of financial circumstances on student health. *British Journal of Health Psychology*, 10, 421-439.

- Kenyon, D.Y.B., & Koerner, S.S. (2009). College student psychological well-being during the transition to college: Examining individuation from parents. *College Student Journal, 43*(4a), 1145-1160.
- Kuh, G.D., Hu, S., & Vesper, N. (2000). "They shall be known by what they do": An activities-based typology of college students. *Journal of College Student Development, 41*(2), 228-244.
- Lazarus, R.S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. Springer.
- Low, K.G. (2011). Flourishing, substance use, and engagement in students entering college: A preliminary study. *Journal of American College Health, 59*(6), 555-561.
- Lowe, H., & Cook, A. (2003). Mind the gap: Are students prepared for higher education? *Journal of Further and Higher Education, 27*(1), 53-76.
- Maslow, A.H. (1943). A theory of human motivation. *Psychological Review, 50*, 370-396.
- Mattanah, J.F., Brooks, L.J., Ayers, J.F., Quimby, J.L., Brand, B.L., & McNary, S.W. (2010). A social support intervention to ease the college transition: Exploring main effects and moderators. *Journal of College Student Development, 51*(1), 93-108.
- McBroom, E.M., Fife, E.M., & Nelson, C.L. (2008). "Risky business": The college transition, loneliness, and alcohol consumption. *Journal of the First-Year Experience & Students in Transition, 20*(2), 45-63.
- Monk, E.M. (2004a). Student mental health: The case studies. *Counselling Psychology Quarterly, 17*(4), 395-412.
- Monk, E.M. (2004b). Student mental health. Part 2: The main study and reflection of significant issues. *Counselling Psychology Quarterly, 17*(1), 33-43.

- Moore, J., Lovell, C.D., McGann, T., & Wyrick, J. (1998). Why involvement matters: A review of research on student involvement in the college setting. *College Student Affairs Journal, 17*(2), 4-17.
- Moorey, S., Greer, S., Watson, M., Gorman, C., Rowden, L., Tunmore, R., et al. (1991). The factor structure and factor stability of the Hospital Anxiety and Depression Scale in patients with cancer. *British Journal of Psychiatry, 158*, 255-259.
- Mounts, N.S., Valentiner, D.P., Anderson, K.L., & Boswell, M.K. (2006). Shyness, sociability, and parental support for the college transition: Relation to adolescents' adjustment. *Journal of Youth and Adolescence, 35*(1), 71-80.
- Nelson, J.M., & Gregg, N. (2010). Depression and anxiety among transitioning adolescents and college students with ADHD, dyslexia, or comorbid ADHD/dyslexia. *Journal of Attention Disorders, 16*(3), 244-254.
- Pratt, M.W., Hunsberger, B., Pancer, S.M., Alisat, S., Bowers, C., Mackey, K., et al. (2000). Facilitating the transition to university: Evaluation of a social support discussion intervention program. *Journal of College Student Development, 41*(4), 427-41.
- Quinn, N., Wilson, A., MacIntyre, G., & Tinklin, T. (2009). 'People look at you differently': students' experience of mental health support within higher education. *British Journal of Guidance and Counselling, 37*(4), 405-418.
- Ross, S., Cleland, J., & Macleod, M.J. (2006). Stress, debt and undergraduate medical student performance. *Medical Education, 40*, 584-589.
- Royal College of Psychiatrists. (2003). *The mental health of students in higher education*. London: Author.

- Sarason, I.G., Levine, H.M., Basham, R.B., & Sarason, B.R. (1983). 'Assessing social support: the Social Support Questionnaire'. *Journal of Social and Personal Relationships, 44*, 127-39.
- Scheier, M.F. and Carver, C.S. (1985). 'Optimism, coping, and health: assessment and implications of generalized outcome expectancies', *Health Psychology, 4*, 219-47.
- Schlossberg, N. (1981). A model for analysing human adaptation to transition. *Counselling Psychologist, 9*, 2-18.
- Schlossberg, N.K., Waters, E.B., & Goodman, J. (1995). Counseling adults in transition (2nd Ed.). New York: Springer. *Student development in college: Theory, research and practice* (1998).
- Srivastava, S., Tamir, M., McGonigal, K.M., John, O.P., & Gross, J.J. (2009). The social costs of emotional suppression: A prospective study of the transition to college. *Journal of Personality and Social Psychology, 96*(4), 883-897.
- Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: Students with mental health problems—A growing problem. *International Journal of Nursing Practice, 16*, 1–6.
- Stern, G.G. (1966). Myth and reality in American college. *American Association of American Professors Bulletin, 52*(4), 408-414.
- Stewart-Brown, S., Evans, J., Patterson, J., Petersen, S., Doll, H., Balding, J., et al. (2000). The health of students in institutes of higher education: An important and neglected public health problem? *Journal of Public Health Medicine, 22*(4), 492-499.
- Tabachnick, B.G., & Fidell, L.S. (2007) Using multivariate statistics. Boston: Allyn and Bacon.

- Tanaka, J.S., & Huba, G.J. (1987). Assessing the stability of depression in college students. *Multivariate Behavioral Research*, 22(1), 5-19.
- Turner, A.P., Hammond, C.L., Gilchrist, M., & Barlow, J.H. (2007). Coventry university students' experience of mental health problems. *Counselling Psychology Quarterly*, 20(3), 247-252.
- Voelker, R. (2003). Mounting student depression taxing campus mental health services. *Journal of the American Medical Association*, 289(16), 2055-2056.
- Wong, J.G.W.S., Cheung, E.P.T., Chan, K.K.C., Ma, K.K.M., & Tang, S.W. (2006). Web-based survey of depression, anxiety and stress in first-year tertiary education students in Hong Kong. *Australian and New Zealand Journal of Psychiatry*, 40, 777-782.
- Wright, M., Banerjee, R., Hoek, W., Rieffe, C., & Novin, S. (2010). Depression and social anxiety in children: Differential links with coping strategies. *Journal of Abnormal Child Psychology*, 38, 405-419.
- Yalom, I.D. (1980). *Existential Psychotherapy*. Basic Books.
- Zenger, M., Brix, C., Borowski, J., Stolzenburg, J.U., & Hinz, A. (2010). The impact of optimism on anxiety, depression and quality of life in urogenital cancer patients. *Psycho-Oncology*, 19, 879-886.
- Zigmond and Snaith, 1983. From 'The Hospital Anxiety and Depression Scale,' *Acta Psychiatrica Scandinavica* 67, 361-70.
- Zirkel, S., & Cantor, N. (1990). Personal construal of life tasks: Those who struggle for independence. *Journal of Personality and Social Psychology*, 58(1), 172-185.

Part Three

Appendices

Appendix A: Reflective Statement

This piece of research has been a journey on which I have learnt much about the process of conducting a piece of work for submission to a peer reviewed journal, and along the way I have also learnt about myself.

Sitting as a first year trainee in the research fair I was filled with a sense of dread at the words 'thesis' and 'research'. The world of research seemed so vast and I had no idea where to *think* about starting, let alone begin to find a supervisor. However hearing about previous research carried out and the interests within the department were a helpful starting place where my interests were piqued. My initial research proposal was for a project exploring burnout, however this soon changed following a discussion about recruitment. At that point, the only thing that I knew for certain was that I wanted my pool of potential participants to be as unrestricted as possible further to significant difficulties with recruitment in an earlier research project. It was for this reason that I elected to change my path of enquiry to the student transition. On reflection, I am not sure that this was the best way to go about deciding upon a research project; if all researchers used this then many important areas would go un-explored. This is something that I continued to grapple with throughout the research process, particularly following comments about not using a clinical sample. Whilst there continue to be moments in which I worry about this, there are increasingly moments in which I am convinced that examining common difficulties in a large subset of the population is imperative at a preventative level. This was particularly amplified for me recently when I attended a conference in which the Division of Clinical Psychology's chair emphasised the importance of systemic and preventative working as part of the burgeoning future of Clinical Psychology. My choice of journal somewhat reflects this

process; wanting the word 'clinical' to appear to allay my fears about the relevance of the thesis, but also recognising the broader social aspect that it encompasses. In addition to this the Journal of Social and Clinical Psychology, to which I have chosen to submit both papers has published several papers with a similar focus.

I was fortunate in that my path through peer review was smooth, requiring few corrections and I was able to move on to submitting my proposal to the ethics committee by Easter 2012. This felt like a big achievement and another positive step along the path, although again I doubted my choice of project. In many ways, having heard stories from peers about NHS ethics procedures at the time I was incredibly glad to be going through the university's ethics committee, however my concerns about the clinical relevance of my thesis were once again ignited, fearing that I had taken the 'easy option'. In some respects I do regret not doing a project that required NHS ethical approval; it would have been incredibly helpful for my first submission to have been with the support and guidance that I feel the course would have provided me. However, both the peer review and ethics approval were invaluable in reminding me of how important it is to be clear in how you communicate each detail of your plans. Whilst things may be clear to you, the researcher, who has poured over the details, this is not always so for the ethics panel who are reliant upon the information you provide in your proposal.

September quickly came around and with it came the first data collection point, taking me somewhat by surprise and in addition to this I underestimated how long it would take to collate the questionnaire packs (something I quickly learnt from for the second data collection point). I approached data collection with mixed feelings of excitement and anxiety; I did not expect to be so nervous about data collection but was filled with worries about whether the first-years would participate and if so how many.

However, my worries melted away once I saw just how many students accepted my invitation to participate; I was extremely relieved and grateful that my planning had come to fruition. I was filled with yet more hope and optimism when I saw the number of students who had expressed an interest in taking part in the diary study. As the weeks went by and the data continued to come in I continued to be surprised that the research was working. In many ways it felt like it was running itself and for that I was immensely grateful; not having to 'fight' made recruitment and data collection not simply easy but enjoyable (something I never thought I would hear myself say)!

However, whilst my empirical paper was going well, my SLR was not going so well. This was something that I had not anticipated. The lecture during the summer of 2012 had left me feeling enthused and more optimistic about this part of the thesis than the empirical paper; it appealed to the bit of me that likes order and structure and so I looked forward to getting this underway. However I fell at the first hurdle. Initial scoping searches regularly returned vast quantities of papers in the region of 120,000 and left me feeling completely overwhelmed and questioning my abilities. Whilst I knew I still had plenty of time and that my empirical paper was, to all intents and purposed, running itself I became avoidant of my SLR and research in general and really struggled to motivate myself. Knowing that I work well when I have a deadline to meet and following a conversation with my supervisor it was agreed that I should devise a 'critical timeline' for my research which gave me a smaller deadline each week to work to, dividing my workload equally until the hand-in date. This however had the opposite of the desired effect and left me feeling even more overwhelmed and despondent; I missed deadline after deadline, my confidence plummeted and doubt in my abilities soared. This taught me a valuable lesson about being realistic about what work will be done and that although a bit of pressure is helpful, too much can be

paralysing. Most importantly with time I have come to the realisation that difficulties are not always as insurmountable as they first seem but are there to challenge you to think differently; ultimately they result in a much better research. As 2013 arrived and time started to become more pressing I was able to go back to the literature and start again with support and guidance from my supervisor. Whilst I continued to struggle I was able to make slow but steady progress which spurred me on.

Data collection for my empirical paper at time 2 felt a little less positive, with significantly fewer participants. Due to the longitudinal nature of the study this was expected and was part of the reason that I included a diary element to protect against attrition. I was incredibly relieved that I had done this. When planning this research the sample size I based my proposal on was the previous cohort of students of approximately 220 which was larger than the current cohort of 170. This taught me a valuable lesson about overestimating the number of participants needed, but also about being flexible and including 'safety measures'. Despite feeling overwhelmed at points by the amount of data that I had to report, I maintain that it is better to have too much to report than too little.

As with the process of collating the questionnaire packs I also underestimated the amount of time that it would take to input all of the data into statistical software, or the complexity of this and I had to 'transform' the data on more than one occasion which was time consuming. In addition to this turning my hand to statistical analysis was a steep learning curve. What often was made to feel so simple and straightforward in our statistician's office often became unintelligible as soon as I sat down to do this on my own. There were often points where I berated myself for being arrogant enough to think that I could do it and for designing a study that used statistics. However, Dr Eric Gardiner's enthusiasm was contagious and I was once again excited about my empirical

paper, eagerly waiting to see what the data ‘said’. There was a real sense of relief and intrigue when results began to emerge from what was previously felt to be simply a mess of data. This excitement quickly waned as I attempted to write my results up due to the sheer volume of what I had to report. I returned to doubting my abilities and feeling overwhelmed. Concentrating on one small part of the results, writing up one question at a time, helped with this and the sense of achievement moved me forwards.

I was particularly interested to read what participants had written as their free response answers in the diary study. When looking through them I was mindful about my own understanding and beliefs about things that would be helpful or unhelpful during the transition process. Keeping a reflective journal at this point was particularly helpful in providing enough understanding of my own stance that I was more readily able to see what had been written rather than what I wanted to be written.

My write-up process was pleasantly surprising; whilst I cannot deny that it has been a *lot* of hard work (to which my laptop can testify with its trips to the IT repair shop) it was not as awful as I had anticipated. I returned to the idea that mini deadlines would be helpful, and on this occasion they proved to be invaluable. Much to my surprise I had a complete draft of both papers with a month to spare (or more realistically re-draft, amend and re-write).

I entered into the world of research somewhat naively and consider myself to have been lucky to try my hand at it in such a supported way. I knew that it was going to require lots of hard work and time, I often underestimated the laborious nature of some of the tasks and the amount of time that they required. At times it was hard to hold on to the positives and the progress that I made during the research process, particularly as one of a group of trainees, each on a very unique research journey, but this is something that I have learnt is important. If research is ‘smooth’ then I would worry

that something has gone wrong; ultimately it is the 'bumps' that make research better. Through this process I have developed a new found admiration and respect for researchers. On reflection I wish I had known at the start what I do now, but this is something that I will take with me on my future journeys into research.

Appendix B: Guidelines for Authors for the Journal of Social and Clinical Psychology

JOURNAL OF SOCIAL AND CLINICAL PSYCHOLOGY—INFORMATION FOR AUTHORS

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

All submissions must be made electronically (preferably in Microsoft Word format) to **Thomas E. Joiner at** joiner@psy.fsu.edu. Only original articles will be considered. Articles should not exceed 8,000 words (text and references). Exceptions may be made for reports of multiple studies. Abstracts should not exceed 200 words. Authors desiring an anonymous review should request this in the submission letter. In such cases identifying information about the authors and their affiliations should appear only on a cover page.

TABLES should be submitted in Excel. Tables formatted in Microsoft Word's Table function are also acceptable. (Tables should not be submitted using tabs, returns, or spaces as formatting tools.)

FIGURES *must* be submitted separately as graphic files (in order of preference: TIFF, EPS, PPT, JPEG, XLS) in the highest possible resolution. Figure caption text should be included in the article's Microsoft Word file.

PERMISSIONS: Contributors are responsible for obtaining permission from copyright owners if they use an illustration, table, or lengthy quote (100+ words) that has been published elsewhere.

Contributors should write both the publisher and author of such material, requesting nonexclusive world rights in all languages for use in the article and in all future editions of it.

REFERENCES: Authors should consult the publication manual of the American Psychological Association for rules on format and style. All research papers submitted to the *Journal of Social and Clinical Psychology* must conform to the ethical standards of the American Psychological Association. Articles should be written in nonsexist language. **Any manuscripts with references that are incorrectly formatted will be returned by the publisher for revision.**

SAMPLE REFERENCES

Davis, C. G., & McKearney, J. M. (2003). How do people grow from their experience with trauma or loss? *Journal of Social & Clinical Psychology, 22*, 477-492.

Dweck, C., & Wortman, C. (1982). Learned helplessness, anxiety and achievement. In H. Kron & L. Laux (Eds.), *Achievement, stress, and anxiety* (pp. 93-125). Washington, DC: Hemisphere Publishing Group.

Levy, M. L., Cummings, J. L., Fairbanks, L. A., Masterman, D., Miller, B. L., Craig, A. H., et al. (1998). Apathy is not depression. *Journal of Neuropsychiatry and Clinical Neurosciences, 10*, 314-319.

Appendix C: References for Rejected Full Text Studies

- Keup, J. R. (2007). Great expectations and the ultimate reality check: Voices of students during the transition from high school to college. *NASPA Journal*, *44*(1), 3-31.
- Leese, M. (2010). Bridging the gap: Supporting student transitions into higher education. *Journal of further and Higher Education*, *34*(2), 239-251.
- Scanlon, L., Rowling, L., & Weber, Z. (2007). "You don't have like an identity...you are just lost in a crowd:" forming a student identity in the first-year transition to university. *Journal of Youth Studies*, *10*(2), 223-241.

Appendix D: Quality Checklist**QUALITY CHECKLIST FOR THE SYSTEMATIC LITERATURE REVIEW**

Authors: _____

Title of Paper: _____

	Question	Score: 1=Yes 0=No
Abstract/ Introduction		
1	Does the abstract provide a succinct and focused summary of what was done and what was found?	
2	Has the appropriate background information been provided and does it lead to a clear and logical rationale for the study?	
3	Are the papers aims/ research questions clearly defined?	
		Total for Abstract/ Introduction
Method		
4	Is the design appropriate to the aims/ questions?	
5	Are the participants clearly defined?	
6	Has an appropriate control group been used?	
7	Is the sample representative?	
8	Are the measures used appropriate/valid/reliable?	
9	Is the procedure clear (enough to be replicable)?	
		Total for Method
Results		
10	Are all the statistical tests/methods of analysis used clearly described?	
11	Do the analyses answer the study's question/s?	
12	Are the main findings clearly reported?	

13	Are actual probability values reported for the main outcome (except where <0.001)?		
		Total for Results	
	Discussion/ Conclusions		
14	Are the results linked to previous theory/ research findings/ models?		
15	Are the results discussed in relation to the study's aims/ objectives?		
16	Are the study's limitations discussed?		
		Total for Discussion/ Conclusion	

TOTAL FOR PAPER	
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Appendix E: Quality Assessment of Studies

Article	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Kappa	Total
Alfeld-Liro & Sigelman (1998)	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	.636	15
Bishop & White (2007)	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0		14
Baruch-Runyon et al. (2009)	1	1	0	1	0	0	0	1	0	1	1	1	0	1	1	1	.394	10
Bohnert et al. (2007)	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1		15
Gall et al. (2000)	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1		15
Hiester et al. (2009)	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1		15
Jackson et al. (2000)	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1		14
Johnson et al. (2010)	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1		13
Kenyon & Koerner (2009)	1	1	1	1	1	0	0	1	1	1	1	1	1	0	0	1	.818	12
Kerr et al. (2004)	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1		15
Larose & Boivin (1998)	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1		14
Lopez & Gormley (2002)	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1		15
Low (2011)	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1		14
Mattanaha et al. (2010)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100%	16
McBroom et al. (2008)	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1.00	14
Mounts et al. (2006)	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	1		13

Article	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Kappa	Total
Paul et al. (1998)	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1		14
Paul & Brier (2001)	1	1	1	1	1	0	0	1	1	1	1	0	1	1	1	1		13
Pittman & Richmond (2008)	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1		13
Pratt et al. (2000)	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1		14
Srivastava et al. (2009)	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1		15
Tognoli (2003)	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0		14
Wilson & Gillies (2005)	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0		12
Wintre et al. (2011)	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1		15
Wintre & Sugar (2000)	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1		13
Total /Kappa Mean	25	25	20	25	23	4	11	25	23	23	25	24	24	23	24	22	.712	

Appendix F: Data Extraction Form

Data Extraction	
Authors (inc. author affiliations where mentioned/ relevant)	
Year of Publication	
Title of Paper	
Quality Score	
Geographical Origin of Study	
Sample Size	
Participant – Subject Studied	
Operationalization of ‘Transition’	
Length of study	
Study – Aims	
Study – Design	
Study – Method	
Study – Inclusion/Exclusion Criteria	
Study – Statistical Analysis	
Outcomes	
Problems Identified	
Causes Identified	
Intervention - Type	
Intervention – Outcome	
Study Conclusions	

Appendix G: Ethical Approval

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Appendix H: Pilot Study

Pilot Study

Aims

The pilot survey sought to provide a better understanding of the factors that contribute to and maintain poor mental health amongst first year students in order to inform the main study by identifying the factors students believe helped and hindered them in the transition to university. Factors identified in the pilot study were incorporated into the diary study stage of the main study.

Questions

1. Which factors are perceived as contributing to positive psychological wellbeing during the transition to university?
2. Which factors are perceived as contributing to negative psychological wellbeing during the transition to university?

Method

Design

The pilot survey employed a cross-sectional design in which retrospective self-report data was collected electronically via a questionnaire. It explored the perception of 7 possible factors influencing students' mood and adjustment during the transition period.

Participants

Participants ($n=21$) were male and female first year undergraduate students at the end of their second semester at a university in the north east of England.

Measures

- Student Wellbeing Survey: A 3 question survey with a multiple choice and free response part to each question. Questions asked about factors that helped, made students feel 'fed up', or 'worry' during the transition (Appendix H. ii.).

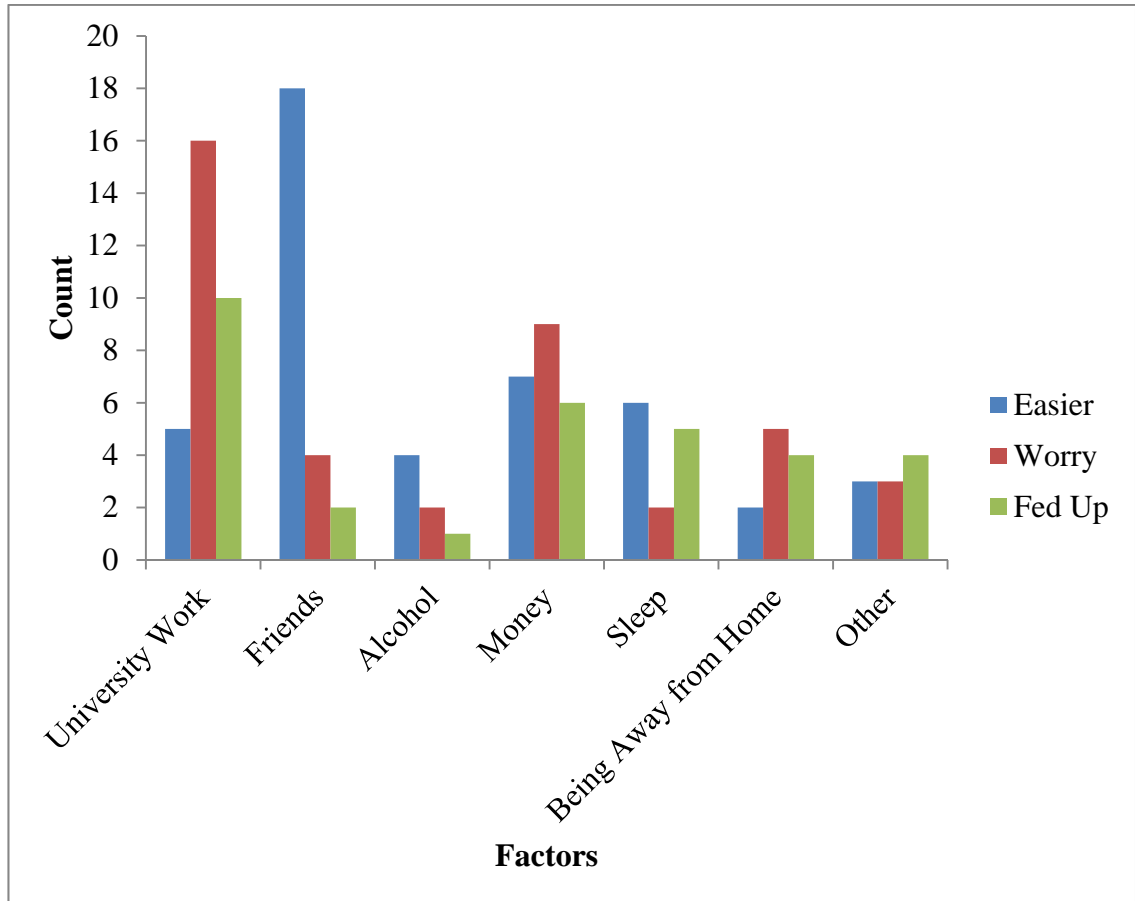
Procedure

Students were e-mailed an information sheet (Appendix H. i.) and link to the anonymous survey by the course administrative staff at the end of their second semester at university. Responses automatically populated a table which was later analysed.

Results

Results indicated that each factor was endorsed by participants as influencing the transition period. Results are presented in Figure 1. 'Other' items included "Family", "Moving house", "Chronic pain" and "Nothing".

Figure 1. Number of Participants Endorsing Each Factor by how it Made Life Easier, Made them Worry or Fed Up



Free responses explaining participants' responses to the factors were also provided and are presented (as participants wrote them, without correction) in Table 1. Results were used to ensure that the transition theory 4 S's (Schlossberg, 1981) were covered and that the relevant items had been included in the diary study questionnaire. No items were identified that were not already included in the proposed main study.

Table 1. Free Response Text for Participants by How Factors Had Been the Biggest Help, Had Made Them Worry or Had Made Them Fed-Up

Participant Number	Free Text Response		
	Biggest Help	Worry	Fed up
1	Friends and family They can support me emotionally when it's needed	It was a whole new subject and I was worried if I could understand it all	Homesick is a big big issue
2	Money because it helped me out big time	Not meeting any friends	Stress from work
3	Sleeping. Cause it was easier just to block things out that way	Living in the halls made me worry the most because I felt isolated and feared what pranks would be pulled on me	People drinking and partying during exam periods in the halls and wardens doing nothing about it.
4	Friends, there support	University work, its a big change from college	I have a boyfriend and close friends back home so I missed them a lot.

Participant Number	Free Text Response		
	Biggest Help	Worry	Fed up
5	As few people know others everybody spoke and got along with everyone.	Running out of money after spending too much at freshers.	Missing home and family near the end of the semester.
6	The friends that I made at University because we were all going through the same thing and so, whenever any of us were feeling lonely/stressed/homesick etc, we were all very understanding and comforting of one another.	Being away from home because I fell ill during freshers week, and so throughout the entire first semester I was very aware that I would be without my home comforts and family if I ever needed them.	The lack of sleep due to noise, studying late or going out caught up with me eventually.
7	None of the above, its not difficult.	Money, I didn't have any and I got hungry!	Money, I had none!

Participant Number	Free Text Response		
	Biggest Help	Worry	Fed up
8	<p>Having some money in my bank account was the biggest help because I knew I would be able to fund anything required such as books, travel, food and printer and copying machine. Also knowing you can pay things like your bills and food shopping is an absolute must, in order for your mind to be free of this kind of worry and able to concentrate on getting used to university life and study.</p>	<p>Not knowing what I'm meant to be doing or getting confused regarding university work because my confidence suffered as a consequence of this which had a knock on effect.</p>	<p>I got off to a bad start with a lecturer because of lateness and the lecturer seemed to take it very personal but it was suffer from depression and was having sleep problems. I was also having problems with my son who lives with me.</p>

Participant	Free Text Response		
Number	Biggest Help	Worry	Fed up
9	<p>Friends. I would not describe myself as an adventurous person; I am the type of person who would get one job and stick with it for my whole life. Moving from college to university was already a big change, and the thought of packing up my whole life and moving to a new city at the same time is too big of a change. Staying in Hull with familiar people and a familiar environment was important.</p>	See above.	N/A.

Participant Number	Free Text Response		
	Biggest Help	Worry	Fed up
10	MEETING FRIENDS = knowing they are going through same as u	atudying - if i was doing essay/exams right because that is most important to me.	If i was short on money cos then can't enjoy myself.
11	being able to go home when i needed to	being away from home	work was often boring
12	The support network of friends both from home and friends i knew at univeristy provided great support and encouragement.	University work seemed daunting at first as it was completley different from school and college the independence of the work was hard to get use to.	Being away from home sometimes made me fed up as i saw what friends were doing back there and i missed my family and hobby of horse riding which i couldnt keep up at university.

Participant Number	Free Text Response		
	Biggest Help	Worry	Fed up
13	Friends allowed me to become more settled and made the university experience more enjoyable. Friends in my classes allowed me to discuss work and support each other in the learning and revision.	It wasn't clear what was expected of me in the exam, additionally there was a lot of reading- more than i had done in alevel, so i struggled keeping a balance of social life and university work.	sometimes the lack of sleep was very unbearable, a lot of my friends were agree, that due to high level of noise at night this affected our sleep, especially when students were drinking every night in certain halls of residence.
14	Being away from home, because it gave me an opportunity to get rid of habitual behaviours that weren't useful and that I didn't want.	University work, because my record at school for handing in work was appalling, and at university there are penalties for late submission.	Sleep, as I have insomnia and would sometimes still be awake at six in the morning.

Participant Number	Free Text Response		
	Biggest Help	Worry	Fed up
15	I originally attended Liverpool Hope University for 1 month before transferring to Hull University and found that I hated it initially until I found friends on my course. Having people to help me find my way around and understand life at university and to have lunch and breaks with made everything so much easier and enjoyable.	The pressure to drink excessive amounts of alcohol and to be going out every night.	University work, because there is little input and assistance with work, it's difficult to know if what you are doing is correct and what is wanted from you. I had a poor understanding of what I needed to do to achieve high grades and to do well.

Participant	Free Text Response		
Number	Biggest Help	Worry	Fed up
16	Making new friends early on, having a support and social group was very important.	Uni work, you go into it thinking it will be vastly more complex and populous than college work, and that's scary.	University work that actually contributed towards the degree was, in my opinion, a detraction from the heavily social aspect of the 'fresher' year. not that spending £3500 to spend the first year drinking and making friends is totally justified, but the stress caused by the unfamiliar methods of deliverance of material and the assessment were stressful and there was little advice regarding time management.

Participant		Free Text Response	
Number	Biggest Help	Worry	Fed up
17	New friends with similar experiences to listen, support, and helping each other.	Moving house with my little boy the same week as starting university was stressful. Learning a new subject as a mature student, knowing many already had A level knowledge. Lack of money, having to sell my jewellery to see me over christmas and fear of failing exams in equal measure.	Constant worry over money to pay the bills. Pain because effects mood, work, sleep etc.
18	Talking to people - we were all a bit homesick	Being away from home - just really missed my family the first couple of weeks	n/a

Participant Number	Free Text Response		
	Biggest Help	Worry	Fed up
19	Meeting new people on and off my course that I got along with as it enabled me to enjoy the time I spent both during and outside of lectures.	I found little to trouble me during the first semester, work was fine and other activities went without issue.	University work, lack of interest in certain topics and length of time spent working on these made completing the work tedious.
20	Friends as we were all in the same boat and could help and re-assure each other of any worries we had.	University work as there was so much socialising in the first semester it made it seem like there was so much to learn for the exams in January.	University work as all you wanted to do was to be out socialising all the time. Money as there wasn't enough to do all the socialising you wanted to do.
21	Friends were the biggest help to me as they gave me confidence that I could achieve my dreams and	I was very nervous about producing essays and sitting exams having been away from formal education for many years.	Juggling uni work around family life and running my business.

Participant	Free Text Response		
Number	Biggest Help	Worry	Fed up
helped me out with my children.			

Appendix H: Pilot Study

i. Pilot Study Information Sheet

Version Number 1 12/01/2012



Information about the research

The Student Wellbeing Survey

I would like to invite you to take part in my research study. Before you decide whether to take part I would like you to understand why the research is being done and what it would involve for you.

- Part 1 tells you the purpose of this study and what will happen to you if you take part.
- Part 2 gives you more detailed information about the conduct of the study.

Please ask the researcher if there is anything that is not clear. Please feel free to talk to others about the study if you wish.

Part 1

What is the purpose of the study?

The purpose of this study is to inform a doctoral research project looking at students' experience of the transition to university and how this may be associated with anxiety and depression. This pilot survey hopes to gain a measure of the things that have both helped and hindered you during your first semester.

Why have I been invited?

The first year undergraduate students at the University of Hull will take part in this research. You have been invited because you are a first year student and may be best able to recall your first semester at university.

Do I have to take part?

No, it is up to you to decide to join the study. You will be given a copy of the information sheet to keep. Your completion of the survey will be taken as your consent to participate. You are free to withdraw at any time, without giving a reason, and your data will not be used. This will not affect your degree in any way.

What will happen to me if I take part?

- This study will take approximately 5 minutes to complete.
- You will be asked to answer 3 brief questions, comprised of a multiple choice and a free response part for each.
- You will be asked to complete the questionnaire alongside your peers. The researcher will be present.
- After the research has finished, you will not be asked to provide follow-up information.

Expenses and payments

Expenses or payment are not available for this study and it does not count towards your course requirements.

What will I have to do?

If you agree to take part in this survey you will be asked to complete one short survey comprised of 3 questions, relating to the things that made the transition better for you, and things that were most likely to make you worry or feel fed. Answers are multiple choice, with space for free response. Participation should take approximately 5 minutes.

What are the possible disadvantages and risks of taking part?

This survey will ask you to consider things that made you worry, and feel fed up, and these responses may still be relevant for you, which you may find distressing. Information about the University's Counselling Service is attached to this information sheet and provides contact details should you wish to seek support.

What are the possible benefits of taking part?

The information I get from this survey will help inform a research study which is hoped to improve understanding of students' experience of the transition to university and any anxiety or depression that is a result of this. This will help to inform the levels of support and awareness campaigns that are available during this time.

What happens when the research study stops?

At the end of the study you will be able to ask any questions that you have. After this, there will be no further contact, unless you have indicated that you would like to be informed of the results of the study.

Will my taking part in the study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes part 1. If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2**What will happen if I don't want to carry on with the study?**

You may withdraw your participation at any stage of the study. Following completion of the survey it may not be possible to remove your data from the analysis due to the anonymity of the responses. There will be no negative consequences of withdrawal from this research.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to the researcher either in person or via the contact details below, who will do their best to answer your questions.

Will my taking part in this study be kept confidential?

- Your participation in this study will be kept confidential.
- Research data will all be collected during the study. Other sources of information, e.g. university records will not be used.
- All questionnaire data is anonymous and unidentifiable.

- All data will be stored in a secure place for 5 years, whilst the results of the research are being prepared for publication. After this, all questionnaires etc. will be destroyed.

Involvement of the University Disability/Counselling Service

The university's disability/counselling service will not be notified that you are taking part in this study. If you appear to become distressed by answering the questions on the survey, the researcher will advise you to seek support from the disability/counselling service. However, the disability/counselling service will not receive any personal information that you give to the researcher. All study information will remain confidential. Your participation in this study will not affect your current or future support or academic work.

What will happen to the results of the research study?

It is intended that this survey will be included in the research project that it is informing which will be published in a peer-reviewed journal. This is accessible to the public.

Who is organising and funding the research?

The chief investigator is being paid to carry out this research by the Humber NHS Foundation trust as part of their job role. However, this piece of research is receiving no external funding, and there are no identified conflicts of interest.

Who has reviewed the study?

This research has been peer reviewed within the Department of Clinical Psychology and Psychological Therapies. Further to this, all research at the university is looked at by a group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given a favourable opinion by the University of Hull Post Graduate Medical Institute Research Ethics Committee.

Further information and contact details

For further information, you can contact the researcher by post or e-mail with any questions:

Felicity Nichols
Trainee clinical psychologist
Department of Clinical Psychology and Psychological Therapies
Hertford Building
University of Hull
HU6 7RX

E-mail: F.A.Nichols@2007.hull.ac.uk

Thank you for considering taking part in this study and taking the time to read this information sheet.

Appendix H: Pilot Study

ii. Student Wellbeing Survey

Student Wellbeing Survey

*Required

Please think about your first semester at university

1. What made the transition to University easier for you?*Tick all that apply

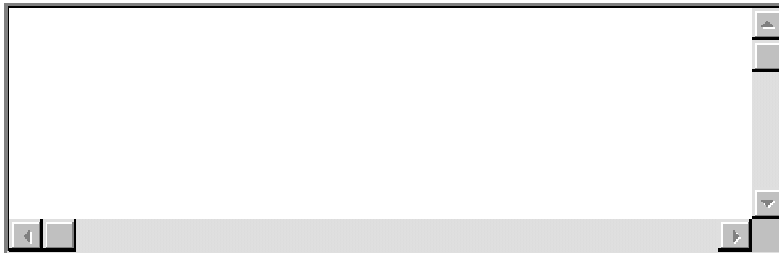
- University Work
- Friends
- Alcohol Use
- Money
- Sleep
- Being Away from Home
- Other:

Which was the biggest help and why?*

2. What things made you most likely to worry during the first semester?*Tick all that apply

- University Work
- Friends
- Alcohol Use
- Money
- Sleep
- Being Away from Home
- Other:

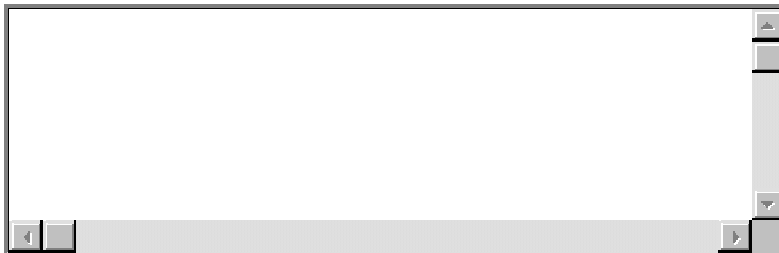
Which made you worry the most and why?*



3. What things were most likely to make you fed up? *Tick all that apply

- University Work
- Friends
- Alcohol Use
- Money
- Sleep
- Being Away from Home
- Other:

Which thing made you fed up the most and why?*



Thank you for your time.

Appendix I: Hospital Anxiety and Depression Scale

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Appendix J: Demographics Questionnaire



Version Number 1
12/01/2012

Appendix 8 Demographic Questionnaire

(Please select answer and mark with a tick)

Male

Female

Which of the following would best fit how you describe yourself?

White

Black

Asian

Other

Relationship Status:

Single

In a Relationship

Engaged

Married

Divorced

Widowed

Are you an International Student? (Please select answer and mark with a tick)

Yes

No

Where are you living during term time? (Please select answer and mark with a tick)

In Halls

Student House

At Home

Other..... (Please State)

Do you have experience of living away from home before?

(Please select answer and mark with a tick)

Yes No **Have you been to university before?** (Please select answer and mark with a tick)Yes No **Did you take a gap year?** (Please select answer and mark with a tick)Yes No **How would you describe your relationship with your family?**

(Please select answer and mark with a tick)

Really
PoorQuite
PoorNeither Good
nor PoorQuite
GoodReally
Good**Do you expect to receive a Bursary or any other form of financial support? (n.b. this does not include receiving a repayable tuition fee/ maintenance loan)**

(Please select answer and mark with a tick)

Yes No **Have you had a diagnosis of a mental health difficulty in the past? (i.e. depression/ anxiety/ OCD/ psychosis / PTSD etc.)?**

(Please select answer and mark with a tick)

Yes No

If you answered yes please state if you had: Anxiety Depression
(Please Circle)

Do you have a current diagnosis of a mental health difficulty?

(Please select answer and mark with a tick)

Yes

No

If you answered yes please state if you have: Anxiety Depression
(Please Circle)

Appendix K: Life Orientation Test

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Appendix L: Expectations Time 1 Questionnaire



Version Number 1
12/01/2012

Expectations Questionnaire Time 1

How easy do you think it will be to settle into ‘university life’?

(Please select answer and mark with a tick)

Really Easy	Quite Easy	Neither Easy nor Hard	Quite Hard	Really Hard
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How do you expect to find academic work?

(Please select answer and mark with a tick)

Really Easy	Quite Easy	Neither Easy nor Hard	Quite Hard	Really Hard
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What do you expect your grade will be for your first academic assignment?

(Please select answer and mark with a tick)

1st	2:1	2:2	3rd	Fail
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What do you expect your final degree classification will be?

(Please select answer and mark with a tick)

1st	2:1	2:2	3rd	Fail
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On average how often do you expect to go out on nights out each week?

(Please select answer and mark with a tick)

I won't go out	A Few Times	Several Nights	Most Nights	Every night
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On average how much free time do you expect to have each day?

(Please select answer and mark with a tick)

10 hours plus <input type="checkbox"/>	8-9 hours <input type="checkbox"/>	7-8 hours <input type="checkbox"/>
6-7 hours <input type="checkbox"/>	5-6 hours <input type="checkbox"/>	4-5 hours <input type="checkbox"/>
3-4 hours <input type="checkbox"/>	2-3 hours <input type="checkbox"/>	1-2 hours <input type="checkbox"/>
Up to 1 hour <input type="checkbox"/>	None <input type="checkbox"/>	Don't know <input type="checkbox"/>

If you are living away from home on average how often do you expect to be in contact with your family each week?

(Please select answer and mark with a tick)

Not at all	A Few Times	Several days	Most days	Every day
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you are living away from home on average how often do you expect to be in contact with your friends from home each week?

(Please select answer and mark with a tick)

Not at all	A Few Times	Several days	Most days	Every day
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you are living away from home how quickly do you expect to make friends with the people you live with?

(Please select answer and mark with a tick)

Very Slowly	Slowly	Neither Quickly nor Slowly	Quite Quickly	Straight Away
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How quickly do you expect to make friends with people on your course?

(Please select answer and mark with a tick)

Very Slowly	Slowly	Neither Quickly nor Slowly	Quite Quickly	Straight Away
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any further expectations of university not covered above? If so please give details.

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THANK YOU!

Appendix M: Expectations Time 2 Questionnaire



Version Number 1
12/01/2012

Expectations Questionnaire Time 2

In the last questionnaire you were asked about your expectations of university life. This time you are invited to think about the expectations that you had and consider if these expectations have been met.

How easy do you think it was to settle into ‘university life’?

(Please select answer and mark with a tick)

Much harder than I expected	A little harder	The same as I expected	A little easier	Much easier than I expected
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How have you found academic work?

(Please select answer and mark with a tick)

Much worse than I expected	A little worse	The same as I expected	A little better	Much better than I expected
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Was the practice essay grade as you expected?

(Please select answer and mark with a tick)

Much worse than I expected	A little worse than I expected	The same as I expected	A Little better than I expected	Much better than I expected
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How is your social life?

(Please select answer and mark with a tick)

Much worse than I expected	A little worse than I expected	The same as I expected	A little better than I expected	Much better than I expected
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How much free time do you have?

(Please select answer and mark with a tick)

Much less than I had hoped for	A little less than I had hoped for	The same as I hoped	A little more than I had hoped for	Much more than I had hoped for
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If you are living away from home on average how often are you in contact with your family each week?

(Please select answer and mark with a tick)

Not as much as I had hoped	A little less than I had hoped	The same as I had hoped	A little more than I had hoped	Much more than I had hoped
-------------------------------	-----------------------------------	----------------------------	--------------------------------------	----------------------------------

If you are living away from home on average how often are you in contact with your friends from home each week?

(Please select answer and mark with a tick)

Not as much as I had hoped	A little less than I had hoped	The same as I had hoped	A little more than I had hoped	Much more than I had hoped
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If living away from home how quickly did you make friends with the people you live with?

(Please select answer and mark with a tick)

Much slower than I had hoped	A little slower than I had hoped	The same as I had hoped	A little faster than I had hoped	Much faster than I had hoped
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How quickly did you make friends with people on your course?

(Please select answer and mark with a tick)

Much slower than I had hoped	A little slower than I had hoped	The same as I had hoped	A little faster than I had hoped	Much faster than I had hoped
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any further expectations of university not covered above? If so please give details and state whether they were exceeded, met or not met.

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THANK YOU!

Appendix N: Short Form Social Support Questionnaire

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Appendix O: Brief COPE

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Appendix P: Weekly Questionnaire

Version Number 1
12/01/2012

Undergraduate Mental Health: Diary Study- Weekly Questionnaire- A

Please fill this questionnaire in as best you can. This will help to gain a measure of your mood over the past week and see what has influenced it.

***Required**

Date Of Birth: *Please enter your date of birth (i.e. 02.05.91)

Weekly Questionnaire

This questionnaire is designed to see what things have been helpful or not so helpful to you over the past week in a way which may influence your score on the questionnaire below.

When thinking about this week, what has made life better/easier for you? *Please select as many as are applicable to you. If 'other' please state.

- University work
- Friends
- My social life
- Sleep
- Alcohol use
- Money
- Being away from home
- Other:

What was it about the thing/s you selected that made life better/easier? *Please give some further details about what was good in relation to what you have selected.



When thinking about this week, what has made life worse/harder for you? *Please select as many as are applicable to you. If 'other' please state.

- University work
- Friends
- My social life
- Sleep
- Alcohol use
- Money
- Being away from home
- Other:

What was it about the thing/s you selected that made life worse/harder? *Please give some further details about what was good in relation to what you have selected.



Hospital Anxiety and Depression Scale

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Version Number 1 12/01/2012

Information about the research

Anxiety and depression in the undergraduate transition to university

I would like to invite you to take part in my research study. Before you decide whether to take part I would like you to understand why the research is being done and what it would involve for you.

- Part 1 tells you the purpose of this study and what will happen to you if you take part.
- Part 2 gives you more detailed information about the conduct of the study.

Please ask the researcher if there is anything that is not clear. Please feel free to talk to others about the study if you wish.

Part 1

What is the purpose of the study?

The purpose of this study is to increase our understanding of students' experience of the transition to university and how this may be associated with anxiety and depression. This could lead to an increased awareness and the development of more support systems for new students in the future.

Why have I been invited?

The first year undergraduate students in the psychology department will take part in this research. You have been invited because you are a first year psychology student.

Do I have to take part?

No, it is up to you to decide to join the study. You will be given a copy of the information sheet to keep. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason, and your data will not be used. This will not affect your degree in any way as this research is being run independent of the Psychology department.

What will happen to me if I take part?

- The study is split into 2 parts. The first part is split into 2 and takes approximately 15 minutes each. If you take part in the second part, a weekly survey, this will run for 10 weeks and should take no longer than 5-10 minutes each week.
- You will be asked to fill in a number of questionnaires in each part of the study. In the first part you will be asked to complete 6 short paper questionnaires on the first occasion and 4 on the second. In the diary study part of the study you will be asked to fill in a short questionnaire online.
- You will be asked if you have previously suffered from depression or anxiety, but taking part in this experiment will not affect your degree or relationship with the Psychology department.
- During the first part of the research yourself, the other participants and the researcher will be present. In the second part only you will be present.
- After the research has finished, you will not be asked to provide follow-up information.

Expenses and payments

Expenses or payment are not available for this study and it does not count towards your course requirements.

What will I have to do?

If you agree to take part in this study you will be asked to complete 6 paper questionnaires in your introductory lecture which will take approximately 15 minutes. These questionnaires will be related to your mood, expectations of university life, your style of coping, your outlook on life, and your social support. The researcher will return to a lecture in week 10 and ask you to complete 4 further paper questionnaires related to your mood, your style of coping, your social support and how you think about the expectations you had of university life. In the introductory lecture the researcher will invite you to take part in the second part of the study (the 'diary study' part). If you agree to this the researcher will e-mail you a link to a questionnaire each week for you to complete online. This should take 5-10 minutes each week.

What are the possible disadvantages and risks of taking part?

At the beginning of this study you will be asked if you have previously suffered from anxiety or depression which you may find distressing. During this study you will be asked a series of questions to determine if you are currently experiencing symptoms of depression and/or anxiety. If current symptoms of a clinical level are identified you will be contacted by the researcher and you will be directed on to further sources of help. This will not affect your participation in the study or your degree. Information about the University's Counselling Service is attached to this information sheet and provides contact details should you wish to seek support.

What are the possible benefits of taking part?

The information I get from this study will hopefully help improve understanding of students' experience of the transition to university and any anxiety or depression that is a result of this. This will help to inform the levels of support and awareness campaigns that are available during this time.

What happens when the research study stops?

At the end of the study you will be able to ask any questions that you have. After this, there will be no further contact, unless you have indicated that you would like to be informed of the results of the study, or if your responses on the mood questionnaire indicate symptoms of a clinical level (where the researcher will contact you to discuss this and direct you to further support).

Will my taking part in the study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes part 1. If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2

What will happen if I don't want to carry on with the study?

You may withdraw your participation at any stage of the study, up to seven days after completing the study. Following this time, it may not be possible to remove your data from the analysis. If you decide you would like to withdraw from the study before this point, any data collected from you will be destroyed and will not be used in analysis of the results. There will be no negative consequences of withdrawal from this research.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to the researcher either in person or via the contact details below, who will do their best to answer your questions.

Will my taking part in this study be kept confidential?

- Your participation in this study will be kept confidential. However the researcher has a duty of care and should any responses cause the researcher concern (i.e. disclosure of intent to harm yourself or another, or symptoms of a clinical level) you will be notified and options discussed.
- Research data will all be collected during the study. Other sources of information, e.g. university records will not be used.
- All questionnaire data will be anonymised and identified only by a participant number that is assigned at the beginning of the study. Your name will not be used in any report or published document.
- All data will be stored in a secure place for 5 years, whilst the results of the research are being prepared for publication. After this, all questionnaires etc. will be destroyed.

Involvement of the University Disability/Counselling Service

The university's disability/counselling service will not be notified that you are taking part in this study. During the study, if you are found to be experiencing high levels of depression or anxiety you will be advised to seek support from the disability/counselling service. However, the disability/counselling service will not receive any personal information that you give to the experimenter as part of the study. All study information will remain confidential. Your participation in this study will not affect your current or future support or academic work.

What will happen to the results of the research study?

It is intended that this research will be published in a peer-reviewed journal, which is accessible to the public. If you would like to be informed of the results of the research, we will keep your personal details on file, and send you information about the results of the research.

Who is organising and funding the research?

The chief investigator is being paid to carry out this research by the Humber NHS Foundation trust as part of their job role. However, this piece of research is receiving no external funding, and there are no identified conflicts of interest.

Who has reviewed the study?

This research has been peer reviewed within the Department of Clinical Psychology and Psychological Therapies. Further to this, all research at the university is looked at by a group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given a favourable opinion by the University of Hull Post Graduate Medical Institute Research Ethics Committee.

Further information and contact details

For further information, you can contact the researcher by post or e-mail with any questions:

Felicity Nichols
Trainee clinical psychologist
Department of Clinical Psychology and Psychological Therapies
Hertford Building
University of Hull
HU6 7RX

E-mail: F.A.Nichols@2007.hull.ac.uk

**Thank you for considering taking part in this study and taking
the time to read this information sheet.**

Appendix R: Information on the Student Counselling Service

**REMOVED FOR HARD
BINDING**

**REMOVED FOR HARD
BINDING**

Appendix S: Informed Consent Form

Centre Number: University of Hull
Participant Identification Number for this study:

CONSENT FORM

Title of Project: Anxiety and Depression in the Undergraduate Transition to University

Name of Researcher: Felicity Nichols

Please initial box

- 1. I confirm that I have read and understand the participant information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
- 2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.
- 3. I agree to take part in the above study.
- 4. I understand that the researcher has a duty of care and may contact me if my responses indicate anxiety and/or depression symptoms of a clinical level.
- 5. I am interested in taking part in the weekly diary study.

YES	NO

_____ Name of Participant _____ Date _____ Signature _____

_____ Name researcher _____ Date _____ Signature _____

Date of Birth: _____

Email Address: _____

Appendix T: Inter-Variable Correlations for Expectations Variables at T1

Table 2. Inter-variable Correlations for Expectations Variables at T1

	Ease of settle	Academic work	Grade of first assignment	Degree classification	Free time
Ease of settle	-				
Academic Work	.076	-			
Grade of first assignment	.116	.348***	-		
Degree classification	.047	.236*	.573***	-	
Free Time	.224*	.093	.100	-.037	-
	Number of nights out	Contact with family	Contact with friends	Speed of making housemate friends	Speed of making course friends
Number of nights out	-				
Contact with family	.084	-			
Contact with friends	.157	.729***	-		
Speed of making housemate friends	.323**	.536***	.566***	-	
Speed of making course friends	.221*	-.063	.053	.335**	-

*p<.05, **p<.01, ***p<.001

Appendix U: Free Response Data from the Diary Study

Method of Analysis

Free text data were analysed for themes. ‘Helpful’ and ‘Unhelpful’ comments were analysed separately by week. Responses from all participants were read and responses containing multiple themes were divided so each theme discussed could be included (resulting in more responses than participants in some weeks). Similar text was grouped together to form a theme. Once all weeks had been analysed for themes the emerging themes for each category (i.e. ‘helpful’ and ‘unhelpful’) were reviewed to find broad overarching themes.

Themes

Helpful Factors

Friends/Social life was the most frequently cited helpful factor. Friends/Social life as a source of support remains highly endorsed consistently through the first 6 weeks. Initially being busy and distracted by friends was discussed by participants initially, however this reduced in weeks 4 and 5 when the theme of having fun and having made great friends increases.

University work was rated throughout the eight weeks as being helpful, however the nature changes from being helpful initially as providing the students with something to do, to it being helpful when students felt that they had managed/ achieved something during the week.

Contact with family was initially more frequently discussed in terms of receiving support which reduced over the weeks. Seeing family and friends was discussed later in the diary study.

Sleep was frequently discussed earlier in the diary study. This theme remained endorsed throughout the study but by fewer participants. More participants discussed individual factors as having been helpful later in the study. Ratings are presented in Table 3.

Unhelpful Factors

University work, in terms of feeling under pressure as a result of it, was frequently mentioned by participants throughout the 8 weeks. Lack of ability was also frequently mentioned, although not in week 8. Week 5 to week 8 more participants mentioned that feeling behind was a problem.

There were more ratings under the theme of friends initially, in terms of feeling lonely or not having enough, however this decreased overtime. Between weeks 3-5 there were more participants reporting difficulties with friends in terms of arguments or tensions that were rated as being unhelpful.

Missing family was frequently mentioned until week 7. Initially participants discussed contact with family as being unhelpful in that it made them feel more homesick.

Money was consistently spoken about by several participants in terms of not having enough, worrying about budgeting. There were more comments about there being lots of costs initially and student loan being a problem.

The theme sleep was frequently mentioned by participants as being unhelpful, predominantly in terms of not getting enough. Additionally not being able to sleep due to noise was discussed more towards the beginning and the end of the study.

As with the helpful comments, individual factors were mentioned more in the latter weeks. Illness was also mentioned as being unhelpful in the earlier weeks.

A theme from weeks 1-7 was that nothing had been unhelpful. Ratings are presented in Table 5.

Table 3. Number of Diary Study Free Response for Helpful Factor Themes by Week

Theme	Number of Responses							
	Week 1 (n=37)	Week 2 (n=30)	Week 3 (n=30)	Week 4 (n=24)	Week 5 (n=25)	Week 6 (n=19)	Week 7 (n=19)	Week 8 (n=16)
University Work								
Sense of Focus	6	3	-	1	1	1	-	2
Doing Something	6	-	1	-	-	-	-	-
Opportunity	1	-	-	-	-	-	-	-
Interest	-	3	1	-	2	3	2	-
Managing	-	-	1	2	1	-	3	5
Balancing Work and Play								
	-	-	-	-	2	-	-	-

Friends / Social Life

Support	7	6	5	7	7	6	2	3
Share things with	5	2	-	-	-	-	1	-
Being Busy	8	9	2	1	-	-	1	2
Distraction	5	1	5	3	3	-	-	-
Help Adjust	4	3	-	-	-	-	-	-
Have Fun	-	5	5	9	7	2	7	2
Great Friends	-	-	4	-	4	3	3	3

Alcohol to relax

	4	-	1	-	1	1	-	-
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Money

To do Things	4	-	-	-	1	-	-	-
More Money	-	2	1	2	1	-	2	-
Budgeting Well	-	-	2	-	-	-	1	-

Sleep							-		
More so feel better	8	5	5	5	1	3	2	3	
<hr/>									
Contact with Home									
Support	5	4	3	-	1	1	-	-	
Seeing People	-	-	-	-	-	3	-	1	
<hr/>									
Other Individual Issue	1	1	2	2	3	4	3	4	
<hr/>									

Balancing Work and Play	-	-	-	-	-	-	-	2	-
Friends / Social Life									
Loneliness	2	-	-	-	-	-	-	1	-
Poor Social Life	1	1	-	1	2	-	-	-	2
Making Friends	2	-	-	-	-	-	-	-	-
Few Friends	1	-	-	-	-	-	-	-	-
Fitting In	-	3	1	-	-	-	-	-	-
Arguments/Tension	-	-	1	4	2	-	-	-	1
Money									
Budgeting Worries	4	3	2	1	2	3	1	1	-
Not Enough	5	3	7	3	2	3	5	5	2
Problems with Loan	2	1	2	1	1	2	-	-	-
Lots of Costs	4	2	1	1	-	-	-	-	-
Wages	-	2	-	-	-	-	-	-	-

Contact with Home									
Missing Home	7	6	4	4	5	4	1	1	
Homesick After Contact	2	1	-	-	1	-	-	-	
Sleep									
Unable to Sleep	3	1	2	1	-	1	3	3	
Not Enough	7	4	4	2	2	1	1	1	
Poor Sleep Pattern	3	2	1	3	1	-	-	-	
Too Much	-	1	-	-	-	-	-	-	
Avoid Lectures	-	-	-	-	-	-	1	-	
Illness	1	4	-	2	1	-	-	-	
Other Individual Issue	2		2		3	2	1	2	
No Problems	1	1	2	1	3	1	-	-	