THE UNIVERSITY OF HULL

Investigating Compassion, Attachment and Psychological Factors in Relation

to Boarding School Experiences

being a Thesis submitted in partial fulfilment of the requirements for the degree of

Doctor of Clinical Psychology

in the University of Hull

by Lolly (Lauren) Hernandez,

BSc (Hons) Psychology

University of York

August 2021

Acknowledgements

Firstly, I'd like to thank everybody who gave up their time and participated in my study. Without you all there would be no research, so thank you for your honesty and commitment to the study.

A huge thank you is owed to my research supervisors; Tim, Philip and Eric. Thank you all for your expertise and unwavering patience and belief in me. A special thank you is owed to Philip; you have been one of the biggest sources of support to me during a very difficult time in my life. I will forever be grateful to you for all the wisdom, kindness and compassion you've shown me, along with laughs we've had.

I'd also like to acknowledge my wonderful year group. The past three years have been a real journey and I feel very privileged to have had such intelligent, determined and amazing individuals by my side.

Another massive thank you is owed to all those who helped me get to this point. Thank you to my placement supervisors who have been extremely supportive and accommodating of the thesis writing process. A huge thanks is owed to Amber, Yasmin and Amy for all their support and consultation. As well as a special thank you to Mary and Katie for going above and beyond to help me with this thesis. Thank you to Mischa, Maddy and Emily and all my other friends for all the love and encouragement you've shown me over years and especially during my thesis.

Finally, I would like to thank my family, in particular my parents. You've picked me up when I have fallen and have made this whole thing possible. I could not have done it without you.

This thesis is dedicated to my brother Jack, you mean the world to me.

Overview

This thesis portfolio comprises of three parts:

Part one- Systematic Literature Review

The systematic literature review explored the psychological impact of boarding school. A systematic search of five databases found eight quantitative papers that met the inclusion criteria. The Quality Assessment Tool for Quantitative Studies (Effective Public Health Practice Project, 1998) was used to evaluate the quality of the studies, whilst narrative synthesis was used to bring the studies together. Four superordinate themes were identified: mental health difficulties, mental health strengths, relationships and emotional responses. The findings revealed a range of positive and negative psychological impacts, some of which did not appear to be solely associated with boarding school attendance. Clinical implications and areas for further research are explored.

Part two- Empirical Paper

The empirical report explored compassion, self-criticism and attachment style in adult ex-boarders, relative to adult ex-day students. Participants completed an online questionnaire consisting of measures of compassion, self-criticism and attachment style. They also answered questions related to their school environment. Participants also reported which experiences from boarding school had influenced them most in their adult life. Correlational and regression analyses aimed to explore whether there were differences between ex-boarders and ex-day students in terms of compassion,

self-criticism and attachment and what factors may predict these three areas. Content analysis explored the common themes with regard to the influential experiences of the adult ex-boarders. The findings suggest that ex-boarders may struggle to experience others as compassionate and be compassionate towards others and be more likely to have insecure attachment styles. However, no differences in self-compassion and self-criticism between ex-boarders and ex-day students were identified. A range of positive and negative experiences were reported by ex-boarders to have influenced them in their adult lives. The results are discussed in the context of previous literature. Clinical implications and recommendations for future research are also discussed.

Part three- Appendices

Part three consists of appendices relating to the systematic literature review and empirical report. It also contains epistemological and reflective statements.

Total wordcount (excluding appendices): 23,074

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Part one- Systematic Literature Review

"What are the psychological impacts of boarding school attendance?": A Systematic Review

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Word Count (including title page, abstract, tables, appendices and notes but excluding all necessary references and figures): 8,753

Abstract

Background

There is a large number of students attending boarding school in the UK. Evidence exists to suggest that attending boarding school might have long term negative consequences. However, the evidence tends to be anecdotal and qualitative in nature. This review aimed to complement the existing qualitative evidence by grouping together available quantitative studies involving larger sample sizes in order to investigate the potential psychological impacts associated with boarding school attendance.

Methods

A systematic literature search using five electronic data bases was conducted, to investigate psychological impacts associated with boarding school attendance. Eight studies were identified and quality assessed. These studies were then included in a narrative synthesis.

Results

Four main groups of impacts were identified: mental health difficulties, mental health strengths, relationships and emotional responses. Within these, specific impacts were identified and explored.

Conclusions

A range of potential positive and negative psychological impacts were identified, some of which did not appear to be specifically associated with boarding school attendance. Suggestions for further research and possible interventions that could benefit boarders and non-boarders are discussed.

Introduction

In 2020 there were 69, 680 boarders in the UK and of these nearly 5,000 were junior school age or younger (Independent Schools Council, 2020). The total number of boarders in the UK is similar to the number of children in the Looked After system (80,080) (Department for Education, 2020). It has been suggested that being separated from care givers (sometimes referred to as 'broken attachments') to attend boarding school, particularly at a young age, can have negative psychological impacts such as depression, anxiety and PTSD, particularly in later life (Schaverien, 2015; Duffell, 2010; Duffell & Basset, 2016). Based on years of psychotherapy with adult ex-boarders and interviews and testimonies from ex-boarders, Schaverien (2015) proposes that boarding school attendance can be considered as a form of childhood trauma. Duffell (2010) has supported this theory and both he and Basset (2016) and Schaverien (2015) have described how as well as struggling with the psychological difficulties described above, ex-boarders can particularly struggle with difficulties with interpersonal relationships and emotional regulation. It has also been suggested that ex-boarders may struggle to seek help for their difficulties due to the perceived privilege associated with attending boarding school (Duffell, 2010; Schaverien, 2015). However, it has been acknowledged that there is a lack of empirical research into boarding school and its effects (Schaverien, 2015; Schaverien, 2002; Duffell, 2010; Simpson et al., 2021).

More general research into the psychological impact of separation from care givers in childhood has demonstrated a link between separation from care givers in childhood and psychological difficulties later in life. For example, Paksarian et al.

(2015) reported how schizophrenia and bipolar disorder were positively associated with separation from parents that occurred in childhood. Moreover, Astrup et al. (2017) found that self-harm rates were higher in adolescents who had been separated from their parents before the age of 15. However, both studies did not record or take into account the reasons for child-parent separation, which could have reduced the generalisability of the findings. Further evidence highlighting the psychological impact of separation from parents came from research conducted by Canetti et al. (2000). It was found that parental separation resulted in a greater number of mental health difficulties (e.g., depression and anxiety) than parental death, in their sample of adolescents. Taken together, these studies may provide some support for the claims made by Schaverien (2015), Duffell (2010) and Duffell and Basset (2016) that boarding school and the 'broken attachments' associated with it can have a negative psychological impact, particularly later in life.

Specific qualitative research into the psychological impact of boarding school attendance has revealed that ex-boarders describe experiences of dissociation, denial, amnesia and compartmentalisation (Simpson et al., 2021). This may be seen as evidence to support the claims made by Schaverien (2015), Duffell (2010) and Duffell and Basset (2016). However, this study relied on a small sample of five ex-boarders, which may have reduced the generalisability of the findings. Further research was conducted by Faulkner (2020) who found that ex-boarders experienced 63% of traumas identified using the Dynamic Maturation Model-Adult Attachment Interview (Crittenden & Landini, 2011), compared to the ex-day students, who experienced 37%. A key finding was that all ex-boarders reported feelings of rejection, whereas no ex-day students did. However, both Faulkner's and Simpson's

samples included participants who were recruited from organisations that support boarders experiencing difficulties which could have biased the sample and reduced the extent to which the findings can be generalised to the wider boarding school population.

Aims of the review

This review investigates the psychological impacts associated with boarding school attendance. There have been reports of boarding school attendance being detrimental to mental health (e.g., Duffell, 2010; Schaverien, 2015), with limited empirical evidence to support these claims. No reviews of the psychological impacts of boarding school attendance could be found, therefore this review is novel. The review focuses on quantitative literature, in the hope of complementing the qualitative and anecdotal evidence that exists and providing a review of evidence taken from large sample sizes. For the current review, 'psychological impacts' were defined as encompassing factors identified in existing literature, due to it being a broad concept. Factors included: mental health difficulties (Schaverien, 2015; Duffell 2010; Duffell & Basset, 2016), homesickness/separation difficulties (Fisher, Elder & Peacock, 1990; Duffell & Basset, 2016), trauma (Schaverien, 2015), substance use (Duffell & Bassett, 2016) and relationships (Duffell & Basset, 2016; Schaverien, 2015).

Clinical Rationale

The current review aims to bring together the available literature on the psychological impacts of boarding school. The review is needed as it has been

suggested that increasing numbers of ex-boarders are seeking therapy (Duffell & Basset, 2016). However, there is very little awareness and training in mental health settings around the specific difficulties associated with boarding school attendance, despite there being a similar number of boarders and Looked After Children in the UK in 2020 (Independent Schools Council, 2020; Department for Education, 2020). It may be suggested that Clinical Psychologists have a specific role in learning about the impact boarding school attendance can have on clients who have been or are current boarders, which this review aims to support. Clinical Psychologists may also have a role in working into boarding school environments to promote psychological wellbeing interventions informed by the literature, whilst researching the area further. This review aims to inform readers of previous boarding school research designs and evidence. It is also hoped that the findings can be used to make recommendations for educational practice and future research. It seeks to answer the question: What are the psychological impacts associated with attending boarding school?

Method

Search Strategy

A systematic literature review was conducted between December 2020 and February 2021 and again in June 2021. Five electronic data bases were searched through the EBSCOhost search service: Academic Search Premier, Education Research Complete, ERIC, APA PsycArticles and APA PsycInfo. The data bases were chosen to increase the likelihood of finding all the relevant literature. Prior to

the full literature search, a scoping search was conducted to ensure that there were no existing reviews on this topic and to help identify key search terms.

Search Terms

No previous reviews could be identified, therefore search terms were derived through a number of methods. These included identifying search terms (and their synonyms) that had appeared in the abstracts and titles of papers in the scoping search and existing literature, consulting another boarding school researcher (TB) and consulting the secondary researchers (PM, TA). A search protocol was created which included the research question, inclusion and exclusion criteria and the agreed search terms, to ensure replicability and transparency. A third party experienced in conducting literature reviews was consulted and further checks on the search terms were run using two further electronic databases (MEDLINE and SCOPUS). No further results were generated and as a result the search terms were accepted as being suitable. The final search terms were:

boarder* OR boarding OR "residential school*" OR "institution* school*" OR "residential institution*"

AND

psych* OR mental* OR madness OR trauma* OR "home sick*" OR homesick* OR lonel* OR sad* OR "separat* reaction*" OR "boarding school syndrome" OR PTSD or

"posttraumatic stress disorder*" OR "post-traumatic stress disorder*" OR

relationship* OR attachment OR abus* OR "substance misuse" OR alcohol*

Two limiters were applied when searching the databases to ensure that the articles were peer reviewed and written in English. In order to narrow the search, to reveal the most relevant papers, the 'Expanders-apply equivalent subjects' was removed, along with applying the 'Title' limiter for the second group of search terms (psychological based search terms). These limiters were used to ensure the quality the of the sample and for practicality.

Selection

The titles of all the papers generated by the final search were screened for relevance to the review and duplicates were removed. If it was unclear from the titles whether the paper was relevant to the question, the abstract, and in some cases the full article, was reviewed.

The abstracts of the remaining papers identified through the initial title search were reviewed and the inclusion and exclusion criteria were applied (see Table 1 and 2).

Table 1
Inclusion Criteria and Rationale

Inclusion Criteria	Rationale
Population: People who had attended boarding school as boarders	The review aimed to investigate the psychological impact of boarding school; therefore, boarders were the sample of interest. There is little

Context: Any boarding school setting (e.g., non-UK, single gender or coeducational)	literature available therefore, no limit was implemented on the context of boarding school settings.
Outcome: Indicators of psychological impacts/phenomenon (e.g., mental health) in boarding school populations	Psychological impacts of boarding school were the focus of the review, therefore studies that measured psychological impacts/phenomenon were included.
Language: English	As English is the only language the researcher can understand and read.
Study Design: Quantitative or mixed methods (where quantitative data was separately reported)	The review aimed to complement the qualitative and anecdotal boarding school research literature by reporting on studies that captured an objective measurement of the psychological impacts of boarding school.
Independent variable: Boarding school (boarders) vs. non-boarding school (day students)	Studies that compared boarders to non-boarders were included in order to investigate the psychological impact of boarding school in the context of a control group.
Date range: No limit	As this review was novel and a small sample of papers were found without a date limit.

Study type: Full text, primary research articles, published in an academic peer-reviewed journal	The review aimed to explore empirical studies which included a research question, collected data on psychological impacts/phenomenon and reported on a set of findings.

Table 2
Exclusion Criteria and Rationale

Exclusion Criteria	Rationale
Population: People who were non-boarders	The review aimed to investigate the psychological impact of boarding school therefore studies which focused solely on non-boarders (e.g., day students, children in care, university students, teachers or parents) or studies that did not separate out the data for boarders specifically were excluded.
Outcome: Studies that did not include data about psychological impacts or phenomenon	The review aimed to bring together the quantitative evidence on the psychological impacts of boarding school. Therefore, studies that did not measure psychological impacts/phenomenon were not included.
Language: Any non-English	As translating papers was not possible.

Study Design: Qualitative	The review wanted to focus on studies that captured an objective measurement of the psychological impact of boarding school, rather than qualitative experiences.
Studies that did not compare boarders and day students (non-boarders).	
	The current review wanted to investigate the impact of boarding school, not another intervention. Therefore, studies that did not have a day student control group or that looked at a specific intervention in a boarder-only sample were excluded.
Study type: Secondary research articles, studies not published in peer-reviewed journals. Papers that are abstracts, literature reviews, meta-analyses, commentaries, letters, editorials, reports, conferences, grey literature, case reports, opinion articles and book chapters	The review aimed to explore original, primary studies. Including secondary research was outside the scope of the review.

Articles that appeared to meet these criteria were included in a more detailed screening. Some papers were excluded at this stage. A hand search of the reference list of papers included in the final sample was completed to identify other papers that

might be relevant to the review. The same inclusion and exclusion criteria were

applied to papers identified in this way. See Figure 1 for a summary of this process.

Figure 1

Article Selection Summary (The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Flow Diagram) (Moher et al., 2009)

Identification

Records identified through electronic database searching using the key search terms in the title only field for the psychological terms
(n = 1,643)

| Academic Search Premier (n = 428) | APA PsycArticles (n = 21) | APA PsycINFO (n = 663) | ERIC (n = 354) | Education Research Complete (n = 177) |

Records after limiters of academic journal, peer-reviewed and English language are applied
(n = 1,045)

Records after duplicates are removed
(n = 844)

Screening

Records screened by titles (n = 844) → Records excluded on basis of title: (n = 767)

Records screened by abstracts (n = 77) → Records excluded based on the following criteria:
qualitative, study type, evaluation of an intervention, focused on non-boarding populations, not focused on psychological phenomenon/ impacts
(n = 59)

Eligibility

Full-text articles assessed for eligibility (n = 18) → Records excluded based on the following criteria: did not compare boarders and day students, focused on evaluation of an intervention focused on non-boarding populations, not focused on psychological phenomenon/impacts
(n = 10)

Records obtained from manual search of reference lists (n = 9) → Records excluded based on the following criteria: study type, qualitative, focused on evaluation of an intervention and focused on non-boarding populations
(n = 9)

Included

Studies included in the final qualitative synthesis: (n = 8) from database searching and (n = 0) from reference lists

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Quality Assessment

The quality of the studies in the final sample was assessed using the Quality Assessment Tool for Quantitative Studies (Effective Public Health Practice Project, 1998) (Appendix E). The checklist met the review aims as it uses six areas to critically assess the quality of quantitative studies. The checklist was modified to suit the review as the original version has a section focussing on 'Intervention Integrity'. This was removed for the current quality assessment after discussion with the research supervisor as the papers included in the current review do not focus on interventions. One question relating to an 'intention to treat analysis' was also removed from Section H ('Analyses') as it was not applicable to the sample of studies included in the review. The two sections that were modified were not used in the overall rating of the quality of papers, as per the scoring instructions (see Appendix F). After rating, papers were classed as either 'weak', 'moderate' or 'strong' based on the overall number of 'weak' ratings they received. No papers were excluded based on the overall rating.

The Quality Assessment Tool for Quantitative Studies was selected over alternative checklists because it allows for comparison of a range of quantitative designs (e.g., cross sectional and longitudinal) using the same rating system (Armijo-Olivo et al., 2012), is thorough and did not include as larger focus on intervention in the scoring as other quantitative checklists. It has also been shown to have excellent interrater reliability when assigning the final rating of papers (Armijo-Olivo et al., 2012).

To check rater reliability, the sample was rated by a peer reviewer blind to the original ratings. The percentage level of agreement was 77%. Discrepancies revolved around deciding whether samples were representative, whether confounders were controlled for in the studies and whether the data collection tools were valid and reliable. These discrepancies were mainly due to the researcher and peer reviewer interpreting the wording of the quality assessment tool instructions differently. To resolve discrepancies, the researcher and peer reviewer consulted the instructions in the dictionary (see Appendix F) that accompanied the quality checklist together, reread the papers and discussed the scoring until an agreed rating could be decided.

Data Extraction

Information relevant to the research question was extracted from each paper using a bespoke data extraction form (see Appendix D). This meant that findings that were not relevant from studies were not included. For example, data on academic motivation and engagement (Martin et al., 2014) sleep duration and sleep complaints and bedtimes (Kalak et al., 2019) and sports participation (Rathee & Pal, 2012). The information collected included author(s), year of publication, title and location of the study, research aims, sample, design, measurement tool(s) of psychological impacts/phenomenon, method of quantitative analysis and key findings relevant to the review question.

Data Analysis

Despite the sample consisting of quantitative studies, a meta-analysis was deemed as not appropriate due to the range of outcome data reported and the differences in study design. Therefore, narrative synthesis was used, as it allows for studies that vary in terms of study populations, designs and outcomes to be analysed (Popay et al., 2006). The first step of synthesis involved extracting key findings from each study relevant to the research question (see Table 3). The relationships between studies were then explored to allow themes to be identified. Then the robustness of the synthesis was examined. This involved discussing potential themes with peers and a member of the research team before deciding on the final categories, considering the methodological quality of the studies to identify issues that may reduce the validity of the findings and reflecting on the limitations of the review.

Results

Study Characteristics

The 8 studies included in this review were published between 2012-2021. A wide range of countries were represented: two from Australia and one study each from India, Israel, USA, Germany, Switzerland and Turkey. All studies compared boarders and day students, with one study comparing adult ex-boarder to adult ex-day students (Evans-Campbell et al., 2012). The majority of studies aimed to compare mental health related outcomes (e.g., psychological wellbeing, psychological functioning and specific mental health difficulties). However, two studies compared other factors as well as mental health e.g., youth problems (Rathee & Pal, 2012) and substance use (Evans-Campbell et al., 2012). One study compared boarders and

day students in terms of separation, identity status and relationships with parents (Blau & Blau, 2019), whilst another compared achievement of social goals, perceived social support and reported pro social behaviour (Pfeiffer et al., 2016). Across the sample, there was a total of 12,137 participants. Sample sizes ranged from 187 to 5,276. Across all studies, the number of boarders was 2,957 and day-students was 9,180. Only two studies reported the average number of years boarders had boarded for. These were 3.8 years (Evans-Campbell et al., 2012) and 3 years or more (Blau and Blau (2019). All studies reported data about participant age. For the total sample, ages ranged from 11-21 years in current students and the mean age was 39 years for adult participants (Evans-Campbell et al., 2012). All studies reported data about participant gender, in total there were 6,313 males, 5,789 females and 35 transgender participants. Seven studies utilised a cross-sectional design. Within this, one study also had a longitudinal analysis (Martin et al., 2014). One study used a longitudinal design (Mander & Lester, 2017). All studies used self-report measures/questionnaires to collect data. A range of measurement tools were used across the studies to measure a range of psychological phenomena: mental health (Mander & Lester, 2017; Singh & Gupta, 2000; Evans-Campbell et al., 2012; Kalak et al., 2019; Mutluer et al., 2012), sense of meaning and purpose (Martin et al., 2014), life satisfaction (Martin et al., 2014), emotional instability (Martin et al., 2014) , relationships with others (Martin et al., 2014; Blau & Blau, 2019; Pfeiffer et al., 2016) youth problems (Rathee & Pal, 2012), identity status (Blau & Blau, 2019), psychological separation (Blau & Blau, 2019), substance use (Evans-Campbell, 2012), prosocial behaviour (Pfeiffer et al., 2016) and social goals (Pfeiffer et al., 2016). A range of quantitative analysis methods were used in the studies. These included regressions (Mander & Lester, 2017; Mutluer et al., 2021), ANOVAs

(Rathee & Pal, 2012; Blau & Blau, 2019; Kalak et al., 2019), MANOVA (Rathee & Pal, 2012), MANCOVA (Pfeiffer et al., 2016), structural equation modelling (Martin et al., 2014), Pearson's chi-square tests (Evans-Campbell et al., 2012), t-tests (Evans-Campbell et al., 2012; Mutluer et al., 2021) and Mann-Whitney-U Tests (Mutluer et al., 2021).

In terms of quality assessment, the majority of studies were rated as 'weak' due to their use of volunteer samples and cross-sectional designs. However, one study was rated as 'strong' (Evans-Campbell et al., 2012).

Table 3

Overview of Studies Included in the Review

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Quality Assessment Rating
Mander and Lester (2017) A Longitudinal Study into Indicators of Mental Health, Strengths and Difficulties Reported by Boarding Students as They Transition From Primary School to Secondary Boarding Schools in Perth, Western Australia (Australia)	To examine indicators of mental health and strengths and difficulties in boarders and day students as they transitioned from primary to boarding school	Students from 21 schools N= 3,459 Boarders (N= 150) Day students (N= 3,309) Male (N= 1730) Female (N= 1729) Mean age = 12 Longitudinal analysis included N= 1714 Boarders (N=78) Aged 11-14	Cross-sectional study with longitudinal element Self-report questionnaire at 4 time points from end of Grade 7 (before transition to boarding school) until end of Grade 9 (post transition)	The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 2001) The Depression Anxiety Stress Scales-21 (DASS-21) (Lovibond & Lovibond, 1995)	Mixed regression models to investigate differences between day students' and boarders' mental health and strengths and difficulties over time	Both boarders and day students reported significant increases in depression, anxiety and emotional symptoms over time and reported significant decreases in prosocial behaviour Boarders reported significantly higher levels of anxiety at the end of Grade 8 than day students. No significant differences in depressive symptoms were found between boarders and day students At the beginning of Grade 8 and end of Grade 9, boarders reported significantly higher emotional symptoms than day students	Weak
Martin, Papworth, Ginns and Liem (2014) Boarding School,	To investigate the extent to which day/boarding status predicts	Students from 12 schools N= 5276 Boarders (N= 1477) Day students (N= 3799)	Cross-sectional study Self-report measures	Items from the World Health Organization Quality of Life Instrument (WHOQOL, 1998)	Structural equation modelling to compare day students' and boarders' psychological	Boarders were found to have significantly higher scores for emotional instability, and lower scores for peer relations. However, they were also found to	Weak

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Quality Assessment Rating
Academic Motivation and Engagement, and Psychological Well-Being: A Large-Scale Investigation (Australia)	psychological wellbeing whilst controlling for sociodemographic, prior achievement, personality and school factors To investigate gains or declines in psychological wellbeing across a year for day and boarding students	Mean age 14.41 (SD 1.61 years) 52% aged 11-14 years 48% aged 15-19 years 57% Male 43% Female Longitudinal subsample included N= 2002 Boarders (N= 601) Mean age= 14.88 (SD= 1.36 years) 41% aged 11-14 years 59% aged 15-19 years	For the longitudinal analysis, pre-test data was available from 1 year earlier (2010) for comparison.	Items from the Satisfaction with Life Scale (Diener et al., 1985) Items from the Self-Description Questionnaire II (SDQ-II) (Martin & Marsh, 2008) Teacher–Student Relationship Scale (Martin & Marsh, 2008) Parent-Child Relationship Scale (Martin & Marsh, 2008)	wellbeing, whilst controlling for sociodemographic, prior achievement, personality, school factors	have significantly higher scores for parent relations Boarders scored significantly higher than day students on meaning and purpose, life satisfaction and parent relations when sociodemographic, prior achievement, personality and school factors were controlled for No notable differences in gains or declines on outcomes between boarders and day students over the course of one academic year	
Rathee and Pal (2012) Effects of Residential Status and Sports Participation on the Mental	To investigate differences in mental health and youth problems between adolescent	Adolescents from various schools N= 317 Boarders (N= 159; male= 79, female = 79)	Cross-sectional study Self-report measures	Youth Problem Inventory (Verma, 1996) The Mental Health Battery (Singh & Gupta, 2000)	ANOVA to investigate difference between boarders and day students in terms of mental wellbeing	Boarders had significantly higher mean scores on the Mental Health Battery than day students, suggesting that boarders had better mental health There were no significant differences in terms of	Weak

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Quality Assessment Rating
Wellbeing of School Children (India)	day students and boarders	Day students (N= 118; male= 80, female= 38) Aged 14-18 years				youth problems between boarders and day students. However, boarders had a higher mean score	
Blau and Blau (2019) Identity Status, Separation, and Parent-adolescent Relationships among Boarding and Day School Students (Israel)	To compare differences in parent-adolescent relationships and separation and identity statuses of adolescent day students and boarders	Twelfth grade students from 8 religious modern-orthodox state-supervised high schools N= 219 Boarders (N= 106; male= 53, female= 53) Day students (N= 113; male= 64, female= 49) Aged 17-18 years	Cross-sectional study Self-report questionnaires	Objective Measure of Ego Identity Status (OMEIS) (Adams et al., 1989) Psychological Separation Inventory (PSI) (Hoffman, 1984) Relationship with Father and Mother Questionnaire (RFMQ) (Mayseless et al., 1998)	A mixed ANOVA to compare identity statuses in boarders and day students A two-way MANOVA to compare separation from parents in boarders and day students and males and females A two-way MANOVA to test whether boarders perceive their relationship with their parents as more facilitative of autonomy and less supervisory/contr	Boarders had significantly higher mean scores for foreclosure identity status than day students. There were no significant differences between boarders/day students in the other identity statuses Conflictual independence from parents was significantly higher for male boarders than male day students. There was no significant difference for female day students/boarders Attitudinal independence was significantly higher among days than boarders Boarders reported a significantly lower sense of parental supervision/control by both parents	Weak

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Quality Assessment Rating
						olling than day students	
Evans-Campbell, Walters, Pearson, and Campbell (2012)\n\nIndian Boarding School Experience, Substance Use, and Mental Health among Urban Two-Spirit American Indian/Alaska Natives\n\n(USA)	To explore substance use and mental health concerns among urban two-spirit American Indian/Alaska Native adult ex-boarders	Native two-spirit adults from 7 metropolitan areas N=447 Mean age= 39 (SD= 11 years) Ex-boarders (N= 82) Ex-day students (N= 365) Male=227, Female=185, Transgender=35	Cross-sectional study\n\nSelf-report measures	Mini-International Neuropsychiatric Interview, English version for DSM-IV (Sheehan et al., 1998)\n\nPosttraumatic Diagnostic Scale (PDS) (Foa et al., 1997)\n\nCenters for Epidemiological Studies Depression Short Scale (CESD-10) (Anderson et al., 1994)	Pearson's chi-square tests and t-tests to identify associations between boarding experience, mental health and substance use	No significant differences reported between ex-boarders and ex-day students in terms of depression, anxiety or PTSD\n\nEx-boarders were significantly more likely to have a diagnosis of alcohol abuse or dependence\n\nEx-boarders were significantly more likely to report using certain illicit drugs more than once in the past year including: cocaine, narcotics and club drugs\n\nEx-boarders were significantly more likely to report having attempted suicide at some point and having ever had suicidal thoughts	Strong
Pfeiffer, Pinquart and Krick (2016)	To compare day students and boarders in	Students from 9 boarding and 6 day schools N= 701	Cross-sectional study\n\nSelf-report questionnaire	Prosocial Behaviour Subscale of the Strengths and Difficulties	A MANCOVA to compare boarders' and day students' perceived	Boarders reported significantly higher perceived levels of success in gaining autonomy from parents and forming	Weak

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Quality Assessment Rating
Social Relationships, Prosocial Behaviour, and Perceived Social Support in Students From Boarding Schools. (Germany)	regard to achievement of specific social goals, perceived social support and prosocial behaviour	Boarders (N= 297) Day students (N= 404) 46.6% were female Aged 12-19 years		Questionnaire (SDQ) (Goodman, 2001) Items from the Development Task Questionnaire (DTQ) (Seiffge-Krenke, 1998) Modified version of the Perceived Emotional Support and Perceived Instrumental Support subscales from the Berlin Social Support Scales (Schulz & Schwarzer, 2003)	attainment of social goals, whilst controlling for age, gender and educational status of parents A MANCOVA to compare perceived support in boarders and day students whilst controlling for age, gender and educational status of parents Univariate ANCOVA to compare prosocial behaviour in boarders and day students, whilst controlling for age, gender and educational status of parents	romantic relationships than day students Day students reported significantly greater perceived success in belonging to a peer group than boarders. No between-group difference was found with regard to forming close friendships Boarders reported significantly less perceived support from parents but significantly more support from teachers than day students No significant difference in prosocial behaviour was found between boarders and day students	
Kalak, Gerber, Sadeghi Bahmani, Kirov, Pühse, Holsboer-	To compare psychological functioning in	Adolescents attending 11 boarding schools N= 1571	Cross-sectional study Self-report measure	KID-SCREEN 52 (Ravens-Sieberer et al., 2005)	ANOVA to compare psychological functioning in	Boarders had significantly lower psychological functioning compared to day students	Weak

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Quality Assessment Rating
Trachsler and Brand (2019) Effects of earlier bedtimes on sleep duration, sleep complaints and psychological functioning in adolescents. (Switzerland)	adolescent day students and boarders	Boarders (N= 1013) Day students (N= 558) Male= 45% Female= 55% Aged 11-21 years Mean age= 16.51 (SD= 1.83 years)			boarders and day students		
Mutluer, Fatih, Tayakısı, Shabshog, Capacı, Yürük and Necef (2021) Psychopathology and Dissociation among Boarding School Students in Eastern Turkey (Turkey)	To assess mental health difficulties and dissociative experiences in female boarders	Adolescents from 1 school N= 187 females Boarders (N= 128; mean age= 15.24 years) Day students (N= 59; mean age = 15.71 years)	Cross-sectional study using self-report questionnaire	Brief Symptom Inventory (BSI) (Derogatis & Melisaratos, 1983) Adolescent Dissociative Experiences Scale (ADES) (Armstrong et al., 1997)	Mann-Whitney-U tests and t-tests to assess differences between boarders and day students in terms of mental health and dissociative experiences Linear regression analyses to evaluate predictors of interpersonal sensitivity,	No significant difference between boarders and day students on 7/9 subscales of BSI (somatization, obsession, depression, anxiety, hostility, phobic anxiety and paranoid ideation). There was a significant difference between the groups for the Interpersonal sensitivity and Psychoticism subscales Boarders had significantly higher levels of dissociation than day students	Weak

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Quality Assessment Rating
					psychotism and dissociation	ADES score, interpersonal sensitivity and consanguinity of parents were significant predictors of psychoticism in boarders	

Synthesis of Findings

Key findings from each of the 8 papers were extracted and the relationships across them were explored, resulting in themes linked to psychological impact. These were then discussed with one of the co-authors. It was decided that the findings of the review could be organised into four groups with subordinate themes:

1. Mental health difficulties

    1. Depression

    2. Anxiety

    3. Unusual experiences

    4. Trauma related symptoms

2. Mental health strengths

    1. Life satisfaction

    2. Sense of meaning and purpose

    3. Prosocial behaviour

3. Relationships

    1. Relationship with self

    2. Relationship with parents/adults

    3. Relationships with peers

4. Emotional responses

Mental health difficulties

Mental health difficulties was one theme identified from the literature. Nearly half of the papers included in the review reported findings related to mental health difficulties. One general finding from Kalak et al. (2019) was that boarders had significantly lower psychological functioning according to scores on the KID-SCREEN 25 (Ravens-Sieberer et al., 2005). Furthermore, Evans-Campbell et al. (2012) found that their sample of adult ex-boarders were significantly more likely to have attempted suicide and experienced suicidal thoughts, have been diagnosed with alcohol dependence and to report using substances (e.g., cocaine, narcotics and club drugs). However, findings from other studies regarding mental health difficulties were more mixed:

Depression

Across studies, boarders and day students were found to have comparable levels of depression (Mutluer et al., 2021; Mander & Lester, 2017; Evans-Campbell et al., 2012). This was also reported to remain the same over time, with both groups reporting significant increases in depression over time (Mander & Lester, 2017). This was also found to be the case for the sample of adult ex-boarders studied by Evans-Campbell et al., (2012), as over 70% of ex-boarders and ex-day students were found to report symptoms of depression. This may suggest that developing depression is not necessarily an experience limited to boarders/boarding school. However, Evans-Campbell et al.'s sample may not generalise to the wider population, as they studied

urban two-spirit American Indian/Alaska Native adults, who may not be representative of individuals outside this context.

Anxiety

Similarly to depression, across studies, boarders and day students were found to have similar levels of anxiety (Mutluer et al., 2021; Evans-Campbell et al., 2012), which were reported to increase over time in both groups (Mander & Lester, 2017). However, unlike depression, in Evans-Campbell et al.'s study, less than 50% of both groups reported symptoms of anxiety. Another difference that was observed was that when the 'boarder x time interaction' was studied, boarders reported significantly higher levels of anxiety at the end of Grade 8, compared to day students (Mander & Lester, 2017). Taken together, these findings may suggest that development of anxiety is also not solely associated with boarders/boarding school. However, there may be significant fluctuations at different time points during the boarding experience, where levels of anxiety may increase. However, the reliability of this evidence may be compromised by the fact that participants came from a small number of schools in one area of Australia.

Unusual experiences

Unusual experiences was a mental health difficulty that was not as widely researched, with just one study reporting data. Mutluer et al., (2012) found that compared to day students, boarders reported significantly higher levels of 'psychoticism', which included experiences such as believing others control your

thoughts (Derogatis & Melisaratos, 1983). However, they also found that there was no difference between boarders and day students in terms of 'paranoid ideation', which involved feeling suspicious of others, having difficulty trusting others and feeling watched (Derogatis & Melisaratos, 1983). They also reported that levels of dissociation, interpersonal sensitivity and the degree to which parents were related to each other (consanguinity) significantly predicted experiences of 'psychoticism' in boarders. This may suggest that other factors rather than the impact of boarding school are responsible or contribute to the development of 'psychoticism'. Although this study appears to suggest that some unusual experiences appear to be more present in boarders than day students, the evidence is weak, as the sample consisted of female students from a specific region of Turkey.

Trauma related symptoms

Trauma related symptoms were reported in two studies. Evans-Campbell et al. (2012) reported high levels of PTSD symptoms for both ex-boarders and ex-day students (85% and 90%), which were not significantly different. However, Mutluer et al. (2021) found that boarders had significantly higher levels of dissociation. The findings may suggest trauma related difficulties are associated with boarding experiences but are not limited to them. However, conclusions are limited due to the small number of studies that investigated trauma related symptoms.

Summary

In summary, there appear to be some mental health difficulties and experiences that are more prevalent in boarders (e.g., suicide attempts/suicidal thoughts, substance and alcohol use, dissociation and 'psychoticism'), which may suggest they are potential psychological impacts of boarding school. However, the majority of mental health difficulties were experienced by both day students and boarders to similar degrees (e.g., depression, anxiety, PTSD), which may be taken as evidence that these are not psychological impacts of boarding school/ that only apply to boarders.

Mental health strengths

Mental health strengths was another theme identified in the literature. Half of the studies in the review provided data related to positive mental health. One general finding from Rathee and Pal (2012) was that boarders had significantly better mental health than day students, when comparing scores on the Mental Health Battery (Singh & Gupta, 2000). Similar findings are reported in other papers:

Life satisfaction

Boarders were found to have significantly higher life satisfaction compared to day students when controlling for sociodemographic, prior achievements, personality and school factors (Martin et al., 2014). This was also found to remain the same over the course of a year (Martin et al., 2014). This may suggest that a psychological impact of boarding school may be feeling satisfied with ones' life. However, as the findings come from one sample/study, this cannot be known for certain.

Sense of meaning and purpose

Martin et al., (2014) also reported that when controlling for other factors (e.g., sociodemographic, prior achievements, personality and school) boarders had a significantly higher sense of meaning and purpose than day students. This may suggest that a psychological impact of boarding school may be feeling a sense of meaning and purpose. However, the validity of the measure Martin et al. (2014) used might have been compromised as they took items from the World Health Organization Quality of Life Instrument (WHOQOL, 1998) and applied their own scale to the questions, which is not a validated way of using the measure. Therefore, conclusions drawn from these findings are made tentatively.

Prosocial behaviour

Across studies, similarities between day students and boarders were reported in prosocial behaviour (Pfeiffer et al., 2016; Mander & Lester, 2017). Pfeiffer et al. (2016) reported that there was no significant difference between the two groups in their cross-sectional study. However, Mander and Lester (2017) reported in their longitudinal analysis that both groups reported significant declines in prosocial behaviour over time. Both studies used the same valid and reliable measure of prosocial behaviour (Goodman, 2001). The findings suggest that prosocial behaviour is not a psychological impact exclusively associated with boarding/boarders.

Summary

In summary, it may be suggested that boarding is associated with better mental health, life satisfaction and a sense of meaning and purpose for some individuals. In terms of prosocial behaviour, this may not be a psychological impact related to boarders specifically and rates of prosocial behaviour may decline over time for both boarders and day students.

Relationships

Relationship with self

Across studies, findings suggested that boarders were found to have developed more of a sense of autonomy (Blau & Blau, 2019; Pfeiffer et al., 2016; Kalak et al., 2019) compared to day students. This may suggest that a psychological impact of boarding school is developing an identity as an individual. However, boarders were also found to have significantly higher scores on the 'foreclosure identity status' (Blau & Blau, 2019), which involves making commitments without exploring alternatives, for example uncritically identifying with parents (Van Wicklin, 1984). This may suggest that in terms of identity status specifically, boarders still identify with their parents to an extent. No significant differences were found between boarders and day students on any of the other identity statuses (Blau & Blau, 2019). Boarders were also found to experience significantly higher feelings of inadequacy and expectations of rejection compared to day students (Mutluer et al., 2021). However, this research did not control for possible confounding variables such as adverse childhood events, therefore the findings may not be valid.

Relationship with parents/adults

The findings related to relationships with parents/adults are mixed; some studies report positive effects and others report more negative effects. In terms of positive effects, boarders were found to have significantly more positive relationships with their parents than day students (Blau & Blau, 2019; Martin et al., 2014). More specifically, boarders were found to experience significantly lower levels of supervision/control from their parents. With male boarders reporting closer relationships with their fathers and significantly higher levels of conflictual independence, not feeling guilt, anger, anxiety, mistrust or responsibility towards parents (Hoffman, 1984), than day students (Blau & Blau, 2019). This may suggest that a positive psychological impact of boarding school is improving relationships with parents, particularly for males. Although both studies did not measure participants relationships with their parents prior to boarding, therefore other factors may have been involved.

Contrasting evidence from Pfeiffer et al. (2016) found that boarders reported significantly less support from their parents compared to day students. This may suggest that boarding school could have a negative psychological impact on feelings of support from parents. Although there may be a potentially compensatory role for teachers, as Pfeiffer et al. (2016) also found that boarders reported experiencing significantly more support from teachers.

More unclear evidence regarding relationships with parents came from Kalak et al. (2019) and Rathee and Pal (2012). Kalak et al. (2019) reported how boarders were

found to have significantly lower psychological functioning scores compared to day students when using the KID-SCREEN 52, which includes a 'Parental Relationships and Home Life' domain (Ravens-Sieberer et al., 2005). However, as Kalak et al. (2019) do not report specific data on the different domains it cannot be known whether boarders had more difficulty within their parental relationships and home life or not. Similarly, Rathee and Pal (2012) found that boarders had higher mean scores on the Youth Problem Inventory, which includes questions relating to 'Family Problems' (Verma, 1996), although this was not significantly different to day students and no specific data was published in the study about participants' family problems.

Relationships with peers

Similarly to relationships with parents/adults, the findings for relationships with peers appear to be mixed. Pfeiffer et al. (2016) found that there was no significant difference between day students and boarders in forming close friendships, they both reported high scores associated with high success. Furthermore, boarders were found to have significantly higher levels of success in forming romantic relationships (Pfeiffer et al., 2016). This may suggest that a psychological impact of boarding school may be the ability to form relationships with others.

However, Pfeiffer et al. (2016) also found that boarders had significantly lower perceived success than day students in belonging to their peer groups. This may also be supported by Martin et al. (2014)'s finding that boarders scored significantly lower in relationships with peers. These findings may suggest that for some boarders a psychological impact of boarding may be experiencing difficulties in relationships

with peers. Similarly to findings related to relationships with parents/adults, both measures used by Kalak et al. (2019) and Rathee and Pal (2012) include domains/subscales that focus on social support and relationships with peers and may suggest that boarders may have potential difficulties in these areas. However, they do not provide specific results around this, so this cannot be known for sure.

Summary

In summary the literature surrounding relationships with the self, parents/adults and peers in boarders is mixed. Some findings suggest that boarding may offer the opportunity to gain an identity as an individual. Other findings suggest that boarding may have positive implications for relationships with parents and the ability to form relationships with peers. However, contrasting evidence also exists to suggest that boarders may identify more with their parents and may feel less supported by them, whilst also struggling within their relationships with peers.

Emotional Responses

Across studies, boarders were found to have significantly higher emotional difficulties (e.g., feeling upset, moody, unhappy and unsettled) than day students (Martin et al., 2014; Mander & Lester, 2017; Kalak et al., 2019). This may suggest that emotional difficulties might be a psychological impact associated with boarding school. However, it was also reported that no significant differences existed between boarders and day students in terms of 'hostility' (e.g., feeling easily annoyed, getting into arguments frequently etc.) (Mutluer et al., 2021). Another similarity was found

between day students and boarders, in that both groups reported significant increases in emotional symptoms over time (e.g., feeling unhappy, tearful, afraid etc) (Mander & Lester, 2017). This may suggest that emotional responses are experienced by both groups of students. A potentially contradictory finding was that boarders had higher scores on the Mental Healthy Battery (Singh & Gupta, 2000), part of which includes an Emotional Stability Subscale. However, as Rathee and Pal (2012) did not publish data on the individual scores of the subscales, it cannot be certain whether boarders did have higher levels of emotional stability specifically.

Summary

In summary, the findings on emotional responses in boarders appear to be mixed. There is some evidence to suggest that emotional responses/difficulties might be an associated psychological impact of boarding school. However other evidence suggests that emotional responses are not limited to boarders specifically.

Discussion

Summary of evidence and implications

In the context of there being a large number of boarding students (Independent Schools Council, 2020) and a lack of quantitative research focused on this population, this review aimed to integrate the findings from eight studies to answer the question "what are the psychological impacts associated with attending boarding school?". As it has been suggested that increasing numbers of ex-boarders are

seeking psychological therapy (Duffell & Bassett, 2016), knowledge of potential psychological impacts associated with boarding may highlight possible areas of intervention that can be used to have a preventative approach; by either building on existing strengths or mitigating against potential difficulties. Across the literature, four overarching themes were identified: mental health difficulties, mental health strengths, relationships and emotional responses.

A number of potential negative psychological impacts associated with boarding were identified from the literature. These included mental health difficulties such as dissociation, suicidal ideation and 'psychoticism'. Other negative psychological impacts included emotional difficulties and experiencing less support from parents and more difficulties feeling a sense of belonging within peer groups. These findings might provide support for the claims made by Schaverien (2015), Duffell (2010), Duffell and Bassett (2016) and Canetti et al. (2000), that boarding school and separation from parents can have a negative impact on mental health, emotional wellbeing and relationships. They may also suggest that there is an important role for interventions focused on improving mental health in boarding schools such as raising awareness about mental health difficulties (Rickwood et al., 2004) or more specialised, school-based CBT programs (Calear & Christensen, 2010). Other interventions ensuring boarders feel like they belong (Whettingsteel et al., 2020) might be helpful too, such as the Connect Programme (Mander & Lester, 2020), which involves supporting children joining boarding schools by running orientation activities and weekly opportunities for students to socialise with peers and teachers. Additionally, promoting relationships and contact with parents through flexible boarding arrangements and increased access to social media communication may

be beneficial (Cree, 2000; White, 2004). There may be a specific role for Clinical Psychologists in this area, in terms of implementing and evaluating interventions directly with students, as well as using their knowledge of psychological theory in a consultation capacity, to inform leadership and pastoral teams in boarding schools of the potential psychological impacts and ways to support and prevent difficulties in students. These findings may also inform Clinical Psychologists of the particular difficulties (ex-) boarders may present with when seeking psychological therapy later in life.

A number of potential positive psychological impacts of boarding were also identified across the studies. These included a greater life satisfaction and sense of meaning of purpose. Other positive psychological impacts included a greater sense of identity as an individual; improved relationships with parents and an increased ability to form romantic relationships. These findings appear to suggest that boarding is associated with a positive impact for some individuals. It is possible that the boarding environment offers opportunities for independence and autonomy, which have been suggested to be important for young peoples' development (Eccles, 1999) and be beneficial for parent-adolescent relationships (Karabanova & Poskrebysheva, 2013). However, this might not generalise to younger children who may be at a development stage where they need their parents more (Batra, 2013), as studies in the sample focused on adolescent samples and often did not record the age at which participants started boarding or how long they boarded for. It could also be suggested that boarders may learn to form romantic relationships in order to find alternative sources of companionship and intimacy when separated from parents (whom they may have positive relationships with) during term time, as Ivanova et al.

(2010) found that adolescents used romantic relationships to compensate for relationships with parents when they felt rejected by them. The finding that boarders have better relationships with parents may also contradict Faulkner (2020)'s findings that adult ex-boarders report more feelings of rejection. This could be understood within a potentially more modern context, where individuals have more choice about attending boarding school (Blau & Blau, 2019) and therefore may potentially feel less of a sense of rejection. It could be suggested that interventions that support parents to involve children in the decision-making process about whether to attend boarding school as much as possible could be helpful e.g., facilitating tours of the prospective school and boarding house (Mander & Lester, 2020). Alternatively, it may be suggested that feelings of rejection and relational difficulties as described by (Schaverien, 2015) are not acknowledged or realised until after individuals have left boarding (Duffell, 2010; Duffell & Bassett, 2016). This may highlight another role for Clinical Psychologists in boarding school environments, to ensure that transitions to these schools are supportive, and that psychologically and relationally informed ideas underpin boarders' experiences of living away from home (e.g., relationships with parents are supported and boarding staff understand the importance of attachment theory and the parental role they may have during the term time).

There were also psychological impacts identified that appeared to affect both day students and boarders. These included mental health difficulties such as depression, anxiety and PTSD, increases in emotional symptoms and decreases in prosocial behaviour over time. Additionally, boarders and day students were both found to have equal success in forming relationships with peers. These findings regarding mental health may reflect a more general effect for young people and increasing

mental health difficulties (Burns & Birrell, 2014) and may highlight the importance of funding mental health services and training for staff at all types of schools (Patel et al., 2007). This may have implications for Clinical Psychologists working with the general public. It may also be suggested that Clinical Psychologists could have a role in teaching and training school staff about the mental health difficulties students may face and how they can best be supported.

Strength of the evidence and the Review

The included studies were generally low in quality according to the quality checklist. This was due to the reliance on volunteer sampling, which could have resulted in bias within the sample. Furthermore, the use of cross-sectional designs, rather than randomised control trials or longitudinal studies reduces the ability to draw conclusions about causality. Conclusions about causality may also be compromised by the lack of studies that controlled for possible confounding variables that could account for the difference in findings. Only Martin et al. (2014) and Pfeiffer et al. (2016) controlled for possible confounders such as sociodemographic factors, personality and parental education level. Taken together, these factors may limit the extent to which the review question can be answered with confidence in the quality of the selected studies.

The sample of studies included in the review were published within the last seven years. This may suggest that the findings are up to date and relevant for understanding the topic under review. However, as studies mainly involved adolescents the external validity of the findings may be reduced when seeking to

understand the psychological impacts of boarding school. Furthermore, as the location of schools and their characteristics varied, the findings may not generalise to UK boarding school settings.

Another limitation of this review is how psychological impacts was defined. The search terms were reviewed multiple times within the context of the available evidence and were discussed with supervisors and others with expertise in the area (e.g., a boarding school researcher and a member of the university library research team). However, not all possible search terms could be included as psychological impacts is a broad topic. It is recognised that there is an element of subjectivity involved in the review, as ultimately the search terms were selected by the lead researcher.

A similar limitation related to how psychological impacts was defined, is the variety of measures used in the studies. As only two studies used the same measure (Pfeiffer et al., 2016; Mander & Lester, 2017), it may be suggested that studies are not measuring the same concepts. This may limit the extent to which conclusions can be drawn about the themes findings were grouped under. Furthermore, as the evidence was collected using self-report measures the internal validity and accuracy of the findings in the review may have been compromised (Palhus & Vazire, 2007).

Future research

The lack of available evidence to include in the review highlights the need for further research into this area. From reviewing the quality of the available evidence, it may

be suggested that more longitudinal evidence using the same measures of psychological impacts and samples of younger children is needed, along with more studies focused on adult ex-boarders to examine the long term impacts of boarding school. These studies might also benefit from controlling for potential confounding variables such as demographic characteristics, personality and pre-existing relationships with parents. Comparing students at private (boarding) schools and state schools in a longitudinal study may also allow inferences about causality to be made, as it could be investigated whether psychological impacts are associated with boarding specifically or the environment of private schools more generally.

Considering the tradition of boarding and large number of boarders in the UK (Independent Schools Council, 2020) it would also be beneficial to study more UK based populations, in order to provide insight into modern UK boarding practices and impacts. There may be a specific role for Clinical Psychologists in this; to conduct the research and implement interventions and training based on the evidence base within these schools (Van Hoof & Hansen, 1999).

Conclusion

In conclusion, this review aimed to identify potential psychological impacts associated with attending boarding school. Impacts identified from the literature were grouped under the following themes: mental health difficulties, mental health strengths, relationships and emotional responses. A range of potential positive and negative psychological impacts were identified, some of which did not appear to be specifically associated with boarding school attendance. This review highlights the

need for further research into the area and possible interventions that could be beneficial for boarders and non-boarders.

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Part two- Empirical Paper

Investigating boarding school experiences, compassion, self-criticism and attachment in adults.

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This paper is written in the format outlined for submission by the
Journal of School Psychology
Please see Appendix H for the Author Guidelines

Word Count (not including references, tables, figures, and appendices): 14,321

Abstract

Background

Attending boarding school has been associated with positive and negative consequences in adulthood. However little quantitative evidence exists to investigate these claims. The current research aimed to explore whether boarding school attendance influenced compassion, self-criticism and attachment style in adults; what factors might be predictive of these outcomes and what boarding school experiences influenced individuals most in their adult life.

Methods

626 participants (300 ex-day students, 305 ex-boarders and 21 'Other') completed an online questionnaire that included measures of compassion, self-criticism and attachment. Ratings of the school environment (perceived levels of closeness of peer group, supportiveness of staff, threat of school and competitiveness of school) and qualitative comments about experiences from school that participants felt influenced them most in their adult life were also collected. Analysis included regression analyses, t-tests, chi-squared test and content analysis.

Results

Ex-boarders were found to have significantly lower levels of compassion from others and compassion for others and be more likely to be insecurely attached. No difference was found between ex-boarders and ex-day students in terms of self-compassion and self-criticism. A range of factors were found to predict compassion, self-criticism and attachment to varying degrees: the mix of the participants' gender and the gender of the school they attended, perceived closeness of the peer group, perceived supportiveness of staff, perceived competitiveness of school and

perceived threat of school. Participants also reported a range of positive and negative boarding school experiences that influenced them in their adult lives.

Conclusions

The school environment plays an important role in the development of compassion, self-criticism, and attachment for both ex-day students and ex-boarders. For some individuals boarding school may be associated with the opportunities to build friendships, have academic success, and develop independence. However, for others, attending boarding school, particularly being separated from family and experiencing bullying, abuse and neglect may lead to difficulties in attachment (and future relationships), and both receiving and giving compassion.

Key words: boarding school, compassion, self-criticism, attachment

Introduction

Boarding School

It has been a British tradition for many years to send children to boarding school (Duffell, 2010) and in 2020 there were 69,680 boarders in the UK (Independent Schools Council, 2020). The benefits of sending children to boarding school include increased stability and structure in the educational setting and an increased availability of opportunities (e.g., extracurricular activities) (Lawrence, 2005). Duffell (2010) has also suggested that sending children to boarding school may be associated with power and status, both for the parents who send them and the children who attend them once they become adults. This is reflected in the number of ex-boarders who hold positions of authority and power within British society (Duffell, 2010). An example of this is that within the 2019 UK government cabinet, 64% of ministers were privately educated (Montacute, 2019) and at least 15% were ex-boarders (Montacute & Nightingale, 2019). However, there is a suggestion in the literature, that there may also be disadvantages to attending boarding school; particularly for emotional and psychological wellbeing. For example, Fisher et al. (1990) described the loss that boarders experience, as they have to leave behind supportive relationships with family, friends and the familiarity of their home environment. This was further highlighted by Schaverien (2015) when she likened 'boarders' to 'looked after children' or 'children in care'. This may be viewed in the context of attachment theory, which suggests that the loss of the relationship with the attachment-figure (often the mother) can lead to significant distress (Bowlby, 1973).

Whilst Schaverien and others (e.g., Duffell 2010, Fisher et al.,1990) have speculated on the potential harmful effects of boarding school, there has been limited empirical research to support these claims. For example, much of Duffell and Schaverien's writing is based on observations from years of clinical practice, case studies and interviews. Indeed, there is limited research into any experiences of boarding school and the findings that have been produced have been mixed. It should also be noted that the majority of the existing research has been carried out with children whilst they are still at boarding school, with little in the way of understanding the longer-term impact. This is an important area to research as in the UK in 2020, there were a comparable number of children at boarding school (69,680) as there were in the looked after system (80,080) (Department for Education, 2020). There is widespread understanding of the significant psychological impact of children being placed in care, living away from their birth families (Richardson & Lelliott, 2003). However, there is strikingly little empirical understanding of the long-term psychological impact of attending boarding school, perhaps because of the perceived privilege associated with this experience as suggested by Schaverien (2015) and Duffell (2010). This highlights how boarders make up a specific subset of the population who may require a unique understanding of their experience, in order to provide them with the best psychological care if they are referred to mental health services.

Attachment

Boarding at an early age has been suggested to be experienced as an extreme and traumatic loss of attachment figures, which can develop into 'Boarding School Syndrome', a pattern of behaviours largely associated with problematic interpersonal

relationships (Schaverien, 2011). However, there is little empirical evidence for this assertion as Schaverien's findings are largely based on case studies, interviews with ex-boarders and clinical experience, which may not be representative of the wider population.

There is also limited empirical research on the impact of boarding school on attachment/family relationships. One study, conducted by Martin et al. (2014) investigated interpersonal relationships within their sample of 5,276 students (mean age= 14.41, boarders N= 1,477) as part of a wider study into boarding school, academic motivation, engagement and psychological wellbeing. Students undertook a questionnaire consisting of items drawn from standardised instruments. One section was aimed at capturing students' views on their relationships with parents, teachers, and peers. Their findings suggested that boarders felt they liked their parents more and had higher quality interactions with them, compared to day students. There was no significant difference between day students and boarders in terms of relationships with peers or teachers. This may suggest that boarding can have a positive impact on relationships with attachment figures, contrary to previous claims made by Duffell (2010) and Schaverien (2011). However, a number of factors could have influenced the findings. For example, the research was conducted with existing boarders during adolescence, when it is a more natural time to separate from parents (Freeman & Brown, 2001). Furthermore, as the research was conducted more recently, it is possible that modern boarding school practices allow greater contact with family via social media and flexible boarding arrangements (Cree, 2000; White, 2004). It should also be noted that the study used a measure of students' perceptions of their relationships with their parents which was created from

a measure of self-concept (Marsh et al., 2005) and was not based on an attachment theory (e.g., Ainsworth, 1979; Crittenden & Landini, 2011). Although the measure is reported to have "good" reliability (e.g., Cronbach's alpha score of .88) (Marsh et al., 2005) it may not be measuring attachment style per se. This research also does not take into account boarding at a younger age and the potential longer-term impacts of boarding. Therefore, the findings may not generalise to adult populations and also UK based populations, as it was conducted in Australia. It has been suggested that the Australian boarding school context differs to UK and US based boarding (Cree, 2000), in that there is a focus on providing educational opportunities for a wide range of children, who may be unable to access schooling due to living in remote and regional areas. In contrast, in the UK and US, there appears to be more of a focus on preparation for college or education for the elite (Papworth, 2014).

In his 2010 book, 'The Making of Them: The British Attitude to Children and the Boarding School System' Nick Duffell proposes that attending boarding school can result in a person having to construct a 'Strategic Survival Personality' in order to 'survive' losing their family and adapting to a new environment, where vulnerability and having needs (e.g., belonging and safety) are not accepted. Constructing the 'Strategic Survival Personality' involves the child shutting off their feelings, being hypervigilant to threat and finding ways to ensure situations are advantageous to them. Duffell (2014) explains how this personality results in individuals appearing self-reliant and independent, however it can also result in problems with 'emotional intelligence'. This process appears to have negative long-term consequences for ex-boarders in adulthood, particularly in the context of their relationships (Schaverien, 2002, 2015). However, as Duffell's evidence is based on his own boarding

experience and the experiences of those who have also attended boarding school (e.g., famous figures, therapy clients and group therapy workshop attendees) these claims may not be generalisable without further rigorous research.

In an unpublished thesis Faulkner (2020) assessed attachment styles in 26 participants. Fourteen were adult ex-boarders (mean age= 52 years), who started boarding before the age of 13 and 12 were adult ex-day students (mean age= 40 years), who had lived at home whilst attending a private, fee-paying school. Faulkner used the Dynamic Maturation Model-Adult Attachment Interview (Crittenden & Landini, 2011) to test the hypothesis that ex-boarders would have an insecure, self-dismissing attachment style (Type A) due to the trauma of being separated from their primary caregiver. Faulkner suggested that this hypothesis was partially supported, as ex-boarders had more Type A classifications than ex-day students, when considering the number of times Type A classifications occurred. Faulkner also hypothesised that ex-day students would have had more opportunity to form a secure attachment (Type B) due to living at home with their caregivers, but found that this was not supported. Faulkner suggested that there was only a small difference in attachment styles between ex-boarders and ex-day students. However, as the thesis was undertaken from a psychotherapy/attachment perspective, quantitative statistics were not performed, which could have reduced the validity of the findings. Faulkner also explained that all of the ex-boarders had undertaken psychotherapy, compared with 3 of the ex-day students, which could have biased the sample. Faulkner speculated that it may have been possible that undertaking therapy could contribute to why 7 ex-boarders were reorganising from Type A (Insecure, Self-Dismissing) to Type B (Secure, Balanced). However, as this was not

tested, it cannot be concluded. Therefore, further research with a larger, less biased sample to statistically compare attachment styles in ex-boarders and ex-day students may be warranted. Faulkner also found that, between them, the ex-boarders experienced 63% of the total unresolved traumas recorded using the Dynamic Maturation Model- Adult Attachment Interview, compared to the ex-day students, who experienced 37%. Faulkner explained how all ex-boarders described the feeling of rejection by being sent to boarding school and that it was a painful topic for them. No day students reported experiences of rejection. This may highlight the importance of therapeutic intervention for ex-boarders, whom may be suggested to have unique experiences and difficulties.

Priel et al. (1998) investigated adolescent boarders' interpersonal relationships with peers, in terms of closeness, reciprocity and support. As part of this, participants (N=184, 101 female, mean age= 16.7 years) completed the Relationship Questionnaire (RQ) (Bartholomew & Horowitz, 1991). They found that 50% of boarders had a 'Secure' attachment style, 28.26% had a 'Fearful' attachment style, 12.50% had a 'Dismissing' attachment style and 9.23% had a 'Preoccupied' attachment style. They reported small differences compared to Bartholomew and Horowitz who found that 47% of their sample of adolescents in a Psychology class (N=77, mean age= 19.6) had a 'Secure' attachment style, 21% had a 'Fearful' attachment style, 13% had a 'Dismissing' attachment style and 18% had a 'Preoccupied' attachment style. No data is available about whether Bartholomew and Horowitz' sample were ex-boarders; however, it may be suggested that there is little difference between the attachment styles of adolescent boarders in Priel et al.'s study and their sample, which may contradict claims made by Schaverien (2011) that

boarding school can negatively impact boarders' attachments. However, Priel et al. did not include data about the age at which participants started boarding or the number of years they had boarded for. Therefore, it may be important to conduct research into the attachment styles of ex-boarders which controls for these factors in order to understand if boarding school does impact attachment style.

Mental Health

Much of the existing research into boarding schools and mental health has focused on the transition to boarding schools (Downs, 2001; Downs, 2003; Mason, 1997) rather than the potential long term mental health impact of boarding school. Duffell (2010) suggested that men who attended boarding schools experience depression and anxiety in their adult years. Schaverien (2015) supported this claim and added that many ex-boarders can experience mental health difficulties such as PTSD, depression, separation anxiety and emotional numbing.

Homesickness, defined as distress or loss of function related to actual or anticipated separation from home, associated with a yearning for home and attachment figures, low mood and somatic symptoms (Thurber et al., 1999; Van Tilburg et al, 1996) has been linked to the development and exacerbation of mental health difficulties (Thurber, 1995; Thurber & Walton, 2012). Fisher et al. (1986) investigated homesickness in a sample of 117 boarders, aged 11-14. Participants completed questionnaires that collected data on their boarding experience (e.g., distance away from home, whether they had siblings at the same school, previous boarding experience etc.) and physical health (e.g., illnesses experienced over the year,

duration of illness etc.) over the previous year. They were also asked to define homesickness and confirm whether they felt they had experienced it over the last year. It was found that 71% of boarders reported feeling homesick. Those who were homesick also experienced significantly more physical health problems (e.g., colds, headaches, feeling ill). This evidence suggests that boarding school attendance is associated with homesickness, supporting the claims made by Duffell (2010) and Schaverien (2015). However, this research adopted a retrospective design, which could have reduced the reliability and validity of the findings, as it relied on participants recalling their experiences. Fisher et al. (1986) completed two further studies into homesickness in boarding school pupils (aged 13-17 and 12-16 years). Participants used diaries to record their experiences of homesickness and any issues they were worried about. Similar to the retrospective study, homesickness was found to be experienced by 76% of the sample of boarders. In the second diary study, 71% of participants who were new boarders at an all-male school reported feeling homesick. Taken together, these studies support the notion that homesickness is experienced by the majority of children attending boarding school. However, as both studies included small sample sizes (n=18, n=21) the generalisability of the findings may be limited. Generalisability of the findings might also be compromised by the fact that the three studies completed by Fisher et al. (1986) used participants from a total of 4 schools, which may not be representative of the wider boarding school pupil population. Furthermore, as this research was conducted in 1986, it seems that more recent evidence is required.

More recent research into the mental health of boarders was conducted by Mander and Lester (2017). They investigated whether there were differences in indicators of

mental health and strengths and difficulties in a sample of 3,459 students in Australia (10% of which were boarders). Data was collected from the sample at four different time points over a two-year period using questionnaires (e.g., baseline data collection at the final year of primary school (Grade 7, average age 12 years), at the start and end of the first year after moving to secondary school, (Grade 8, average age 13 years) and 12 months later (end of Grade 9). Two mental health measures were used, the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) and the Depression Anxiety Stress Scales-21 (DASS-21) (Lovibond & Lovibond, 1995). An analysis of boarder status and time interaction using multilevel models revealed that boarders reported significantly higher levels of anxiety and stress compared to non-boarding students at the end of Grade 8. However, there was no significant difference in symptoms of depression for the two groups over time. It was also found that at the beginning of Grade 8 and end of Grade 9, boarders reported significantly more emotional symptoms on the SDQ. The authors concluded that over the period of two years, boarders reported significantly more emotional symptoms and mental health indicators relative to non-boarders. This research may suggest there is a relationship between boarding school and mental health. However, it does not explore the potential long-term mental health impacts of boarding school as suggested by Duffell (2010) and Schaverien (2015).

Contradictory evidence has been reported by Martin et al. (2014) who collected data on the 'Psychological Wellbeing' of 5,276 high school students (28% boarders) in Australia. 'Psychological wellbeing' included: a sense of meaning and purpose, life satisfaction, emotional instability, relationships with peers, teachers and parents and extracurricular activity. After controlling for covariates (e.g., sociodemographic

factors, personality type and school factors), boarders scored significantly higher than day students on 'meaning and purpose' and 'life satisfaction'. The researchers suggested that boarders may have benefitted from being cared for by educators who have had more formal training in pastoral care and the social-emotional development of children, compared to day students who were cared for by parents.

Compassion

Compassion is defined as "the sensitivity to suffering in self and others, with a commitment to try to alleviate and prevent it" (Gilbert, 2014, p.19). Compassion has been suggested to 'flow' in three directions: compassion to the self from others, compassion from the self to others and compassion for the self (Gilbert et al., 2017).

Compassion may be relevant for ex-boarders in a number of ways. Based on observations from clinical practice, interviews and testimonies from adult ex-boarders, Schaverien (2015) theorised that individuals who boarded at an early age may struggle with compassion, as they learn to close themselves off from it. She added how, as a result, some ex-boarders may also struggle with empathy. However, Schaverien does not elaborate on her definition of compassion. This may suggest that further research is required into investigating whether the common definition of compassion used by Gilbert (2014) is relevant to ex-boarders, in the way that Schaverien has suggested. There are also a number of other factors that may influence ex-boarders' compassion. For example, compassion has been associated with attachment style, with securely attached individuals having higher levels of self-compassion (Neff & McGehee, 2010). Therefore, if attachment is affected by

boarding school attendance, as Duffell (2010) and Schaverien (2011, 2015) have suggested, ex-boarders may struggle with compassion. Furthermore, boarding schools have been associated with competitiveness (Duffell, 2010). Competing with others, in particular focusing on competitive self-advantage, has been suggested to be an inhibitor of compassion (Buss, 2014; Kirby et al., 2019). Therefore, this may also influence ex-boarders' experiences of compassion. Also, as previous research has suggested that boarders may have poorer mental health (Mander et al., 2015; Mander & Lester, 2017), understanding the role of compassion in ex-boarders may be particularly important. Particularly, as developing compassion for the self (which Gilbert et al., 2011, found was also highly linked to receiving compassion from others) has been associated with improvements in mental wellbeing (Judge et al., 2012). It might also follow that if ex-boarders struggle in adult relationships, as described by Duffell (2010) and Schaverien (2002), supporting them to receive and express compassion from and to others, may help to improve these relationships and may be an avenue for intervention.

On a wider level, many ex-boarders hold positions of authority and power within society, particularly within politics (Duffell, 2010; Duffell, 2016; Montacute & Nightingale, 2019). Therefore, if ex-boarders do struggle with compassion, there may be implications for policy and decision making. If compassion was identified to be problematic for ex-boarders, interventions aimed at fostering compassion may have wider reaching benefits in the future, for those around the ex-boarder and for society in general. This might be in line with the agenda of the 'Compassion in Politics' movement, an organisation which is aiming to prioritise compassion in the political system by ensuring that: policies do not harm future generations, policies aim to

improve the lives of people, not only the economy, and that those most in need are well supported. One way in which they are doing this is by attempting to create a "compassionate threshold", which all new legislation would have to meet. This threshold would prevent government policies which exacerbate destitution for current or future generations from being passed (Compassion in Politics, 2019). They are also aiming to promote respect, honesty and inclusion in election campaigns and parliamentary debates (Compassion in Politics, 2021).

Self-Criticism

Self-criticism has been defined as having a negative view of the self when compared to others and measured against internalized, personal standards (Thompson & Zuroff, 2004). Self-criticism has been associated with a fear of self-compassion and compassion from others (Gilbert et al., 2011), as well as various mental health difficulties (Gilbert et al., 2006; Cox et al., 2000; Gilbert et al., 2010).

It has been suggested that self-criticism is also associated with harsh parenting and/or bullying at school (Gilbert & Irons, 2009). Schaverien (2015) suggested that boarding school is associated with strict regimes and bullying. It is possible that these experiences are not unique to students at boarding schools, however boarders may have greater exposure to them as they spend more time at school. Duffell (2010) has written about his and other ex-boarders' struggles with self-criticism, particularly in relation to a 'fear of failure' he claims is engendered by boarding school. Duffell (2010) has also written about how his self-criticism has led him to invalidate the negative impact he feels his boarding experience has had on him, due

to the privilege associated with attending boarding school. Therefore, it may be suggested that ex-boarders may struggle with self-criticism, although this warrants further investigation.

Rationale

Despite there being a large number of boarders in the UK, there are important gaps in understanding the effect of boarding school on compassion, self-criticism and attachment. Duffell (2010) and Schaverien (2015) have theorised about the negative long-term effects of boarding school. However, much of their evidence is based on case studies, testimonies, interviews and personal experiences. Although, these provide rich data, there has been little empirical investigation into the psychological impact of boarding schools, particularly focusing on adult ex-boarders. Research on attachment has been limited and has featured a number of methodological limitations such as small sample size (Faulkner, 2020) and using measures focused on perceived quality of relationships with parents rather than attachment style (e.g., Martin et al., 2014). Furthermore, research has been conducted with current boarders in non-UK based boarding schools (e.g., Martin et al., 2014; Priel et al., 1998) rather than adult ex-boarders in the UK. To date there has been no research investigating the impact of boarding school on compassion and self-criticism with adult ex-boarders, two factors that have been associated with mental health difficulties as outlined above (Gilbert et al., 2006, Judge et al., 2012). Therefore, this presents a novel area to be explored, which may have important implications for the wellbeing of ex-boarders and current boarding practices, particularly as it may be appropriate to introduce interventions targeting compassion and self-criticism in

boarders whilst they are in school to potentially prevent difficulties occurring in adulthood. This may also subsequently alleviate pressure on mental health systems in the future. Whilst there are no statistics on the number of referrals of adult ex-boarders to mental health services, Duffell and Basset (2016) have suggested that there are increasing numbers of ex-boarders seeking psychological therapy. Faulkner (2020) also highlighted the importance of psychological support for ex-boarders who may have been traumatised by their experiences. As suggested by Schaverien (2015), it is possible that there may be some similarities between ex-boarders and adults who were Looked After Children. A recent study found that adults who were Looked After Children have higher levels of depression and anxiety (Teyhan et al., 2018). It may be suggested that they may be more likely to require psychological support compared to adults who were not in care, this may also apply to ex-boarders. One reason for the lack of data available as to the number of referrals of adult ex-boarders to mental health services (and why it is difficult to provide a strong clinical rationale) may be that boarders could feel they are not allowed to seek help due to the perceived privilege associated with attending boarding school (Schaverien, 2015). The research may also have implications on a societal level, in terms of ex-boarders making up a proportion of the Cabinet within the UK government and being able to create more compassionate policies and legislation, as proposed by Compassion in Politics (2019, 2021).

Research Questions

1. Is there a difference in compassion, self-criticism and attachment style between adult ex-boarders and ex-day students?

2. What factors predict compassion, self-criticism and attachment style?

3. What boarding school experiences influenced people most in their adult life?

Hypotheses

Due to the mixed findings and lack of previous research into the topic, it is difficult to generate hypotheses. However, based on attachment theory (Bowlby, 1973) and Duffell (2010) and Schaverien (2002, 2015)'s observations from clinical practice regarding compassion and self-criticism, a difference between ex-boarders and ex-day students on these variables can be hypothesised. It may be hypothesised that ex-boarders will have lower levels of compassion and higher levels of self-criticism than ex-day students; and that more ex-boarders will have an insecure attachment style than ex-day students.

Method

Design

A mixed-methods design was adopted. A between-groups design was used to investigate whether there are differences in compassion, self-criticism and attachment between the two groups. A cross-sectional design was employed to investigate factors predicting compassion, self-criticism and attachment in ex-boarders and ex-day students. To identify (boarding) school experiences that influenced participants most in their adult life, qualitative comments were collected using a free response item on the online questionnaire.

Participants

Participants formed an anonymous, volunteer sample of 626 adults recruited through a variety of methods (e.g., LinkedIn, Facebook and Twitter advertising; Alumni groups and ex-boarder support organisations; snowballing and word of mouth). Table 1 illustrates that the majority of the sample identified as female (67%), with approximately a third identifying as male (32%). A minority of participants gave responses which resulted in them being classed as 'Other' (1%) or gave no response (0.2%). The majority of the sample were also 'White' (86%), with little diversity of ethnicity. In order to participate, participants had to have left school (e.g., be 18 years old or older). The sample ranged in age from 18-85 years (mean age= 44.10, SD= 17.22). Participants formed four groups: 'Ex-Full Boarders' who resided at school throughout the academic year, going home for the school holidays and/or occasional weekends (N=294); 'Ex-Weekly Boarders' who resided at school throughout the week and went home on weekends (N=11); 'Ex-Day Students' who did not reside at school and went home at the end of the school day (N=300) and 'Other' students, who did not fit into either of the other groups (e.g. changed from a boarding to a day student or vice versa, or a day student who boarded occasionally) (N=21).

Table 1

Demographic Characteristics of Participants

Characteristics	Ex-Day Students (N= 300)		Ex-Full Boarders (N= 294)		Ex-Weekly Boarders (N= 11)		Other (N= 21)		Full sample (N= 626)	
	n	%	*n*	%	*n*	%	*n*	%	n	%
Gender										
Male	53	18	136	46	2	18	6	29	197	32
Female	240	80	158	54	9	82	15	71	422	67
'Other'	6	2	0	0	0	0	0	0	6	1
Prefer not to say	1	0	0	0	0	0	0	0	1	0
Ethnicity										
'White'	262	87	244	83	11	100	18	86	535	86
'Asian or Asian British'	5	2	3	1	0	0	0	0	8	1
'Black, African, Caribbean or Black British'	3	1	1	0	0	0	0	0	4	1
'Mixed or Multiple Ethnic Groups'	7	2	5	2	0	0	2	10	14	2
'Other ethnic group'	23	8	38	13	0	0	1	5	62	10
Could not be classified/ no data	0	0	3	1	0	0	0	0	3	1

Procedure

Ethical approval was obtained from the local University Ethics Committee in June 2020. Recruitment for the study began in July 2020 and ran until January 2021. Participants followed an online link to the study information and questionnaire, which were accessed via Online Surveys (https://www.onlinesurveys.ac.uk). Participants were asked to read the study information and were informed that by proceeding with the questionnaire, they were consenting to their data being used in the research. The online questionnaire consisted of quantitative measures of compassion, self-criticism

and attachment, questions relating to demographic information (e.g., age, gender, ethnicity), four school environment 5-point Likert scale questions (e.g., 'How competitive was your school?') and a qualitative question asking participants to share experiences from their schooling which they believe have influenced them most in their adult life.

Measures

Compassion

The Compassionate Engagement and Action Scales (CEAS) are three self-report measures of the flow of compassion: compassion received from others, compassion felt for others and compassion for the self (Gilbert et al., 2017). Each scale has two sections; one that measures an individual's engagement with distress and the different attributes of compassion (e.g., distress tolerance, care for wellbeing, empathy) and a second section which measures an individual's capacity to respond and prevent/reduce distress. There are 39 statements in total, which participants rate using a 10-point Likert Scale (1-'Never' to 10-'Always') based on how frequently they experience them (e.g. 'When others are distressed or upset by things…I direct attention to what is likely to be helpful to others'). The ratings are then used to give a total score for each scale (Compassion for Self, Compassion from Others and Compassion to Others) or two separate 'Engagement' and 'Action' scores for each scale (Gilbert, 2017). Higher scores reflect higher levels of compassion in terms of engagement and behaviour. The CEAS were used in the current study in order to apply Gilbert et al.'s 'flow of compassion' to a novel sample (adult ex-boarders) and

because the scales have been found to have 'good' to 'excellent; internal consistency (.89-.94) (Gilbert et al., 2017).

Self-Criticism

The Forms of Self Criticism and Self Reassuring Scale (FSCRS) is a self-report measure of self-criticism and self-reassurance, which requires participants to rate on a 5-point Likert Scale (0- 'Not at all like me', 4- 'Extremely like me') the extent to which they identify with 22 statements that describe critical/attacking and supportive/reassuring responses to when situations go wrong (Gilbert et al., 2004). The FCSRS generates scores for two forms of self-criticism: Inadequate Self e.g. 'I think I deserve my self-criticism' (*M*= 17.72) and Hated Self e.g. 'I stop caring about myself' (*M*= 3.88) and one form of self-reassurance e.g. 'I still like being me' (Reassured-Self, *M*= 20.27). Normative means are taken from a student population (Baião et al., 2015). Baião et al. also produced normative data for a mixed clinical population (e.g., depression, 'personality disorder', substance use, anxiety and bipolar disorder) (Inadequate Self, *M*= 27.47, Hated Self, *M*= 12.26, Reassured Self, *M*= 10.66). Higher scores on the Inadequate self and Hated Self subscales reflect higher levels of self-criticism. Whereas, higher scores on the Reassured Self subscale suggest a self-soothing capability. The FSCRS was used for the current research as it has been found to have excellent internal consistency (.89-.91) for 'Inadequate Self' and good internal consistency for 'Hated Self' (.82-.89) and 'Reassured Self' (.82-.88) subscales (Baião et al., 2015).

Attachment

The Relationship Questionnaire (RQ) (Bartholomew & Horowitz, 1991) is a forced-choice measure of attachment style, which uses the 'Secure', 'Dismissing', 'Preoccupied' and 'Fearful' attachment styles (Ravitz et al., 2010). The RQ consists of four different descriptions of each attachment type. Participants are asked to rate on a seven-point scale, (1 being the lowest and 7 being the highest) the extent to which they identify with each description (continuous rating) or circle which description best matches their attachment style (categorical approach). The RQ was used in the current study as it is short and has been found to have adequate test-retest reliability and convergent, discriminant and predictive validity, with Cronbach's alpha scores of .32 for the 'Secure' attachment style and .79 for 'Fearful' attachment style (Ravitz et al., 2010).

School Environment Likert Scale Questions

As no existing measures exist, four 5-point Likert scale questions aimed to capture aspects of participant's schooling environment that might have been important for the development of compassion, self-criticism and affected attachment style. These were decided in consultation with Professor Paul Gilbert and Nick Duffell. They included: Perceived Supportiveness of Staff, Perceived Closeness of Peer Group, Perceived Competitiveness of School and Perceived Threat at School (e.g., punishing, critical, punitive or harsh) (see Appendix O).

Boarding Exposure Score (BES)

A 'Boarding Exposure Score' (BES) was calculated in order to quantitatively capture the depth of exposure to boarding school to answer research question 2. This was an ad-hoc calculation which took into account the age the participant started boarding, the number of years they boarded for and their extent of separation from attachment figures (e.g., Ex-Full Boarder vs. Ex-Weekly Boarder). The BES was created due to there being no pre-existing measure of depth of boarding exposure and because simply recording the number of years participants boarded for does not capture the significance of the experience of boarding at an earlier age, and of being separated from attachment figures for a longer amount of time, as suggested by attachment theory (Bowlby, 1973) and others (Duffell, 2010; Schaverien, 2015). Higher scores were associated with starting boarding at a younger age, boarding for a longer length of time and with being an Ex-Full Boarder. The following equation was used to calculate BES (see Table 2) and examples are provided below.

Table 2
Boarding Exposure Score Calculation

Participant Classification for Analysis	Boarding status	Boarding Exposure Score (BES) Equation for Each School Year	Rationale
Ex-Full Boarders	Ex-Full Boarders	2 x (18- age began boarding)	Weighted to reflect being away from parents/family for whole terms and the age at which participant began boarding.
Ex-Weekly Boarders	Ex-Weekly Boarders	1 x (18- age began boarding)	Weighted to reflect being with

Ex-Day Students	Ex-Day Students	0	parents/family at weekends and the age at which participant began boarding. Reflects experience of Day Students being with their parents/family daily.
Other	Mixed Full/Weekly	Ex-Full Boarders BES + Ex-Weekly Boarders BES	Reflects where participants were both a Full Boarder and Weekly Boarder at different times in their schooling.
	Mixed Full/Weekly/Day	Ex-Full Boarders BES + Ex-Weekly Boarders BES + 0	Reflects where participants were a Full-Boarder, Weekly Boarder and Day Student at different times in their schooling.
	Mixed Full/Day	Ex-Full Boarders BES + 0	Reflects where participants were both a Full-Boarder and a Day Student at different times in their schooling.
	Mixed Weekly/Day	Ex-Weekly Boarders BES + 0	Reflects where participants were both a Weekly Boarder and Day Student at different times in their schooling.

Example 1: Person X full boarded for 5 years and started boarding at the age of 13 and has a BES of 30:

$2 \times (18-13) = 10$

$2 \times (18-14) = 8$

$2 \times (18-15) = 6$

2 x (18-16) = 4

2 x (18-17) = 2

10 + 8+ 6+ 4+2 = 30.

Example 2: Person Y full boarded for 2 years from the age of 8 then became for a weekly boarder for 2 years from the age of 10 and has a BES score of 53.

2 x (18-8) = 20

2 x (18-9) = 18

1 x (18-10) = 8

1 x (18-11) = 7

20 + 18 + 8+ 7= 53

Demographic Factors

Some of the demographic factors recorded were also used as predictor variables, these were recorded as 'International/home student status', 'Type of school (Independent/Private or State)' and 'Gender mix of participant and school'. These were included as it is likely that there are qualitative differences within these experiences. For example, a person boarding or attending school in a country that is not their home country (e.g., international student) may have different experiences, being from a different culture (Straffon, 2003) and living further away from family, than a person boarding in the same country in which they were born. Furthermore, it is possible that students attending State or Independent/Private schools could have different experiences due to the differences in their environments e.g., smaller class sizes at Private schools (Graddy & Stevens, 2005). Likewise, research suggests that different educational outcomes are associated with attending Private/Independent

schools such as higher scores on standardised tests (Figlio & Stone, 2000). Finally, it is likely that there are differences in experiences between single gender and co-educational schools, as research has suggested that girls do better academically in single gender environments, whereas boys benefit from co-educational environments (Van de gaer et al., 2004; Warrington & Younger, 2001).

Data analysis plan

Quantitative Data

Sample Size Calculation

As very little research exists in this area, it is not possible to specify likely effect sizes with any degree of confidence. The sample size calculation was based on testing whether Boarding Exposure was a significant predictor after controlling for other predictors of interest as outlined above (corresponding to the research question 'Is there a difference in compassion, self-criticism and attachment style, between adult ex-day students and ex-boarders?'). A test of significance for adding a regression term with 1 df to a model containing 10 df was needed. To detect an effect size of 0.05 with 80% power and using a 5% significance level, a total of 160 participants were needed. This was a fairly small effect size (effect sizes of 0.02 are conventionally labelled "small" and those of 0.15 "medium"). Ideally, it was hoped there would be a wide variation in Boarding Exposure (as indicated by the BES), though it is recognised that this was outside the control of the researcher.

Is there a difference in compassion, self-criticism and attachment style between adult ex-boarders and ex-day students?

IBM SPSS Statistics for Macintosh, Version 27.0 was used to calculate the mean self-criticism and compassion scores for ex-boarders and ex-day students. It was also used to calculate the modal attachment style for each of the groups, using the categorical approach to the RQ, as it was difficult to determine a predominant attachment style for participants when using the continuous approach. Chi-squared and t-tests were performed using the same software to identify statistically significant differences between the two largest groups in regards to the dependent variables.

What factors predict compassion, self-criticism and attachment style?

SPSS 27.0 was used to perform a multiple regression. For each outcome (except Attachment Style) the following predictor variables were included in the model: BES, International/home student status, Type of school (Private/State), Perceived degree of threat within the school environment, Perceived competitiveness of school, Perceived closeness of peer group, Perceived supportiveness of staff and Gender mix of participant and school.

The analysis was repeated for Attachment Style using a multinomial regression, instead of multiple regression, as Attachment Style as measured using the categorical approach to the RQ (Bartholomew & Horowitz, 1991) is a non-ordered categorical outcome.

Qualitative Data

What boarding school experiences influenced people most in their adult life?

Inductive content analysis was used to analyse the qualitative responses from the Ex-full boarders, Ex-weekly boarders and 'Other' group, as there are no existing categories with which to group the responses due to the little existing evidence (Elo & Kyngäs, 2008). The content analysis aimed to reveal factors related to boarding school experiences important in the development of compassion, self-criticism and attachment style. Responses were read through and simultaneously annotated. The responses varied in length (e.g., some participants gave a list of words, other participants gave paragraphs of stories describing their experiences), therefore the comments were broken down into smaller units that were analysed into headings that best fit what was written. This meant that larger sections of text were analysed as separate sentences based on the topics they related to. Some comments also had to be excluded from the analysis as they did not answer the question, instead they described how boarding school had influenced them in adult life, without naming the specific experiences that participants believed had influenced them. Headings related to the content of the responses were then recorded. These headings were used to form categories, into which the responses were grouped. The categories were then named, to describe themes and topics emerging from the data and the number of comments in each category were quantified.

Reflexive Stance of the Researcher

The primary researcher had been a Full Boarder from the age of 10 until their adolescence, and was currently in their final year of Doctoral Clinical Psychology training. Having a personal relationship to this research topic meant that the primary researcher could use their own experience to inform the areas that were being investigated and also bring a psychological perspective to the research (and the findings). However, it is acknowledged that approaching the research from this perspective will have also influenced the overall findings, in particular those related to the third research question which involved analysing qualitative data. The primary researcher tried to reduce the impact of bias in the research process by having regular research supervision and by adopting the position that a person needs to be willing to look past their personal experiences and challenge their assumptions (Strauss & Corbin, 2008).

Results

Quantitative Results

Descriptive Statistics

Independent Variables

The number and percentage of participants in regards to the categorical independent variables can be found in Table 3.

Type of School

The majority of the participants attended a Private/Independent school (59%). In terms of the four groups, the majority of Ex-day students attended a State school (80%) and the majority of both Ex-boarder groups (96% and 100%) and the 'Other' group (95%) attended a Private/Independent school.

Home/International Status

Almost all of the sample attended schools in the same country they were born in ('Home students'). The largest number of 'International' students were Ex-full boarders (18%). Eight percent of Ex-day students were 'International students' and two percent of 'Other' students.

Gender Mix

Almost half (42%) of the total sample were female and attended a co-educational school. Just over a quarter of the sample (26%) were female and attended an all-girls school.

Ex-Day Students

Over half of ex-day students were female and attended a co-educational school (63%). A similar percentage of ex-day students were male and attended a co-educational school (16%) or were female and attended an all-girls school (19%). Only 2% of ex-day students were males who attended an all-boys school.

Ex-Full Boarders

A third of ex-full boarders were females who attended an all-girls school (32%). A similar percentage of ex-full boarders were either male and attended a co-educational school (22%) or an all-boys school (24%) or were female and attended a co-educational school (21%).

Ex-Weekly Boarders

Over half of the ex-weekly boarders were female and attended a co-educational school (64%). The same percentage of ex-weekly boarders were either male and attended a co-educational school (18%) or female and attended an all-girls school (18%). None of the ex-weekly boarders were males who had attended an all-boys school.

'Other'

A similar percentage of participants in the 'Other' category were female and attended either a coeducational (33%) or all-girls (38%) school. The percentage of participants in the 'Other' category that were male and attended either a coeducational (19%) or all-boys school (10%) were similar and were lower than females attending coeducational or all-girls schools (33% and 38%).

Table 3

Descriptive Statistics for Categorical Independent Variables

Categorical Independent Variables	Ex-Day Students		Ex-Full Boarders		Ex-Weekly Boarders		Other		Full sample	
	n	%	*n*	%	*n*	%	*n*	%	n	%
Type of School										
Private/Independent	61	20	281	96	11	100	19	95	372	59
State	238	80	13	4	0	0	1	5	252	40
Total	299		294		11		20		624	
Home/International School Status										
Home student	290	97	274	94	11	100	18	90	593	95
International student	8	3	18	6	0	0	2	10	28	5
Total	298		292		11		20		621	
Gender Mix										
Male, attended co-educational	48	16	66	22	2	18	4	19	120	19
Male, attended all boys	5	2	70	24	0	0	2	10	77	12
Female, attended co-educational	184	63	63	21	7	64	7	33	261	42
Female attended, all girls	56	19	95	32	2	18	8	38	161	26
Total	293		294		11		21		619	

The mean and standard deviations for the continuous independent variables can be found in Table 4.

Boarding Exposure

As would be expected, ex-full boarders had the largest mean BES score (68.75), reflecting that they, on average started boarding at an earlier age and spent more

time in boarding, with more separation from their attachment figures compared to the other groups. There was a large amount of variability (SD= 33.14) in BES for this group, which may reflect how individual experiences differed. Also as expected, ex-weekly boarders had a lower mean BES (25.89) than ex-full boarders capturing a less immersive boarding experience. Ex-day students had a BES score of zero, having never attended boarding school and the mean BES score of participants who were classed as 'Other' was between the means reported for Ex-full boarders and Ex-weekly boarders (39.78). The standard deviation was also large for this group (SD= 34.07), suggesting a variation in individual experiences within the 'Other' category.

Perceived Threat of School

Ex-full boarders had the highest Perceived Threat of School mean score (3.14) out of the four groups, suggesting that they experienced their schools as the most threatening ("Somewhat threatening"). Ex-day students had the lowest mean score (2.25) ("A little threatening").

Perceived Supportiveness of Staff

Ex-full boarders had the lowest mean score for Perceived Supportiveness of Staff (2.74), suggesting they found staff the least supportive ("Unsupportive"). Ex-day students had the highest mean score (3.35), suggesting they found staff the most supportive ("Somewhat supportive").

Perceived Closeness of Peer Group

Ex-weekly boarders had the highest mean score for Perceived Closeness of Peer Group (3.44) ("Somewhat close"), suggesting they perceived their peer groups as being the closest. Participants who were classed as 'Other' had the lowest mean score (3.33) ("Somewhat close"), suggesting they perceived their peer groups as being the least close.

Perceived Competitiveness of School

Ex-full boarders had the highest mean score for Perceived Competitiveness of School (4.08) ("Competitive"), suggesting they experienced their schools as the most competitive. Ex-day students had the lowest mean score (3.14) ("Somewhat Competitive"), suggesting they found their schools the least competitive.

Table 4

Descriptive Statistics for Continuous Independent Variables

Continuous Independent Variables	Ex-Day Students		Ex-Full Boarders		Ex-Weekly Boarders		Other		Full sample	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Boarding Exposure Score (BES)[a]	0	0	68.75	33.14	25.89	9.44	39.78	34.07	33.68	40.97
Perceived threat of school[b]	2.25	1.07	3.14	1.28	2.33	1.41	2.72	1.07	2.86	1.26
Perceived supportiveness of staff[c]	3.35	1.04	2.74	1.25	3.11	1.69	3.06	1.16	3.05	1.20
Perceived closeness of peer group[d]	3.40	1.07	3.38	1.26	3.44	1.33	3.33	1.28	3.39	1.17
Perceived competitiveness of school[e]	3.14	1.28	4.08	0.91	3.33	1.66	3.89	0.90	3.62	1.26

Note. M= mean, SD= standard deviation.
[a] *Ex-day Students (N= 300), Ex-full boarders (N= 287), Ex-weekly boarders (N= 9), Other (N= 18), Full sample (N=614).*
[b,c,d,e] *Ex-day Students (N=300), Ex-full boarders (N=294), Ex-weekly boarders (N= 11), Other (N=21), Full sample (N= 626).*

Dependent Variables

The mean compassion and self-criticism scores and standard deviations for all four

groups can be found in Table 5 and Table 6 (see below).

Table 5

Compassion Engagement and Action Scores for Participants

Compassion Engagement and Action Scales	Ex-Day Students (N= 300)		Ex-Full Boarders (N= 294)		Ex-Weekly Boarders (N= 11)		Other (N= 21)		Full sample (N= 626)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Compassion to Self	63.45	15.99	63.10	16.91	64.73	17.31	63.38	18.62	63.31	16.50
Engagement	38.37	9.16	37.42	10.17	37.64	10.41	38.48	10.77	37.91	9.71
Action	25.08	8.09	25.68	8.55	27.09	7.82	24.91	8.78	25.39	8.32
Compassion to Others	81.79	12.71	77.94	14.16	74.73	22.03	83.81	11.23	79.92	13.69
Engagement	48.31	8.23	45.94	9.31	42.64	13.30	50.10	6.87	47.15	8.91
Action	33.48	5.41	32.00	5.97	32.09	9.20	33.71	4.77	32.77	8.91
Compassion from Others	61.13	18.05	57.88	20.62	60.55	19.28	65.76	19.28	59.75	19.41
Engagement	35.51	10.76	33.52	12.56	34.09	11.61	38.00	12.38	34.64	11.74
Action	25.62	8.03	24.36	8.87	26.45	8.61	27.76	7.76	25.11	8.45

Note. M= mean, SD= standard deviation.

Table 6

Forms of Self-Criticising/Attacking and Self Reassuring Scale Scores for Participants

Forms of Self-Criticising/Attacking and Self Reassuring Scale	Ex-Day Students (N= 300)		Ex-Full Boarders (N= 294)		Ex-Weekly Boarders (N= 11)		Other (N= 21)		Full sample (N= 626)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Inadequate Self	19.08	8.93	18.04	9.67	17.55	9.22	20.19	10.46	18.60	9.34
Hated Self	4.44	4.91	4.31	4.44	2.45	1.92	4.86	5.83	4.36	4.69
Reassured Self	19.41	6.52	19.15	6.73	21.64	4.27	19.38	7.96	19.33	6.63

Note. M= mean, SD= standard deviation.

Compassion

Compassion to Self

The overall mean score for the sample on the Compassion to Self subscale was 63.31. The means for all four groups do not appear to vary from this. Ex-weekly boarders had the highest mean score (64.73), suggesting they had the highest levels of self-compassion. Whereas, ex-full boarders had the lowest mean score (63.10), suggesting they had the lowest levels of self-compassion. Differences between the groups are explored further in the analysis below in regards to research question 1. The mean Compassion to Self subscale scores for the sample are similar to those reported by Irons and Heriot-Maitland (2020) (e.g., 33.05 for engagement and 18.42 for action).

Compassion to Others

The overall mean score for the sample on the Compassion to Others subscale was 79.92. The 'Other' category had the highest mean score (83.81), suggesting they had the highest levels of compassion for others. Whereas, Ex-weekly boarders had the lowest mean score (74.73), suggesting they had the lowest levels of compassion for others. The mean Compassion to Others subscale scores are similar to those reported by Irons and Heriot-Maitland (2020) (e.g., 43.02 for engagement and 29.84 for action).

Compassion from Others

The overall mean score for the sample on the Compassion from Others subscale was 59.75. The 'Other' category had the highest mean score (65.76), suggesting that

they found it easier to experience others as being compassionate towards them. Whereas, ex-full boarders had the lowest mean score (57.88), suggesting that they found it the hardest to experience others as being compassionate towards them. The mean Compassion from Others subscale scores are similar to those reported by Irons and Heriot-Maitland (2020) (e.g., 32.95 for engagement and 23.25 for action).

Self-Criticism

Inadequate Self

There was little difference between each group for the Inadequate Self Subscale and the overall mean of 18.60 is comparable to the normative data provided by Baiao et al. (2015) (17.72) and lower than the mean of their clinical population (27.47).

Hated Self

There was also little difference between each group for the Hated Self Subscale. The overall mean of 4.36 is comparable to the normative data provided by Baiao et al. (2015) (3.88) and significantly lower than the mean for their clinical population (12.26).

Reassured Self

For the Reassured Self Subscale, there is little difference between the groups. The

overall mean of 19.33 is comparable to Baiao et al.'s (2015) normative data (20.27)

and significantly higher than the mean of their clinical population (10.66).

In summary, the current sample appears to be comparable to the general population

in terms of self-criticism and not representative of a clinical sample. Further analysis

of differences between the groups in terms of self-criticism can be found below, in

response to research question 1.

Attachment Style

The modal attachment style for all four groups can be found in Table 7.

Table 7
Attachment Styles of Participants

Attachment style	Ex-Day Students (N= 300)		Ex-Full Boarders (N= 294)		Ex-Weekly Boarders (N= 11)		Other (N= 21)		Full sample (N= 626)	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
A: Secure	122	41	91	31	4	36	8	38	225	36
B: Fearful	79	26	107	36	3	27	4	19	193	31
C: Preoccupied	48	16	29	10	3	27	5	24	85	14
D: Dismissing	51	17	67	23	1	9	4	19	123	20

Ex-day students appear to be more Securely attached, with the largest proportion of

the sample identifying as Secure (Style A). Ex-full boarders have a similar proportion

of Fearful (Style B) attachments and Secure (Style A) attachment style. Ex-weekly

boarders and participants in the 'Other' category, had a more even spread across

the attachment styles. However, their sample sizes were smaller compared to the

ex-day student and ex-full boarder groups.

Research Questions

Is there a difference in compassion, self-criticism and attachment style between adult ex-boarders and ex-day students?

Compassion

Compassion to Self

The independent samples t-test revealed there was no significant difference in the scores for Ex-day students (M= 63.45, SD= 15.99) and Ex-full boarders (M=63.10, SD= 16.91); t(592)= 0.26, p = .793). The results suggest that there is no evidence of group differences in terms of self-compassion.

Compassion to Others

The independent samples t-test revealed there was a significant difference in the scores for Ex-day students (M= 81.79, SD= 12.71) and Ex-full boarders (M=77.94, SD= 14.16); t(582.498)= 3.490, p = .001). The results suggest that Ex-day students were more compassionate to others than Ex-full boarders.

Compassion from Others

The independent-samples revealed there was a significant difference in the scores for Ex-day students (M= 61.13, SD= 18.05) and Ex-full boarders (M=57.88, SD= 20.62); t(578.596)= 2.040, p = .042). The results suggest that Ex-day students were

more able to experience others as being compassionate towards them than Ex-full boarders.

Self-Criticism

Inadequate Self

An independent-samples t-test was conducted to compare Inadequate Self scores between ex-day students and ex-full boarders. There was no significant difference in the scores for ex-day students (M= 19.08, SD= 8.93) and ex-full boarders (M= 18.04, SD= 9.67); t(592)= 1.365, p = .173). The results suggest that there is no evidence of differences between ex-day students and ex-full boarders in regards to criticising themselves and feeling inadequate.

Hated Self

An independent-samples t-test was conducted to compare Hated Self scores between ex-day students and ex-full boarders. There was no significant difference in the scores for ex-day students (M= 4.44, SD= 4.91) and ex-full boarders (M= 4.31, SD= 4.44); t(592)= 0.348, p = .728). The results suggest that there is no evidence of differences between ex-day students and ex-full boarders in regards to criticising and hating themselves.

Reassured Self

An independent-samples t-test was conducted to compare Reassured Self scores between ex-day students and ex-full boarders. There was no significant difference in the scores for ex-day students (M= 19.41, SD= 6.52) and ex-full boarders (M= 19.15, SD= 6.73); t(592)= 0.473, p = .637). The results suggest that there is no difference between ex-day students and ex-full boarders in regards to being able to reassure themselves when things go wrong.

Attachment

A chi-square test of independence was performed to examine the relationship between type of student and attachment style for ex-day students and ex-full boarders. The results revealed this was a significant relationship, (X^2 (3, $N = 594$) = 15.526, p = .001), suggesting there is a difference in attachment style between the two groups. Examining the descriptive statistics results revealed that for ex-day students, Style A (Secure) was the most commonly reported attachment style (40.7%). Whereas, for ex-full boarders, this was Style B (Fearful) (36.4%).

What factors predict compassion, self-criticism and attachment style?

After removing participants with missing data, a final sample of 603 was used for the regression analyses.

Compassion

Compassion to Self

Regression analysis explored what factors predict compassion to self (Table 8). A Kolmogorov-Smirnov test, performed to check the distribution of residuals found that the assumption of normality was met (Kolmogorov-Smirnov $D(603)= 0.034$, $p = .153$). The following variables were found to be significant predictors: Gender Mix ($F(3, 580) = 4.32$; $p = .005$), Perceived closeness of peer group ($F(4, 580) = 3.90$; $p = .004$), Perceived competitiveness of school ($F(4, 580) = 3.01$; $p = .018$) and Perceived threat of school ($F(4, 580) = 2.45$; $p = .045$). The results suggested that males and females who attended a co-ed school were less self-compassionate than females who attended an all-girls school. There was no difference between females who attended a co-educational or an all-girls school. Furthermore, the closer the year group was perceived to be, the more self-compassionate participants were. Similarly, the more competitive and threatening the school was perceived to be, the less self-compassionate participants were. However, participants who perceived their school as being the most threatening had the highest self-compassion scores.

Table 8

Multiple Regression: Compassion to Self

Variable	B	SE	t	95% CI		p
				LL	UL	
Intercept	80.307	5.370	14.954	69.759	90.854	.000
Type of School						
Private/ Independent School	-2.811	1.891	-1.486	-6.525	.904	.138
State School[a]	0	.	.	.	.	.
Gender Mix						
Male, attended co-educational	-5.778	2.029	-2.848	-9.763	-1.793	.005
Male, attended all boys	-1.110	2.418	-.459	-5.860	3.640	.646
Female, attended co-educational	-5.703	1.825	-3.125	-9.287	-2.118	.002
Female, attended all girls[b]	0	.	.	.	.	.
Home/International School Status						
Home student	-5.006	3.240	-1.545	-11.370	1.358	.123
International student[c]	0	.	.	.	.	.
BES	.032	.023	1.390	-.013	.076	.165
Perceived supportiveness of staff						
Very unsupportive	-4.979	3.100	1.606	-11.067	1.109	.109
Unsupportive	-6.214	2.800	-2.219	-11.713	-.715	.027
Somewhat supportive	-4.320	2.388	-1.809	-9.011	.370	.071
Supportive	-1.835	2.375	-.773	-6.498	2.829	.440
Very supportive[d]	0	.	.	.	.	.
Perceived closeness of peer group						
Not close at all	-8.545	3.200	-2.671	-14.830	-2.261	.008
Not very close	-8.114	2.388	-3.398	-12.804	-3.424	.001
Somewhat close	-4.861	1.989	-2.444	-8.767	-.955	.015
Close	-2.152	1.936	-1.111	-5.955	1.651	.267
Very close[e]	0	.	.	.	.	.
Perceived competitiveness of school						
Not at all competitive	9.250	3.017	3.066	3.324	15.175	.002
A little competitive	4.774	2.487	1.919	-.112	9.659	.055
Somewhat competitive	5.114	1.946	2.629	1.293	8.935	.009
Competitive	3.077	1.786	1.723	-.431	6.585	.085

Very competitive[f]	0	.	.	.	.	.
Perceived threat of school						
Not very threatening at all	-1.873	3.126	-.599	-8.013	4.267	.549
A little threatening	-3.085	2.892	-1.067	-8.765	2.595	.287
Somewhat threatening	-4.941	2.752	-1.795	-10.346	.465	.073
Threatening	-7.176	2.779	-2.583	-12.634	-1.719	.010
Very threatening[g]	0	.	.	.	.	.

Note. $N = 603$. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. *p* ≤ 0.05.

[a];[b]; [c];[d];[e];[f];[g] = reference categories for regressions.

Compassion to Others

Regression analysis explored what factors predict compassion to others (Table 9). A Kolmogorov-Smirnov test performed to check the distribution of residuals revealed that the assumption of normality was not met (Kolmogorov-Smirnov D(603)= 0.079, p = .000) and inspection of the histogram revealed the data was skewed. Therefore, bootstrapping was necessary. The Gender Mix variable was found to be statistically significant (F(3, 580) = 12.70; p = .000). No other variables were found to be statistically significant. The results reveal that males who attended a co-educational or all boys school are less compassionate to others than females who attended an all-girls school. There was no difference between females who attended a co-educational or an all-girls school.

Table 9

Multiple Regression with Bootstrapping Performed: Compassion to Others

Variable	B	SE	95% CI		p
			LL	UL	
Intercept	88.159	4.694	78.852	97.621	.001
Type of School					
Private/ Independent School	-2.154	1.609	-5.461	.923	.157
State School[a]	0	.	.	.	.
Gender Mix					
Male, attended co-educational	-8.932	1.620	-12.263	-5.774	.001
Male, attended all boys	-7.886	2.082	-12.333	-4.011	.002
Female, attended co-educational	-1.794	1.544	-4.683	1.395	.243
Female, attended all girls[b]	0	.	.	.	.
Home/International School Status					
Home student	3.701	2.710	-1.594	8.990	.184
International student[c]	0	.	.	.	.
BES	-.008	.019	-.043	.031	.653
Perceived supportiveness of staff					
Very unsupportive	1.010	2.439	-3.844	6.226	.652
Unsupportive	-2.846	2.328	-7.315	1.871	.228
Somewhat supportive	-3.070	1.989	-6.681	1.076	.129
Supportive	-2.505	1.922	-6.224	1.364	.176
Very supportive[d]	0	.	.	.	.
Perceived closeness of peer group					
Not close at all	-3.329	2.719	-8.973	1.731	.220
Not very close	-4.158	1.897	-7.898	-.457	.031
Somewhat close	-1.710	1.512	-4.719	1.227	.261
Close	-2.636	1.390	-5.439	.136	.072
Very close[e]	0	.	.	.	.
Perceived competitiveness of school					
Not at all competitive	-1.791	2.391	-6.429	2.827	.462
A little competitive	.058	2.246	-4.396	4.485	.981
Somewhat competitive	3.332	1.612	.219	6.408	.031
Competitive	1.285	1.557	-1.657	4.319	.420

Very competitive[f]	0	.	.	.	.
Perceived threat of school					
Not very threatening at all	-4.371	2.715	-9.681	1.001	.102
A little threatening	-4.515	2.457	-9.139	.474	.061
Somewhat threatening	-3.689	2.249	-8.156	.800	.106
Threatening	-3.800	2.320	-8.337	.818	.106
Very threatening[g]	0	.	.	.	.

Note. N = 603. CI = confidence interval; LL = lower limit; UL = upper limit. $p \leq 0.05$.

[a];[b] ; [c];[d] ;[e] ;[f];[g] = reference categories for regressions.

Compassion from Others

Regression analysis explored what factors predict compassion from others (Table 10). A Kolmogorov-Smirnov test performed to check the distribution of residuals revealed that the assumption of normality was not met (Kolmogorov-Smirnov $D(603)$= 0.041, p = .016). However, examination of the histogram associated with the regression revealed that the data was not skewed. The following variables were found to be statistically significant: Gender Mix ($F(3, 580)$ = 5.42; p = .001), Perceived supportiveness of staff ($F(4, 580)$ = 4.82; p = .001) and Perceived closeness of peer group ($F(4, 580)$ = 4.96; p = .001). The results suggested males and females who attended a co-educational school are less able to experience others as being compassionate towards them than females who attended an all-girls school. There was no difference between females who attended a co-educational or an all-girls school. The results also suggest that the less supportive staff were perceived to be and the less close the peer group was perceived to be, the less able participants are to experience others as compassionate.

Table 10

Multiple Regression: Compassion from Others

Variable	B	SE	t	95% CI		p
				LL	UL	
Intercept	72.966	6.190	11.788	60.809	85.123	.000
Type of School						
Private/ Independent School	-2.178	2.180	-.999	-6.459	2.104	.318
State School[a]	0	.	.	.	.	.
Gender Mix						
Male, attended co-educational	-8.958	2.339	-3.830	-13.551	-4.364	.000
Male, attended all boys	-.899	2.787	-.323	-6.374	4.576	.747
Female, attended co-educational	-4.126	2.103	-1.962	-8.257	.005	.050
Female, attended all girls[b]	0	.	.	.	.	.
Home/International School Status						
Home student	-.512	3.735	-.137	-7.847	6.824	.891
International student[c]	0	.	.	.	.	.
BES	.026	.026	1.004	-.025	.078	.316
Perceived supportiveness of staff						
Very unsupportive	-9.554	3.573	-2.674	-16.571	-2.537	.008
Unsupportive	-13.100	3.227	-4.060	-19.438	-6.762	.000
Somewhat supportive	-5.785	2.753	-2.102	-11.191	-.378	.036
Supportive	-3.701	2.737	-1.352	-9.077	1.674	.177
Very supportive[d]	0	.	.	.	.	.
Perceived closeness of peer group						
Not close at all	-10.756	3.688	-2.916	-17.999	-3.512	.004
Not very close	-9.606	2.752	-3.490	-15.012	-4.201	.001
Somewhat close	-7.675	2.292	-3.349	-12.177	-3.173	.001
Close	-2.846	2.232	-1.275	-7.229	1.537	.203
Very close[e]	0	.	.	.	.	.
Perceived competitiveness of school						
Not at all competitive	5.194	3.477	1.494	-1.636	12.023	.136
A little competitive	2.523	2.867	.880	-3.107	8.154	.379
Somewhat competitive	5.365	2.242	2.392	.960	9.769	.017

Competitive	3.771	2.059	1.832	-.272	7.815	.067
Very competitive[f]	0	.	.	.	.	.
Perceived threat of school						
Not very threatening at all	.021	3.603	.006	-7.055	7.098	.995
A little threatening	1.345	3.333	.403	-5.202	7.891	.687
Somewhat threatening	-1.356	3.172	-.428	-7.586	4.874	.669
Threatening	-.005	3.203	-.001	-6.294	6.285	.999
Very threatening[g]	0	.	.	.	.	.

Note. N = 603. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. $p \leq 0.05$.

[a];[b]; [c];[d];[e];[f];[g] = reference categories for regressions.

Self-Criticism

Inadequate Self

Regression analysis explored what factors predict participants criticising themselves and feeling inadequate (Table 11). A Kolmogorov-Smirnov test performed to check the distribution of residuals revealed that the assumption of normality was not met (Kolmogorov-Smirnov D(603)= 0.044, p = .007). However, examination of the histogram associated with the regression revealed that the data was not skewed. The following variables were found to be statistically significant: Gender Mix (F(3, 580) = 5.76; p = .001), Perceived supportiveness of staff (F(4, 580) = 3.68; p = .006), Perceived closeness of peer group (F(4, 580) = 4.97; p = .001), Perceived competitiveness of school (F(4,580) = 3.48; p = .008) and Perceived threat of school (F(4,580) = 2.54; p = .039). The results suggest that females who attended a co-educational school had higher Inadequate Self scores than females who went to an all-girls school. There was no significant difference between males who attended a co-educational or an all-boys school compared to females who attended an all-girls

school. The results also suggest that the participants who perceived the staff at their school to be very unsupportive had higher Inadequate Self scores compared to participants who perceived staff at their school to be very supportive. Similarly, the less close participants perceived their peer group to be and the more competitive participants perceived their school to be, the higher their Inadequate Self scores were. Although the pairwise comparisons with the reference category for Perceived Threat at School were not statistically significant, there is a general trend that the more threat participants perceived there to be at school, the higher their Inadequate Self scores were.

Table 11
Multiple Regression: Inadequate Self

Variable	B	SE	t	95% CI		p
				LL	UL	
Intercept	17.785	2.929	6.071	12.031	23.538	.000
Type of School						
Private/ Independent School	-.530	1.032	-.514	-2.556	1.496	.607
State School[a]	0	.	.	.	.	.
Gender Mix						
Male, attended co-educational	1.569	1.107	1.417	-.605	3.742	.157
Male, attended all boys	-2.443	1.319	-1.852	-5.034	.148	.065
Female, attended co-educational	2.700	.995	2.712	.744	4.655	.007
Female, attended all girls[b]	0	.	.	.	.	.
Home/International School Status						
Home student	-.202	1.767	-.114	-3.673	3.270	.909
International student[c]	0	.	.	.	.	.
BES	-.015	.012	-1.246	-.040	.009	.213
Perceived supportiveness of staff						
Very unsupportive	5.134	1.691	3.037	1.813	8.455	.003

Unsupportive	2.056	1.527	1.346	-.943	5.056	.179
Somewhat supportive	.590	1.303	.453	-1.969	3.149	.651
Supportive	-.102	1.295	-.078	-2.645	2.442	.938
Very supportive[d]	0	.	.	.	.	.
Perceived closeness of peer group						
Not close at all	5.487	1.745	3.144	2.059	8.915	.002
Not very close	5.007	1.303	3.844	2.448	7.565	.000
Somewhat close	3.126	1.085	2.882	.996	5.257	.004
Close	1.573	1.056	1.489	-.501	3.647	.137
Very close[e]	0	.	.	.	.	.
Perceived competitiveness of school						
Not at all competitive	-5.395	1.646	-.3.278	-8.627	-2.163	.001
A little competitive	-2.816	1.357	-2.076	-5.481	-.152	.038
Somewhat competitive	-2.908	1.061	-2.740	-4.992	-.823	.006
Competitive	-2.343	.974	-2.405	-4.257	-.430	.016
Very competitive[f]	0	.	.	.	.	.
Perceived threat of school						
Not very threatening at all	-3.082	1.705	-1.807	-6.431	.268	.071
A little threatening	-1.554	1.577	-.985	-4.652	1.544	.325
Somewhat threatening	-.011	1.501	-.007	-2.959	2.938	.994
Threatening	-.800	1.516	.528	-2.177	3.776	.598
Very threatening[g]	0	.	.	.	.	.

Note. $N = 603$. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. $p \leq 0.05$.

[a];[b]; [c];[d];[e];[f];[g] = reference categories for regressions.

Hated Self

Regression analysis explored what factors predict participants criticising and hating themselves (Table 12). A Kolmogorov-Smirnov test performed to check the distribution of residuals revealed that the assumption of normality was not met (Kolmogorov-Smirnov $D(603)= 0.125$, p = .000). Inspection of the histogram revealed

the data was skewed. Therefore, bootstrapping was necessary. The following variables were found to be statistically significant: Gender Mix ($F_{(3, 580)}$ = 4.67; p = .003), Perceived supportiveness of staff ($F_{(4, 580)}$ = 3.37; p = .010), Perceived closeness of peer group ($F_{(4, 580)}$ = 7.42; p = .000) and Perceived competitiveness of school ($F_{(4, 580)}$ = 3.44; p = .009). The results suggest that females who attended a co-educational school had higher Hated Self scores than females who attended an all-girls school. There was no difference between males who attended a co-educational or an all-boys school compared to females who attended an all-girls school. Participants who perceived the staff at their school as very unsupportive had higher Hated Self scores than participants who perceived the staff at their school as very supportive. The closer participants perceived their peer group to be, the lower their Hated Self scores were. The more competitive participants perceived their school to be, the higher their Hated Self scores were.

Table 12
Multiple Regression with Bootstrapping Performed: Hated Self

Variables	B	SE	95% CI		p
			LL	UL	
Intercept	3.371	1.321	.750	6.008	.014
Type of School					
Private/ Independent School	-.735	.487	-1.620	.250	.121
State School[a]	0	.	.	.	.
Gender Mix					
Male, attended co-educational	.864	.546	-.178	1.936	.117
Male, attended all boys	-.604	.597	-1.795	.547	.314
Female, attended co-educational	1.469	.460	.527	2.350	.001
Female, attended all girls[b]	0	.	.	.	.

	B	SE	LL	UL	p
Home/International School Status					
Home student	.093	.658	-1.165	1.936	.899
International student[c]	0	.	.	.	.
BES	.003	.006	-.009	.016	.575
Perceived supportiveness of staff					
Very unsupportive	2.228	.835	.631	3.876	.006
Unsupportive	.744	.752	-.726	2.238	.317
Somewhat supportive	.221	.633	-.965	1.448	.727
Supportive	-.330	.612	-1.571	.818	.584
Very supportive[d]	0	.	.	.	.
Perceived closeness of peer group					
Not close at all	2.353	.982	.415	4.215	.015
Not very close	3.237	.656	2.036	4.549	.001
Somewhat close	1.382	.502	.460	2.446	.010
Close	.594	.455	-.304	1.525	.189
Very close[e]	0	.	.	.	.
Perceived competitiveness of school					
Not at all competitive	-2.789	.665	-4.045	-1.419	.002
A little competitive	-.909	.707	-2.205	.532	.208
Somewhat competitive	-1.295	.512	-2.261	-.257	.013
Competitive	-.933	.490	-1.952	.014	.049
Very competitive[f]	0	.	.	.	.
Perceived threat of school					
Not very threatening at all	-.789	.863	-2.617	.942	.339
A little threatening	-.919	.820	-2.553	.639	.264
Somewhat threatening	.330	.812	-1.253	1.936	.702
Threatening	.169	.796	-1.535	1.732	.832
Very threatening[g]	0	.	.	.	.

Note. $N = 603$. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. $p \leq 0.05$.

[a];[b] ; [c];[d] ;[e] ;[f];[g] = reference categories for regressions.

Reassured Self

Regression analysis explored what factors predict participants being able to reassure themselves with things go wrong (Table 13). A Kolmogorov-Smirnov test used to check the distribution of the residuals revealed that the assumption of normality was met (Kolmogorov-Smirnov $D(603)= 0.034$, $p = .097$). The following variables were found to be statistically significant: Gender Mix ($F(3, 580) = 3.08$; $p = .027$), Perceived supportiveness of staff ($F(4, 580) = 2.66$; $p = .032$), Perceived closeness of peer group ($F(4, 580) = 7.38$; $p = .000$) and Perceived competitiveness of school ($F(4,580) = 2.42$; $p = .047$). The results suggest that females who attended a co-educational school had higher Reassured Self scores than females who attended an all-girls school. No difference was found between males who attended a co-educational or an all-boys school compared to females who attended an all-girls school. Participants who perceived the staff at their school as 'very unsupportive' and 'unsupportive' had lower Reassured Self scores than participants who perceived staff to be 'very supportive'. The closer participants experienced their year group to be, the higher their Reassured Self scores were. Similarly, the more competitive participants experienced their school to be, the lower their Reassured Self scores were.

Table 13

Multiple Regression: Reassured Self

Variable	B	SE	t	95% CI		p
				LL	UL	
Intercept	24.707	2.122	11.641	20.538	28.875	.000
Type of School						
Private/ Independent School	.107	.747	.143	-1.361	1.575	.886
State School[a]	0	.	.	.	.	.
Gender Mix						
Male, attended co-educational	-.436	.802	-.544	-2.011	1.139	.587
Male, attended all boys	1.116	.956	1.168	-.761	2.993	.243
Female, attended co-educational	-1.565	.721	-2.169	-2.981	-.148	.030
Female, attended all girls[b]	0	.	.	.	.	.
Home/International School Status						
Home student	-1.815	1.281	-1.417	-4.331	.700	.157
International student[c]	0	.	.	.	.	.
BES	-.003	.009	-.321	-.020	.015	.749
Perceived supportiveness of staff						
Very unsupportive	-3.219	1.225	-2.627	-5.625	-.812	.009
Unsupportive	-2.634	1.107	-2.380	-4.807	-.460	.018
Somewhat supportive	-1.712	.944	-1.813	-3.566	.142	.070
Supportive	-.571	.938	-.608	-2.414	1.272	.543
Very supportive[d]	0	.	.	.	.	.
Perceived closeness of peer group						
Not close at all	-4.605	1.265	-3.642	-7.089	-2.122	.000
Not very close	-4.272	.944	-4.527	-6.126	-2.419	.000
Somewhat close	-2.489	.786	-3.167	-4.033	-.946	.002
Close	-.876	.765	-1.144	-2.379	.627	.253
Very close[e]	0	.	.	.	.	.
Perceived competitiveness of school						
Not at all competitive	2.808	1.192	2.355	.466	5.149	.019
A little competitive	1.901	.983	1.934	-.030	3.832	.054
Somewhat competitive	2.087	.769	2.714	.577	3.597	.007
Competitive	1.205	.706	1.707	-.182	2.591	.088

Very competitive[f]	0	.	.	.	.	.
Perceived threat of school						
Not very threatening at all	.189	1.236	.153	-2.238	2.616	.878
A little threatening	-.766	1.143	-.670	-3.011	1.479	.503
Somewhat threatening	-1.244	1.088	-1.144	-3.380	.892	.253
Threatening	-1.390	1.098	-1.266	-3.547	.767	.206
Very threatening[g]	0	.	.	.	.	.

Note. $N = 603$. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. $p \leq 0.05$.

[a];[b]; [c];[d];[e];[f];[g] = reference categories for regressions.

Attachment Style

A multinomial regression was run to identify what factors predict attachment style (Table 14). The following variables were found to be significant predictors of attachment style: Gender Mix (χ^2 (9) = 18.201, p = .033), Perceived supportiveness of staff (χ^2 (12) = 29.409, p = .003) and Perceived closeness of peer group (χ^2 (12) = 33.759, p = .001).

The results suggest that females who attended a co-educational school are the most likely to be classed as Style A (Secure) relative to Style D (Dismissing). Males who attended either a co-educational or an all-boys school were the least likely to be classed as Style A (Secure attachment), relative to Style D (Dismissing). Females who attended an all-girls school were the next most likely to be classed as Style A (Securely attached), relative to Style D (Dismissing).

In terms of Perceived peer group closeness, participants who perceived their peer group to be 'not very close' were less likely to be classed as Style A (Secure) relative to Style D (Dismissing). Furthermore, participants who perceived their peer group to

be 'not very close' were more likely to have a Fearful (Style B) or Preoccupied (Style

C) attachment than a Secure (Style A) attachment style, relative to participants who

perceived their year group to have been 'very close'.

The less supportive staff were perceived to be, the less likely participants were to be

classed as Style A (Securely attached) relative to Style D (Dismissing). Furthermore,

the less supportive staff were perceived to be, the more likely participants were to be

classed as Style B (Fearful attachment), relative to Style A.

Table 14

Multinomial Regression: Attachment Style

Parameter	B	SE	Wald	95% CI		p
				LL	UL	
Style B: Fearful[a]						
Intercept	-.650	.958	.460			.497
Type of School						
Private/ Independent School	-.397	.328	1.457	.353	1.280	.227
State School[b]	0	.	.	.	.	.
Gender Mix						
Male, attended co-educational	-.555	.360	2.371	.283	1.164	.124
Male, attended all boys	-.707	.432	2.674	.212	1.151	.102
Female, attended co-educational	-.071	.303	.055	.514	1.686	.814
Female, attended all girls[c]	0	.	.	.	.	.
Home/International School Status						
Home student	-.842	.578	2.118	.139	1.339	.146
International student[d]	0	.	.	.	.	.
BES	.007	.004	3.272	.999	1.015	.070
Perceived supportiveness of staff						
Very unsupportive	1.840	.559	10.851	2.107	18.818	.001

Unsupportive	1.964	.513	14.640	2.606	19.493	.000
Somewhat supportive	1.360	.445	9.329	1.628	9.331	.002
Supportive	.477	.452	1.114	.664	3.908	.291
Very supportive[e]	0	.	.	.	.	.
Perceived closeness of peer group						
Not close at all	1.438	.613	5.502	1.267	14.019	.019
Not very close	1.634	.431	14.362	2.201	11.935	.000
Somewhat close	.879	.333	6.960	1.253	4.625	.008
Close	.046	.332	.019	.546	2.008	.890
Very close[f]	0	.	.	.	.	.
Perceived competitiveness of school						
Not at all competitive	-.507	.504	1.012	.224	1.618	.314
A little competitive	-.500	.419	1.423	.267	1.379	.233
Somewhat competitive	-.689	.332	4.307	.262	.962	.038
Competitive	.112	.307	.133	.613	2.041	.716
Very competitive[g]	0	.	.	.	.	.
Perceived threat of school						
Not very threatening at all	.086	.557	.024	.366	3.246	.877
A little threatening	-.047	.518	.008	.346	2.635	.928
Somewhat threatening	-.373	.496	.566	.260	1.821	.452
Threatening	.420	.510	.678	.560	4.133	.410
Very threatening[h]	0	.	.	.	.	.
Style C: Preoccupied[a]						
Intercept	-2.166	1.232	3.091			.079
Type of School						
Private/ Independent School	.065	.397	.027	.490	2.323	.870
State School[b]	0	.	.	.	.	.
Gender Mix						
Male, attended co-educational	.587	.432	1.845	.771	4.199	.174
Male, attended all boys	-.139	.567	.060	.287	2.642	.806
Female, attended co-educational	.475	.397	1.425	.737	3.503	.233

Female, attended all girls[c]	0	.	.	.	.	.
Home/International School Status						
Home student	-.327	.761	.185	.162	3.203	.667
International student[d]	0	.	.	.	.	.
BES	-.003	.005	.364	.987	1.007	.546
Perceived supportiveness of staff						
Very unsupportive	.948	.709	1.789	.643	10.359	.181
Unsupportive	1.348	.633	4.541	1.114	13.298	.033
Somewhat supportive	1.150	.531	4.691	1.116	8.936	.030
Supportive	.623	.527	1.396	.663	5.245	.237
Very supportive[e]	0	.	.	.	.	.
Perceived closeness of peer group						
Not close at all	1.870	.693	7.284	1.668	25.219	.007
Not very close	1.524	.529	8.315	1.629	12.935	.004
Somewhat close	.703	.411	2.925	.902	4.524	.087
Close	.037	.416	.008	.459	2.348	.928
Very close[f]	0	.	.	.	.	.
Perceived competitiveness of school						
Not at all competitive	-1.449	.840	2.975	.045	1.219	.085
A little competitive	-.264	.510	.267	.283	2.086	.605
Somewhat competitive	-.284	.409	.482	.338	1.677	.488
Competitive	.386	.378	1.040	.701	3.085	.308
Very competitive[g]	0	.	.	.	.	.
Perceived threat of school						
Not very threatening at all	-.169	.694	.059	.217	3.291	.808
A little threatening	-.200	.642	.097	.233	2.882	.755
Somewhat threatening	-.193	.614	.099	.247	2.746	.753
Threatening	.419	.625	.449	.447	5.173	.503
Very threatening[h]	0	.	.	.	.	.

Style D: Dismissing[a]

Intercept	-1.139	1.037	1.206			.272

Type of School

Private/ Independent School	.002	.351	.000	.504	1.994	.995
State School[b]	0	.	.	.	.	.
Gender Mix						
Male, attended co-educational	.379	.365	1.077	.714	2.988	.299
Male, attended all boys	.307	.437	.493	.577	3.201	.482
Female, attended co-educational	-.212	.347	.372	.410	1.597	.542
Female, attended all girls[c]	0	.	.	.	.	.
Home/International School Status						
Home student	-.857	.617	1.927	.127	1.423	.165
International student[d]	0	.	.	.	.	.
BES	.004	.004	.835	.996	1.012	.361
Perceived supportiveness of staff						
Very unsupportive	.925	.590	2.460	.794	8.006	.117
Unsupportive	1.217	.523	5.404	1.210	9.420	.020
Somewhat supportive	.775	.439	3.120	.919	5.132	.077
Supportive	.531	.430	1.525	.732	3.948	.217
Very supportive[e]	0	.	.	.	.	.
Perceived closeness of peer group						
Not close at all	1.279	.698	3.361	.915	14.106	.067
Not very close	1.474	.471	9.798	1.735	10.994	.002
Somewhat close	.569	.373	2.327	.850	3.670	.127
Close	.441	.353	1.567	.779	3.104	.211
Very close[f]	0	.	.	.	.	.
Perceived competitiveness of school						
Not at all competitive	.217	.541	.160	.430	3.586	.689
A little competitive	.005	.471	.000	.399	2.530	.991
Somewhat competitive	-.300	.370	.658	.359	1.530	.417
Competitive	.496	.336	2.174	.849	3.175	.140
Very competitive[g]	0	.	.	.	.	.
Perceived threat of school						
Not very threatening at all	.050	.596	.007	.327	3.384	.933
A little threatening	-.089	.560	.025	.305	2.741	.874

Somewhat threatening	-.332	.533	.387	.253	2.040	.534
Threatening	-.283	.571	.246	.246	2.305	.620
Very threatening[h]	0	.	.	.	.	.

Note. N = 603. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. *p* ≤ 0.05.

[a] = reference category for regression is Style A: Secure

[b] ; [c] ;[d] ;[e] ;[f];[g] = reference categories for regressions.

What boarding school experiences influenced people most in their adult life?

Participants answered the open question "what experiences from your school life do you think have influenced you the most in your adult life?". Only responses from participants reporting boarding experience (e.g., Ex-full boarders, Ex-weekly boarders and 'Other') were analysed, in order to answer research question 3. Of these three groups, three hundred and twenty-three participants (52% of the overall sample) gave responses. Of these responses, 66 were excluded, as it appeared participants misread/misunderstood the question. This resulted in responses from two hundred and fifty-seven participants (41% of the overall sample, 79% of 'Other' and boarders combined) (See Table 15). Responses were read through and coded, with themes emerging over time. The majority of responses, particularly lists and paragraphs of text appeared to contain information relating to multiple different themes and were recorded as such.

Two superordinate themes were identified; positive and negative experiences, with more negative than positive experiences being noted. A narrative and supporting quotes for themes that had a frequency count of 20 or higher can be found below.

Table 15

Superordinate and Subordinate Themes Identified Through Content Analysis in Response to the Question "what experiences from your school life do you think have influenced you the most in your adult life?"

Superordinate theme	Total frequency across participants with boarding experience that theme appears	Subordinate theme	Total frequency across participants with boarding experience that theme appears	Examples
Positive experiences	146	Extracurricular opportunities	36	
		Positive relationships with peers	36	
		Striving	21	
		Being independent	14	*"being independent"* (47-year-old Female Ex-Full Boarder)
				"The independence I had by being a boarder. Everyone says that I am very mature for my age." (21-year-old Male Ex-Full Boarder)
		Achieving/Success	14	*"Doing well academically."* (57-year-old Female Ex-Full Boarder)

				"My school also gave me a good education which set me on the way to a career" (82-year-old Female Ex-Full Boarder)
		Supportive environment	13	*"The school gave a real sense of belonging and community which has lasted with old school friends."* (44-year-old Female Ex-Full Boarder) *"Supportive staff."* (57-year-old Female Ex-Full Boarder)
		Exposure to difference and diversity	8	*"Attending school with people from many different cultures had a positive impact on me"* (23-year-old Male 'Other' student) *"Living closely with people from all walks of life"* (32-year-old Female Ex-Full Boarder)
		Privilege	4	*"Sense of prestige as it was a competitive entry."* (51-year-old Male 'Other' student) *"Assuming privilege"* (53-year-old Female Ex-Full Boarder)
Negative experiences	417	Lack of support and nurture	97	
		Bullying and difficult peer relationships	57	

Separation from loved ones	51	
Fear and feeling unsafe	50	
Abuse	49	
Feeling controlled	34	
Loneliness/isolation	26	
Lack of privacy/own space	24	
Feeling different	8	*"Out of culture."* (62-year-old Male Ex-Full Boarder) *"But being a relatively 'poor' kid among some insanely rich kids was hard."* (23-year-old Male 'Other' student)
Mental health difficulties	8	*"being around other girls with eating disorders and copying the behaviour as I was unhappy led to me having an eating disorder"* (44-year-old Female Ex-Full Boarder) *"Struggling with mental health at school"* (18-year-old Female Ex-Full Boarder) *"Trying to prevent suicides by younger boys"* (70-year-old Male Ex-Full Boarder)

Competitiveness	8	*"Expectation of competitiveness"* (62-year-old Female Ex-Full Boarder) *"cut-throat competition"* (68-year-old Male Ex-Full Boarder)
Feeling not good enough	5	*"My father was in the army and in sending my brother and I to public schools ran up a huge overdraft over the years and I remember the guilt of seeing their bank statements and realising that my achievements at school weren't a fair return for their investment."* (47-year-old Female Ex-Full Boarder) *"Failure to thrive emotionally and academically"* (60-year-old Female Ex-Weekly Boarder)

Positive experiences

Extracurricular opportunities

Within the positive experiences superordinate theme, 'Extracurricular opportunities' was the most frequently noted theme across participants that influenced them most in their adult life, along with positive relationships with peers:

"Singing in the choir and small groups. Performing in music festivals, recitation competitions, plays" (64-year-old Female Ex-Full Boarder)

"I found solace in sport. I developed fortitude, empathy, tact and diplomacy and a great sense of fairness. My participation in competitive sports has proved beneficial in adult life and career." (69-year-old Female Ex-Full Boarder)

Positive relationships with peers

'Positive relationships with peers' was the other most prominent theme:

"Building strong bonds with peers" (39-year-old Male Ex-Full Boarder)

"Looking after the underdog." (74-year-old Male Ex-Full Boarder)

Striving

Striving was the second most frequently occurring theme within the positive experiences category.

> "*Trying to be outstanding or the best.*" (60-year-old Male Ex-Full Boarder)

> "*all or nothing" approach to success.*" (58-year-old Male Ex-Full Boarder)

Negative experiences

Lack of support and nurture

Within the negative experiences superordinate theme, 'Lack of support and nurture' was the most frequently noted theme that influenced participants most in adult life. A range of experiences were described including feeling unsupported, not receiving attention or love as well as not being physically nurtured (e.g., shortages of food):

> "*being in a loveless environment*" (85-year-old Male Ex-Full Boarder)

> "*Lack of access during term time to loving and caring adults through all of the years of boarding (8-17).*" (62-year-old Male Ex-Full Boarder)

> "*hunger*" (54-year-old Female Ex-Full Boarder)

Some participants also reported potential coping mechanisms:

" Withholding emotions and 'getting on with things" (42-year-old Female Ex-Full Boarder)

"Having to rely on myself. No-one to turn to to "rescue" me" (52-year-old Female Ex-Full Boarder)

Bullying and difficult peer relationships

'Bullying and difficult peer relationships' was the second most frequently noted theme. Participants described being bullied by peers and staff and finding it difficult to form relationships with peers:

"Being bullied and isolated from my year group while I was a full border." (34-year-old Female Ex-Full Boarder)

"Bullying from house mistress" (42-year-old Female Ex-Full Boarder)

"I found forming meaningful relationships very difficult, and still do." (54-year-old Male Ex-Full Boarder)

Separation from loved ones

The third most frequently noted theme was 'Separation from loved ones':

"Being separated/rejected by parents has been the main influence. It felt like a punishment or rejection by them." (65-year-old Female Ex-Full Boarder)

"Losing my mother and home environment" (55-year-old Male Ex-Full Boarder)

Fear and feeling unsafe

The 'Fear and feeling unsafe' theme had a similar number of responses to the 'Separation from loved ones' theme:

"constantly on guard" (85-year-old Male Ex-Full Boarder)

"being unsafe and not believed" (59-year-old Male Ex-Full Boarder)

Abuse

Experiences of 'Abuse' was the fifth most frequently reported theme. Participants described experiences of sexual, emotional and physical abuse:

"being passed into the care of a sadistic headmaster and physically and sexually abusive staff." (55-year-old Male Ex-Full Boarder)

"being beaten" (74-year-old Male Ex-Full Boarder)

"The punishment of weakness (crying, homesickness were all punishable offended)."

(43-year-old Male Ex-Full Boarder)

Feeling controlled

'Feeling controlled' was another theme reported to have influenced participants in their adult life:

"Lack of personal freedom." (73-year-old Male Ex-Full Boarder)

"Rigid routines and rules, little/no free time or flexibility" (62-year-old Female Ex-Full Boarder)

Loneliness/isolation

Experiences of 'Loneliness/isolation' was the seventh most frequently theme identified within negative experiences:

"being lonely" (85-year-old Male Ex-Full Boarder)

"Isolation from peer group" (35-year-old Female Ex-Full Boarder)

Lack of privacy/own space

Comments relating to experiencing a 'Lack of privacy/own space' were nearly as frequent as 'Loneliness/isolation':

"Being made to have baths in the same room as other girls and being washed by the matrons." (44-year-old Female Ex-Full Boarder)

"No respite 24/7 from peer group" (65-year-old Female Ex-Full Boarder)

Discussion

Summary of findings

Is there a difference in compassion, self-criticism and attachment style between adult ex-boarders and ex-day students?

Compassion

The current research aimed to investigate whether compassion for the self, for others and from others (Gilbert et al., 2017) differed between adult ex-boarders and ex-day students. It was revealed that levels of self-compassion were the same for both groups. However ex-boarders were less able to feel compassion for others and to experience others as being compassionate towards them. These findings may be taken as evidence to support the claims made by Schaverien (2015) that ex-boarders may have difficulties with compassion.

In terms of compassion for others, it may be suggested that the boarding environment may not have been conducive to the development of compassion for others. For example, it has been suggested that boarding environments feature high levels of competitiveness (Duffell, 2010); which has been associated with inhibiting compassion (Buss, 2014; Kirby et al., 2019). Support for this claim may be taken from both groups of ex-boarders rating their schools as 'competitive' and the qualitative comments collected to answer research question 3, where ex-boarders gave descriptions of their schools as competitive. Another feature of the boarding environment that could explain the lower levels of compassion for others that ex-boarders experienced could be their own experiences of care and compassion within the environment. For example, it has been suggested that the way people are cared for in childhood influences their ability to care about and be compassionate towards others (Gilbert, 2005; Gillath et al., 2005). It has been suggested that boarding school environments may be experienced as not being supportive of vulnerability and having needs such as belonging and safety (Duffell, 2010). The qualitative comments from ex-boarders describing experiences of 'lack of care and nurture' may provide support for this claim. These experiences may also be linked to the findings on attachment, which suggest that experiencing secure attachments, in particular feeling safe and soothed increases individuals' abilities to feel empathy for others (Mikulincer et al., 2001). In the current research, ex-boarders were found to have lower levels of secure attachments, which may link to Mikulincer et al.'s findings and provide insight into Schaverien's (2015) claim that boarders struggle with empathy. Furthermore, as empathy is a key component of compassion (Gilbert, 2005) it may explain why ex-boarders had lower levels of compassion for others. Another key component of compassion is distress tolerance (Gilbert, 2005). Boarders have been

hypothesised to have to learn to 'cut off' from their feelings in order to 'survive' (Duffell, 2010). The qualitative comments in the current study provided support for this, as ex-boarders described having to suppress emotions and become self-sufficient. This may also contribute to boarders having lower levels of compassion for others, as they may not have had the opportunity to learn ways to tolerate distress or had access to caring adults who could help them with this (Gilbert, 2009a). These findings may also have implications for society as a number of ex-boarders have positions of power, particularly within politics (Duffell, 2010; Duffell, 2016; Montacute & Nightingale, 2019) and may highlight the importance of the Compassion in Politics organisation. However, more research may be required to investigate this.

With regards to ex-boarders being less able to experience others as acting compassionately towards them, it can be suggested that this may be linked to factors associated with developing compassion for others. For example, if the boarding environment is not experienced as supportive or caring, it is possible that ex-boarders may not have had as many opportunities to experience compassion. For example, Gilbert (2009b) has explained that individuals need to experience understanding, kindness and gentleness from others in order to feel safe and soothed, which are key components of compassion and emotional regulation (Gilbert, 2005). Furthermore, Schaverien (2015)'s claim that boarders have to learn to cut themselves off from compassion may partly explain why the current sample of ex-boarders struggled to experience others as compassionate. However, as Schaverien (2015) does not provide more information about why or how boarders might do this, this cannot be known for certain. It is also possible that boarders experiencing their school environment as threatening could contribute to difficulties

in experiencing others as compassionate. For example, in the current study, ex-boarders rated their schools as 'somewhat threatening' and in the qualitative comments, reported high numbers of instances of bullying and abuse, which have previously been associated with boarding school (Duffell, 2010; Schaverien, 2015). It could be suggested that if ex-boarders lived in environments which activated their threat systems, behaviours not related to surviving the threat (e.g., experiencing or noticing compassion from others) were suppressed (Gilbert, 2020), potentially resulting in ex-boarders finding it more difficult to experience others as compassionate.

With regards to self-compassion, similar levels were found in ex-boarders and ex-day students. This does not support the research hypothesis that 'ex-boarders will have lower levels of compassion'. This finding may be considered as surprising, as self-compassion has been associated with secure attachments (Neff & McGehee, 2010). However, ex-boarders were found to be more insecurely attached in the current study and were found to have lower scores on the other flows of compassion from others and for others. It may be suggested that boarders developed a sense of self-compassion, in order to survive (Gilbert, 2020) and compensate for the lack of care and support they may have experienced from others, however more research is required to investigate this.

Self-Criticism

No difference was found between the two groups on any of the subscales measuring self-criticism. This does not support the hypothesis 'ex-boarders may have higher

levels of self-criticism'. This may suggest that boarding school is not necessarily associated with the development of high levels of self-criticism, as suggested by Duffell (2010). This finding could also be suggested to be surprising, as experiences of abuse, bullying and lack of affection, which have been associated with boarding school (Duffell, 2010; Schaverien, 2015) and were frequently reported in the current study, have been found to be associated with problems with shame and self-criticism (Kaufman, 2004; Andrews, 1998; Schore, 1998). Further research into protective factors against the development of self-criticism in ex-boarders may be helpful in the future.

Attachment

More ex-full boarders were found to be insecurely (Fearful) attached, whereas more ex-day students were securely attached. This supports the third research hypothesis 'Ex-boarders may also be expected to have more insecure attachments' and previous suggestions that boarding school can be experienced as a loss of attachment figures (Schaverien, 2015; Fisher et al., 1990). Ex-boarders developing a more insecure (Fearful) attachment style may be associated with more threatening parenting experiences (Mikulincer & Schaver, 2007) from boarding staff, as described in the qualitative comments from the current study and by Duffell (2010). Findings from the current study may also suggest that staff may have been experienced as being uncaring, unsupportive and not providing love, or as providing inconsistent or unpredictable care. As a result, ex-boarders may have been left feeling insecure and as a result may have adapted their attachment behaviour in order to reduce feelings of uncertainty or rejection as suggested by Bowlby (1973).

However, Bowlby's (1973) findings were based on infant attachment behaviour, therefore may not apply to older children. It may also be suggested that the separation from caregivers associated with boarding school may result in a lack of feelings of security (Erokzan, 2009). This coupled with feelings of rejection from parents reported to be experienced by ex-boarders in the current study and suggested others (Schaverien, 2015; Faulkner, 2020), could result in ex-boarders developing a more negative model of themselves and others. This could involve ex-boarders experiencing others as uncaring and unavailable, viewing themselves as unlovable and avoiding intimacy for fear of being abandoned or hurt by others (Bartholomew & Horrowitz, 1991). This may also be relevant to the suggestions by Schaverien (2011) that ex-boarders struggle with interpersonal relationships. These conclusions are tentative as further research is required to confirm whether attachment style changes after attending boarding school or whether insecurely attached children are more likely to attend boarding school.

What factors predict compassion, self-criticism and attachment style?

Compassion

For all three flows of compassion, females attending an all-girls school had the highest scores. This may suggest that being female in an-all female school environment may aid the development of compassion. Previous research has suggested that there may be gender differences in compassion to others, with females being more able to be compassionate towards others (Henshall et al., 2018). However, these findings came from a sample that mainly consisted of female

health care professionals, which may not be generalisable to the current sample. This may suggest that further research in to all-girls school environments and the development of compassion may be warranted.

Perceptions of participants' peer groups as being close were found to predict self-compassion and being able to experience others as compassionate, with closer peer groups being associated with higher scores. It may be suggested that strong peer relationships facilitate the development of compassion, perhaps by activating the soothing system, which is associated with experiences of care and kindness and a motivation to connect with others (Gilbert, 2009b).

Perceptions of the school environment as threatening and competitive were associated with lower self-compassion scores. However, participants who perceived their school as being the most threatening had the highest self-compassion scores. Two contradictory processes explain these results, e.g., those individuals who perceived their school environments as threatening but with lower self-compassion scores may have internalised threatening, critical comments aimed at them during school and as such developed views of themselves as less deserving of compassion. In contrast, individuals who perceived their school as being the most threatening may have developed a greater sense of self-compassion in order to survive the high threat environment (Gilbert, 2020). Further research is required to make sense of these findings.

Perceptions of staff as being unsupportive were found to be associated with lower compassion from others scores. This might relate to findings discussed above that

individuals need to experience others as being understanding, kind and gentle, in order to feel safe and soothed (Gilbert, 2009b), which are important for the development of compassion and emotional regulation (Gilbert, 2005). If staff at school are not perceived to be supportive, it may be difficult for children to learn to experience others as acting compassionately towards them.

Self-Criticism

Females at co-educational schools were found to have significantly higher levels of self-criticism and self-reassurance than females at an all-girls school. It could be suggested that higher levels of self-reassurance may have developed in response to the higher levels of self-criticism these individuals experienced. However further research may be required to confirm this. It might also be useful to investigate whether rates of self-criticism differ between different genders attending different types of schools (e.g., single gender or co-educational). These findings could then be used to implement interventions aimed at reducing self-criticism with groups identified to be most at risk of developing self-criticism. Particularly as self-criticism has been associated with various mental health difficulties (Gilbert et al., 2006; Cox et al., 2000; Gilbert et al., 2010).

Individuals who perceived staff to be unsupportive and perceived their peer group to be less close had higher levels of self-criticism and were less able to reassure themselves when things went wrong. This may be linked to previous findings that affiliative behaviour (which may potentially be associated with having supportive staff and close relationships with peers) can reduce self-criticism (Naismith et al., 2018).

Participants who perceived their schools to be the most competitive had higher levels of self-criticism and lower levels of self-reassurance. This may be related to previous findings that have found competitiveness and self-criticism to be correlated (Zuroff & Duncan, 1999). Furthermore, perceiving the school environment as threatening was associated with increases in self-criticism and feeling inadequate. This may be linked to previous findings that experiences of threatening and unsafe environments have been associated with the development of self-criticism (Gilbert & Irons, 2009).

A post-hoc regression analysis revealed that when the school environment variables (perceived supportiveness of staff, closeness of peer group, competitiveness of school and threat of school) and type of school were removed, BES was statistically significant. The results suggested that increased exposure to boarding school was associated with higher Hated Self scores and a reduced ability to reassure oneself when things go wrong. The school environment variables were also found to be highly correlated with BES, which may suggest that boarding school environments could be experienced as more threatening and competitive (as suggested by Duffell, 2010) and could involve less support from staff and closeness of peers. This may be supported by the current findings that ex-boarders rated their schools as the most threatening and competitive, with the lowest levels of perceived support from staff. Coupled with the qualitative reports of boarding school experiences that involved 'competitiveness', 'fear and feeling unsafe' and 'abuse'. However, ex-boarders also had the highest scores for perceived closeness of peer group and gave qualitative

reports of 'positive relationships with peers' which may suggest that further investigation into boarding school environments is required.

Attachment

Perceptions of peer groups being less close and of staff as being unsupportive were associated with participants being more likely to be insecurely attached (Fearful and Preoccupied). It might be suggested that it is more difficult to develop secure attachments if individuals do not feel close to or supported by others in their environment (Bowlby, 1973; Ainsworth et al., 2015).

In a post-hoc regression analysis, when the school environment factors were removed, it was found that the higher the BES score was, the more likely participants were to be classed as Style B (Fearful) than Style A (Secure). This may suggest that increased exposure to boarding school has a potentially negative impact on attachment style. This may be related to ex-boarders in the current study experiencing their schools as the most competitive and threatening, which has been suggested by Duffell (2010) and the qualitative comments regarding 'Separation from loved ones' and experiences of 'Lack of care and nurture' discussed above.

What boarding school experiences influenced people most in their adult life?

A range of positive and negative boarding experiences were reported by participants to have influenced them in their adult lives. These may be understood within the context of three emotional regulation systems (Gilbert, 2009b).

In terms of the positive experiences, experiences of positive relationships with peers and finding their environment to be supportive may be associated with activating the soothing system, which involves feelings of safeness, connection and has an affiliative focus (Gilbert, 2009b). The soothing system has been linked with the secure attachment experiences and the development of compassion (Gilbert, 2009b; Gilbert, 2020).

Experiences of extra-curricular activities, independence and striving may be associated with the drive system, which involves resource seeking and has an incentive focus (Gilbert, 2009b). However, it is possible that experiences of striving, could be experienced negatively too and lead to the development of self-criticism in some ex-boarders, particularly if they are trying to avoid failure (as suggested by Duffell, 2010) or rejection (Castilho et al., 2017). This may also reduce individuals' abilities to activate their soothing system and develop compassion (Gilbert & Irons, 2009).

Reports of negative experiences outweighed positive experiences. Experiences of fear and feeling unsafe, feeling controlled, abuse, lack of support and nurture, bullying and separation from loved ones, may be suggested to activate the threat system (Gilbert, 2009b). This system is associated with detecting threats quickly and triggering emotions such as anxiety, anger and disgust, which result in survival behaviours such as fight, flight and submit (Gilbert, 2001). It has been suggested that activation of this system also involves suppressing behaviours not related to

surviving the threat (Gilbert, 2020), therefore it may be suggested that developing

compassion (for the self, others and experiencing it from others) could be affected.

As discussed above, the development of compassion may also be affected by

experiences of care at boarding school that lacked support and nurture. For

example, experiences of understanding, kindness and gentleness from others is

required to feel safe and soothed, which is important for compassion and emotional

regulation (Gilbert, 2005). Furthermore, it may be suggested that ex-boarders having

to suppress emotions and become self-sufficient (Duffell, 2010), in the face of not

having adults who can support and nurture them could negatively impact on their

ability to learn ways to tolerate distress, which is another key component in the

development of compassion (Gilbert, 2009a). This may also reflect a negative

consequence of positive experiences associated with 'independence'.

Experiences reported in the current study may also be suggested to have negative

impacts on attachment, as described above. For example, feeling insecure and

adapting attachment behaviours to avoid rejection or uncertainty in the response to

care that lacked support or was unpredictable (Bowlby, 1973). Furthermore,

experiences related to 'separation from loved ones' as reported by participants in the

current study could be associated with feelings of rejection. This may result in ex-

boarders avoiding intimacy with others for fear of being abandoned (Bartholomew &

Horrowitz, 1991). This may be relevant to the suggestions from Schaverien (2011)

that ex-boarders experience difficulties in their interpersonal relationships.

Negative experiences reported in the current study have also been reported to play an important role in the development of self-criticism. For example, Gilbert and Irons (2009) found that experiences of threatening and unsafe environments, harsh parenting and bullying have been associated with the development of self-criticism, although this was not supported in the current study.

In summary, a range of positive and negative boarding experiences were reported by participants to have influenced them in adulthood. These may be understood within the context of the emotional regulation systems (Gilbert, 2009b) and influence the development of compassion, self-criticism and attachment style. However, it is acknowledged that in the current study, the qualitative comments from ex-day students were not analysed. Therefore, the experiences described may not be solely reflective of boarding experiences and further investigation may be required.

Clinical Implications

The findings may suggest that interventions focused on fostering compassion to others and noticing compassion from others, such as group or individual Compassionate Mind Training (Gilbert & Irons, 2005; Irons & Heriot-Maitland, 2020) may have a useful preventative role within current boarding practices, to reduce the likelihood of longer-term difficulties for ex-boarders. This may also have longer-term positive financial implications for mental health services and reputational benefits for boarding schools who are seen to be actively addressing factors related to mental health in their students. This may also bring societal benefits, if ex-boarders continue

to hold positions of power, where compassion in law and policy making can be introduced, in line with the Compassion in Politics' aims.

The findings also highlight other preventative measures that could be undertaken in current boarding practices, such as: ensuring staff are experienced as supportive and caring; actively supporting boarders' relationships with their loved ones; reducing threat in the environment by trying to eradicate instances of bullying and abuse and ensuring there is a balance between competitiveness and compassion.

Limitations and Further Areas for Research

A main limitation of this research is that the data is retrospective and self-report in nature. This may have resulted in biases in recalling experiences or when answering the questions, reducing the validity of the findings.

Furthermore, although the online questionnaire format increased accessibility and resulted in a large sample size, this method of data collection is associated with a lack of control. This may have resulted in participants reporting inaccurate information, reducing the reliability of the findings.

Similarly, although recruitment methods were varied, they also involved contacting ex-boarder support organisations, which could have resulted in the sample being vulnerable to bias and not representative of boarding experiences more widely. Unfortunately, data on how many participants were recruited from each source was not recorded, therefore the true extent of this cannot be known. Future research may

consider recording/controlling where participants were recruited from and conducting interviews with ex-boarders to overcome the risk of bias and the limitations of anonymous, online data collection methods. However, it is also possible that the anonymous nature of the online questionnaire also reduced the likelihood of social desirability bias and facilitated participation.

Representativeness of the sample may also limit the extent to which the findings generalise to the current educational context, as there are more males than females in State and Private schools and more male boarders (Department for Education, 2021; Independent Schools Council, 2020). However, the current sample had a greater number of participants identifying as female. In terms of ethnicity, the sample reflected the current educational context, in that 'White' was the majority ethnic group. This is the same in State and Private schools (Department for Education, 2021; Independent Schools Council, 2020). In regards to age, there was a large range in the ages of participants, which may have resulted in some of the findings reflecting previous boarding school experiences that may not apply to present boarding school life.

A strength of this study was how it was a novel application of measures of compassion and self-criticism in adult ex-boarders. However, as these measures were not applied prior to starting boarding school, causality cannot be assumed. This may highlight an avenue for a longitudinal study in the future. Future research may also want to consider alternative measures of attachment, as in the current study continuous ratings on the RQ (Bartholomew & Horrowitz, 1991) were not easily categorised and resulted in the categorical approach being adopted. It might be

appropriate to use the Adult Attachment Interview (George et al., 1996), which is the most established measure of attachment with excellent psychometric properties (Ravitz et al., 2010).

A further limitation of the current study is how participants may have had different interpretations of some of the questions, reflecting a possible influence of subjectivity. This may have reduced the generalisability and validity of the findings (e.g., different people may have interpreted 'competitiveness of school' differently).

Validity of the BES might also be questionable, as it was an ad hoc measure aimed at capturing depth of exposure to boarding school, which has not been used in research before. In future, capturing boarding exposure in alternative ways may be useful.

Conclusion

Various school environment factors such as perceived closeness of peers, perceived threat of school and the gender mix of pupil and school were found to differentially predict compassion, self-criticism and attachment in both ex-boarders and ex-day students. This study also revealed one picture of boarding school providing opportunities for friendship, academic success and independence. However, a second picture also emerged from the data. One where being separated from family at an early age coupled with experiences of abuse, neglect and bullying may lead to difficulties in attachment (and future relationships), and both receiving and giving compassion.

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Appendix A: Epistemological statement

Epistemological statement

It is necessary to take into account the ontological and epistemological perspectives adopted by the researcher in order to understand the assumptions underpinning the research within this thesis. This statement aims to explain what is meant by ontology and epistemology and to clarify the stance the researcher adopted.

Ontology refers to the nature of reality (Goertz & Mahoney, 2016) and what can be known about the world (Snape & Spencer, 2003). There are two main ontological positions, realist and relativist (Willig, 2012). A realist position assumes that there is one observable truth that can be measured (Merriam, 2002), whereas a relativist position assumes that experiences are subjective and can be interpreted in multiple different ways (Willig, 2012). Epistemology refers to the nature of knowledge and how it can be acquired (Willig, 2019). Willig (2012) argued that it is essential for researchers to be aware of their assumptions surrounding knowledge and its acquisition. This is because epistemology influences the methodology chosen and thus the methodologies used (Carter & Little, 2007). Quantitative and qualitative methodologies have different epistemological and ontological perspectives (Yilmaz, 2013). Quantitative approaches tend to adopt a realist ontology and positivist epistemology, where predictions and generalisations arise from quantitative data collection and analysis. In contrast, qualitative approaches tend to adopt a relativist ontology and constructionist epistemology, aiming to provide an in-depth

understanding of experiences and the meanings associated with them (Yilmaz, 2013).

It has been suggested that due to their differing epistemological and ontological underpinnings, qualitative and quantitative approaches may be incompatible (Howe, 1992). However, an alternative view exists to suggest that combining research methods can complement each other (Greene et al., 1989; Jick, 1979). A critical realist perspective includes elements of both positivist and interpretivist positions (Bhaskar, 1975); as it assumes that findings can provide insight to a phenomenon/event that is happening in the world, but that these findings need to be interpreted further to understand the factors and interactions that underlie the phenomenon/event (Willig, 2012).

When conceptualising my portfolio thesis and reflecting on my own personal ontological and epistemological beliefs, I discovered that I do not align solely with a relativist or positivist position. Instead, I found myself valuing both approaches and deciding that a combination of methodologies associated with these positions may allow me to answer my research questions. Therefore, a critical realist approach was found to fit best with my personal ideology.

It was important to ensure that the approach used in the research was relevant to my research questions, as well as my personal views. McEvoy and Richards (2006) described how the critical realist perspective values the use of both quantitative and qualitative methods; as quantitative methods can test theories of how causal processes occur within a certain context (Mingers, 2004), whereas qualitative

methods enable the discovery of factors and themes not previously identified. Therefore, quantitative methods were used within the empirical study to answer the research questions that considered whether there is a difference in compassion, self-criticism and attachment style between adult ex-boarders and ex-day students and what factors predicted these three variables. Qualitative data was collected in order to understand these findings further and the factors and interactions that could underpin them, by asking participants what experiences from their schooling they felt had influenced them most in their adult life. Collecting qualitative data from participants about their experiences using this question was also in line with the critical realist view that there are different, valid perspectives on reality (Maxwell, 2012).

In terms of the systematic literature review, a narrative synthesis of quantitative studies was performed. It could be argued that this research may have been more in line with a positivist approach, as only quantitative data was focused on. However, part of critical realism involves using methods that fit with nature of the research problem (McEvoy & Richards, 2006). As the systematic literature aimed to collate the limited available quantitative research in order to compliment the pre-existing qualitative and anecdotal knowledge base, the approach was deemed acceptable.

To conclude, a critical realist approach was adopted for this thesis. This involved utilising both quantitative and qualitative methodologies to different extents to answer the research questions, in the hope of developing casual explanations of complex phenomenon (Wynn & Williams, 2012).

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Appendix B: Reflective statement

Reflective Statement

The Empirical Paper

Conceptualising the idea/ where it all began

When preparing for the Clinical Psychology Doctorate interview, I began thinking about what sort of questions I might be asked by the panel. One of the areas I expected to be asked about was my idea for my doctoral thesis. Having recently had the opportunity to reflect on my own experiences of attending boarding school from aged 10 and the considerable influence this has had on me, I felt that this might be an interesting area to investigate. I was aware of some of the literature on this topic after completing an assignment for my English A-Level, which I had 'filed away for rainy day'.

When I was successful upon getting onto the Clinical Psychology Doctorate and the time came for me to design my own research study, I felt excited and enthused about revisiting this topic, which was very close to my heart, whilst also feeling a little overwhelmed at the size of challenge I was about to undertake. I was unsure of the direction I wanted to take my research, however after being introduced to Compassion Focused Therapy (Gilbert, 2009) by my personal tutor (who was also one of my Research Supervisors) I felt that this was an area worth exploring further. Further examination of the literature base revealed that this was an area that had not

been explored before, which added to my motivation to make the most of the opportunity I had to research this topic. My idea was further shaped by discussions with Professor Paul Gilbert, who also shared his own experiences of attending boarding school and the relevance this might have to the development of compassion and self-criticism.

Considerable time was spent with my personal tutor/research supervisors reflecting on whether this would be an appropriate topic for me due to my personal experiences. We acknowledged that my interest and passion could be a valuable source of motivation when the research journey hit inevitable difficult patches but also considered that being 'close' to the topic could have negative consequences on my wellbeing and result in potential bias. In order to limit this, regular supervision sessions were scheduled, where the emotional impact of the research was a key item on the agenda. I feel very lucky that I had such strong relationships with my supervisors, where we could openly reflect and discuss when things were getting too much or if they felt that potential bias was creeping in. On reflection, I am glad that I chose this topic as I remained interested and passionate about it, even after many hours spent in front of the laptop feeling quite hopeless at times. If investigating the topic again or a different topic that has personal resonance with my life experiences in future, I would try to ensure that I had a strong support network (both related to the research and outside of it) again and encourage others to do the same.

Designing the study felt like a relatively straightforward process. I was keen to collect data from a large sample using quantitative measures, as I was aware that there was not a lot of quantitative data available on (ex) boarding school populations. These

also seemed to fit best with my research questions. An online questionnaire felt like the most appropriate method to use to collect data from a large sample within the relatively short amount of time to conduct the study. When discussing the originally proposed research questions with my research supervisors, I felt that something was missing. I proposed including an additional, qualitative element to the online questionnaire in order to give participants a voice and a platform to share their experiences in relation to this area that had not been studied before. On reflection, although this left me with a considerable amount of data and analysis (which was very difficult at times), I am really pleased that I did this as I feel that my study has produced rich and interesting findings. In future, I think it will be important for me to consider again what designs best suit the topic being researched and address any potential gaps in the evidence base.

Participant Recruitment and Data Collection

Recruiting participants involved sharing the online questionnaire link via social media and through email contact. I expected that recruiting participants for the boarding group might be potentially difficult due to them being quite a niche group, who might feel a sense of loyalty of their schools and not want to be part of research that could potentially show boarding in a negative light. I was also aware that a major source of recruiting ex-boarders would be from a support organisation and this could lead to bias. In order to overcome these potential obstacles, I personally contacted 434 boarding school alumni groups in the hope of increasing participation and ensuring responses reflected as balanced a view of boarding experiences as possible. On reflection, this was an incredibly time-consuming part of my research, however I

believe it was useful as I had a very similar number of ex-boarders and ex-day students in my final sample. When conducting research in the future, particularly if there is a time constraint, I would consider methods of recruiting participants that are more time efficient.

I expected data collection to be a difficult process which would involve me having to 'nag' people to participate, as this had been my experience of using online questionnaires previously. However, I was pleasantly surprised when I had nearly 100 responses on the first day of advertising the study. I believe this is a reflection of the context in which I was collecting my data, as the COVID-19 pandemic had resulted in a number of people being furloughed and a general feeling of wanting to help each other, which I think my data collection process benefitted from. I also expected this method of data collection to feel impersonal as participants were anonymous. In reality I experienced it to be very personal, in particular the qualitative comments brought the participants 'to life' and showed me the importance of conducting this research. Surprisingly, I also received a number of emails from participants who were keen to make contact with me. These emails brought up a range of emotions, some people sent messages of support for the research and offers to further share their stories or poems they had written about their experiences. I found these emails deeply moving as I could identify with some of the things people had shared and was humbled by the general willingness to show vulnerability. Other emails I received brought up more difficult emotions, some people were critical of my research and shared their views on how it could be improved. This unexpected email communication, in particular the criticism, made me reflect on how it must feel to undertake my questionnaire. I wondered if it would

be particularly upsetting for some individuals to recount their experiences via an online questionnaire, without any 'human contact'. I later received more specific feedback that some participants found answering the questions relating to the FSCRS (Gilbert et al., 2004) particularly difficult, this may be something for researchers using this measure to bear in mind and ensure there is adequate sources of support made available/known to participants.

Data analysis

Once I had all my data, I was both excited and nervous to see what I had 'found'. Throughout the data collection process, I had been monitoring the qualitative comments to identify 'loose' themes, some of which were particularly moving (e.g., feelings of rejection, abandonment and reports of abuse). I felt a sense of anxiety and responsibility when conducting the qualitative analysis, as participants had been extremely generous with sharing their experiences and being very open. I wanted to ensure that I communicated what they had said in the most sensitive and informative manner.

I also felt overwhelmed with the amount of data I had, particularly with regards to quantitative data and the subsequent analysis this would require, as this felt out of my comfort zone. The department's statistician was an invaluable source of knowledge and support with the quantitative analysis. I found that once we had discussed the statistical tests and how to run and interpret them on SPSS, I felt more confident and enjoyed seeing what the results were. In future research endeavours, it would be useful to remember how at times it felt impossible to understand and

conduct some of the quantitative analysis, however with perseverance and time spent reading up on the tests I could overcome these obstacles.

On reflection, I am glad I chose to conduct both quantitative and qualitative analysis as it allowed me to learn more about statistical and content analysis, whilst refreshing my memory of using SPSS. These are skills I feel are beneficial to future research I may conduct.

Report writing

Writing up my research felt like the most anxiety provoking part of the research journey. I found it rewarding to reflect on what I had found and think about the clinical implications of this. However, I also felt a sense of fear about how to put these findings into words that people would potentially read and how to actually start writing a thesis. To manage this, I tried to break it down into sections, which I tackled one at a time. Starting with parts that had more certainty and structure surrounding them (e.g., methods) also helped me to get started and gain a sense of achievement. This is how I have approached written assignments in the past and I found it a helpful strategy again to stay calm and keep writing. I am sure I will rely on this method in the future when faced with pieces of work that are anxiety inducing.

Systematic Literature Review (SLR)

I found the SLR to be one of the most difficult and least enjoyable parts of the thesis. I tried to select a topic that I felt had value and was of interest to me, in the hope of

keeping me interested and motivated. However, I struggled with self-doubt at each step, which significantly hindered my progress. I think part of this was self-doubt was induced by how long the process takes generally, I would put in hours of work and often feel like I had not got anywhere. It was only after I had completed a stage, I would understand that I had overcome a huge step in the process which brought me closer to completing the task. Another factor which contributed to myself doubt was the lack of evidence I could report on. When I read other reviews and returned to mine, I often felt overwhelmed and disappointed. My supervisor had to remind me constantly that I can only report on what has been written and that the lack of evidence was not my personal responsibility. In identifying themes from the literature, I felt it was a shame that I ended up using diagnostic categories, as I personally prefer to adopt a more holistic and individualised understanding of mental health, such as the Power Threat Meaning Framework (Johnstone & Boyle, 2018) in my clinical work. On one level I felt uncomfortable with some of the language used in my review and about privileging the medical model of mental health (Klerman, 1977).

It is possible that I may need to conduct another review of the literature in future research or clinical work and I will try to hold on to the lessons I have learnt through conducting this one.

Dealing with obstacles and difficulties

When undertaking this thesis, I have been faced with a number of significant challenges and obstacles both in my clinical training and in my personal life. These often left me feeling helpless and unable to write anything that I deemed coherent

towards my thesis. In particular, losing one of my research supervisors to long term sickness was experienced as a real loss, and induced much concern for them, as they had brought much valued expertise and laughter to the research process. Conducting research in a pandemic was also challenging, as I did not have the same coping mechanisms for dealing with the stress undertaking a thesis induces. I found that I had to adapt and be more creative about how I took care of myself, a lesson that will definitely benefit me in my future career.

One particularly difficult ethical issue I was faced with was having to act on an anonymous report of abuse that was included in the qualitative comments. This involved me seeking advice from my research supervisor and the local Safeguarding team as to what do to with this information. I ended up having to phone the Police to report this as a crime. I felt mixed feelings about this as I knew I had a responsibility to share this information but also felt guilty that I could not discuss this with the person first as I did not know their identity. I had to draw comfort from the fact that I had stated clearly in the Participant Information Sheet that this would be the protocol if identifiable information was provided within the study. On reflection I feel that my approach to this issue was professional and appropriate.

Summary

In summary, I have found the research process exciting, rewarding, stressful and difficult. I have learnt the value of having a supportive and patient research team around me, which I will definitely aim to replicate if conducting research with others in the future. Throughout the whole process I have learnt more about the benefits

and costs to researching a topic with personal relevance and still feel passionate

about conducting more research into this area in the future.

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Appendix C: Author Guidelines for Systematic Literature Review Submission to *Educational Psychology Review*

Instructions for Authors

APA Style

Please follow the 6th Edition of the APA Style Guide.

Text must be double-spaced, 12-point Times New Roman with standard 1-inch margins on all sides.

Manuscripts should not exceed 40 pages (or 12,000 words), including title page, Abstract, tables, appendices, and notes, but excluding all necessary references and figures (for an approximate total length of no more than 50 pages). Manuscripts that exceed 50 pages may be returned without review.

Types of papers

Review, Meta-Analysis, Editorial, Commentary, Interview, Replication, Intervention

General information

If problem encountered during submission through EM please contact Fred Paas (EiC).

Editorial procedure

Double-blind peer review

This journal follows a double-blind reviewing procedure. Authors are therefore requested to submit:

- A blinded manuscript without any author names and affiliations in the text or on the title page. Self-identifying citations and references in the article text should be avoided.
- A separate title page, containing title, all author names, affiliations, and the contact information of the corresponding author. Any acknowledgements, disclosures, or funding information should also be included on this page.

Manuscript Submission

Manuscript Submission

Submission of a manuscript implies: that the work described has not been published before; that it is not under consideration for publication anywhere else; that its publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation.

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Authors wishing to include figures, tables, or text passages that have already been published elsewhere are required to obtain permission from the copyright owner(s) for both the print and online format and to include evidence that such permission has been granted when submitting their papers. Any material received without such evidence will be assumed to originate from the authors.

Online Submission

Please follow the hyperlink "Submit manuscript" on the right and upload all of your manuscript files following the instructions given on the screen.

Please ensure you provide all relevant editable source files. Failing to submit these source files might cause unnecessary delays in the review and production process.

Title page

Title Page

Please make sure your title page contains the following information.

Title

The title should be concise and informative.

Author information

- The name(s) of the author(s)
- The affiliation(s) of the author(s), i.e. institution, (department), city, (state), country
- A clear indication and an active e-mail address of the corresponding author
- If available, the 16-digit ORCID of the author(s)

If address information is provided with the affiliation(s) it will also be published.

For authors that are (temporarily) unaffiliated we will only capture their city and country of residence, not their e-mail address unless specifically requested.

Abstract

Please provide an abstract of 150 to 250 words. The abstract should not contain any undefined abbreviations or unspecified references.

For life science journals only (when applicable)

Trial registration number and date of registration

Trial registration number, date of registration followed by "retrospectively registered"

Keywords

Please provide 4 to 6 keywords which can be used for indexing purposes.

Declarations

All manuscripts must contain the following sections under the heading 'Declarations'.

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

To be used for all articles, including articles with biological applications

Funding (information that explains whether and by whom the research was supported)

Conflicts of interest/Competing interests (include appropriate disclosures)

Availability of data and material (data transparency)

Code availability (software application or custom code)

Authors' contributions (optional: please review the submission guidelines from the journal whether statements are mandatory)

Additional declarations for articles in life science journals that report the results of studies involving humans and/or animals

Ethics approval (include appropriate approvals or waivers)

Consent to participate (include appropriate statements)

Consent for publication (include appropriate statements)

Please see the relevant sections in the submission guidelines for further information as well as various examples of wording. Please revise/customize the sample statements according to your own needs.

Text

Text Formatting

Manuscripts should be submitted in Word.

- Use a normal, plain font (e.g., 10-point Times Roman) for text.
- Use italics for emphasis.
- Use the automatic page numbering function to number the pages.
- Do not use field functions.
- Use tab stops or other commands for indents, not the space bar.
- Use the table function, not spreadsheets, to make tables.
- Use the equation editor or MathType for equations.
- Save your file in docx format (Word 2007 or higher) or doc format (older Word versions).

Manuscripts with mathematical content can also be submitted in LaTeX.

Headings

Please use no more than three levels of displayed headings.

Abbreviations

Abbreviations should be defined at first mention and used consistently thereafter.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a

reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

Acknowledgments

Acknowledgments of people, grants, funds, etc. should be placed in a separate section on the title page. The names of funding organizations should be written in full.

Terminology

- Please use the standard mathematical notation for formulae, symbols etc.:Italic for single letters that denote mathematical constants, variables, and unknown quantities Roman/upright for numerals, operators, and punctuation, and commonly defined functions or abbreviations, e.g., cos, det, e or exp, lim, log, max, min, sin, tan, d (for derivative) Bold for vectors, tensors, and matrices.

Scientific style

- Please always use internationally accepted signs and symbols for units (SI units).
- Generic names of drugs and pesticides are preferred; if trade names are used, the generic name should be given at first mention.

References

Citation

Cite references in the text by name and year in parentheses. Some examples:

- Negotiation research spans many disciplines (Thompson, 1990).
- This result was later contradicted by Becker and Seligman (1996).
- This effect has been widely studied (Abbott, 1991; Barakat et al., 1995; Kelso & Smith, 1998; Medvec et al., 1999).

Authors are encouraged to follow official APA version 7 guidelines on the number of authors included in reference list entries (i.e., include all authors up to 20; for larger

groups, give the first 19 names followed by an ellipsis and the final author's name). However, if authors shorten the author group by using et al., this will be retained.

Reference list

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text.

Reference list entries should be alphabetized by the last names of the first author of each work.

Journal names and book titles should be italicized.

If available, please always include DOIs as full DOI links in your reference list (e.g. "https://doi.org/abc").

- Journal article Grady, J. S., Her, M., Moreno, G., Perez, C., & Yelinek, J. (2019). Emotions in storybooks: A comparison of storybooks that represent ethnic and racial groups in the United States. Psychology of Popular Media Culture, 8(3), 207–217. https://doi.org/10.1037/ppm0000185
- Article by DOI Hong, I., Knox, S., Pryor, L., Mroz, T. M., Graham, J., Shields, M. F., & Reistetter, T. A. (2020). Is referral to home health rehabilitation following inpatient rehabilitation facility associated with 90-day hospital readmission for adult patients with stroke? American Journal of Physical Medicine & Rehabilitation. Advance online publication. https://doi.org/10.1097/PHM.0000000000001435
- Book Sapolsky, R. M. (2017). Behave: The biology of humans at our best and worst. Penguin Books.
- Book chapter Dillard, J. P. (2020). Currents in the study of persuasion. In M. B. Oliver, A. A. Raney, & J. Bryant (Eds.), Media effects: Advances in theory and research (4th ed., pp. 115–129). Routledge.
- Online document Fagan, J. (2019, March 25). Nursing clinical brain. OER Commons. Retrieved January 7, 2020, from https://www.oercommons.org/authoring/53029-nursing-clinical-brain/view

Tables

- All tables are to be numbered using Arabic numerals.
- Tables should always be cited in text in consecutive numerical order.
- For each table, please supply a table caption (title) explaining the components of the table.

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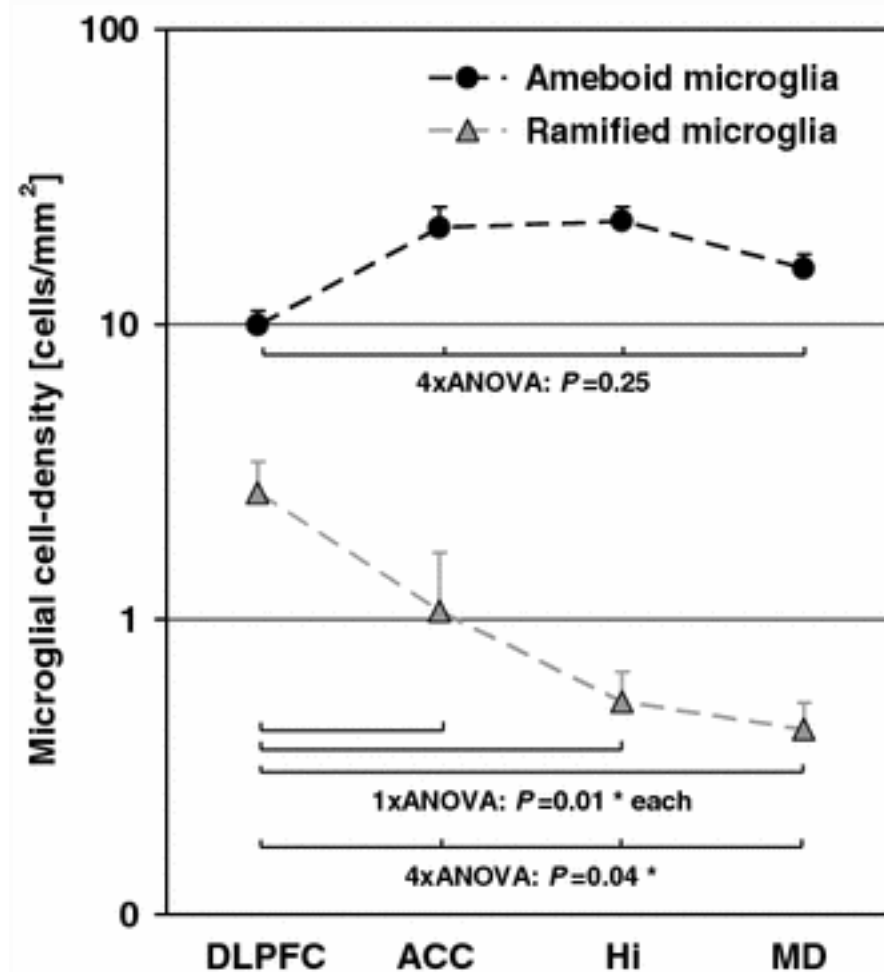
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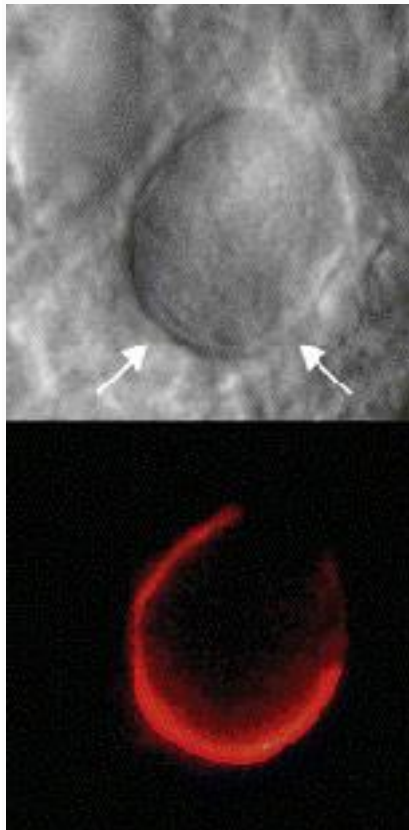
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- Halftones should have a minimum resolution of 300 dpi.

Combination Art

Group I
- mGlu1α ... TMD ... 1199
- mGlu1β ... 906
- mGlu1d ... 908
- mGlu1E55 ... 301
- mGlu5a ... 1171
- mGlu5b ... 1203

Group II
- mGlu3 ... 936
- mGlu3Δ4 ... 535

Group III
- mGlu6a ... 871
- mGlu6b ... 508
- mGlu7a ... 915
- mGlu7b ... 922
- mGlu7c ... 924
- mGlu7d ... 911
- mGlu7e ... 906
- mGlu8a ... 908
- mGlu8b ... 908
- mGlu8c ... 501
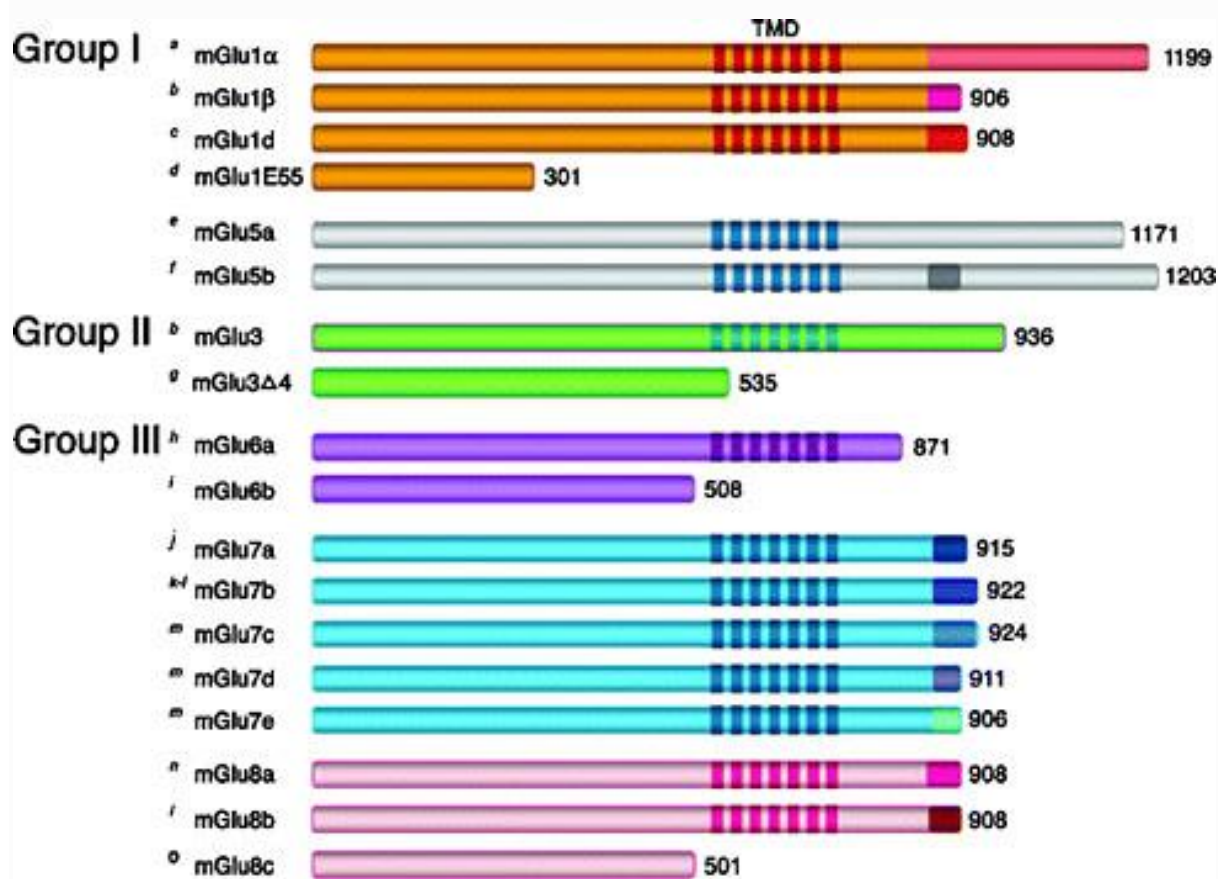
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Qualitative research (SRQR) and (COREQ)

Animal pre-clinical studies (ARRIVE)

Quality improvement studies (SQUIRE)

Economic evaluations (CHEERS)

Summary of requirements

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Ethics approval'.

Examples of statements to be used when ethics approval has been obtained:

• All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Bioethics Committee of the Medical University of A (No. …).

• This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of University B (Date…/No. …).

• Approval was obtained from the ethics committee of University C. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

• The questionnaire and methodology for this study was approved by the Human Research Ethics committee of the University of D (Ethics approval number: …).

Examples of statements to be used for a retrospective study:

• Ethical approval was waived by the local Ethics Committee of University A in view of the retrospective nature of the study and all the procedures being performed were part of the routine care.

• This research study was conducted retrospectively from data obtained for clinical purposes. We consulted extensively with the IRB of XYZ who determined that our study did not need ethical approval. An IRB official waiver of ethical approval was granted from the IRB of XYZ.

• This retrospective chart review study involving human participants was in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Human Investigation Committee (IRB) of University B approved this study.

Examples of statements to be used when no ethical approval is required/exemption granted:

• This is an observational study. The XYZ Research Ethics Committee has confirmed that no ethical approval is required.

• The data reproduced from Article X utilized human tissue that was procured via our Biobank AB, which provides de-identified samples. This study was reviewed and

deemed exempt by our XYZ Institutional Review Board. The BioBank protocols are in accordance with the ethical standards of our institution and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

Informed consent

All individuals have individual rights that are not to be infringed. Individual participants in studies have, for example, the right to decide what happens to the (identifiable) personal data gathered, to what they have said during a study or an interview, as well as to any photograph that was taken. This is especially true concerning images of vulnerable people (e.g. minors, patients, refugees, etc) or the use of images in sensitive contexts. In many instances authors will need to secure written consent before including images.

Identifying details (names, dates of birth, identity numbers, biometrical characteristics (such as facial features, fingerprint, writing style, voice pattern, DNA or other distinguishing characteristic) and other information) of the participants that were studied should not be published in written descriptions, photographs, and genetic profiles unless the information is essential for scholarly purposes and the participant (or parent/guardian if the participant is a minor or incapable or legal representative) gave written informed consent for publication. Complete anonymity is difficult to achieve in some cases. Detailed descriptions of individual participants, whether of their whole bodies or of body sections, may lead to disclosure of their identity. Under certain circumstances consent is not required as long as information is anonymized and the submission does not include images that may identify the person.

Informed consent for publication should be obtained if there is any doubt. For example, masking the eye region in photographs of participants is inadequate protection of anonymity. If identifying characteristics are altered to protect anonymity, such as in genetic profiles, authors should provide assurance that alterations do not distort meaning.

Exceptions where it is not necessary to obtain consent:

• Images such as x rays, laparoscopic images, ultrasound images, brain scans, pathology slides unless there is a concern about identifying information in which case, authors should ensure that consent is obtained.

• Reuse of images: If images are being reused from prior publications, the Publisher will assume that the prior publication obtained the relevant information regarding consent. Authors should provide the appropriate attribution for republished images.

Consent and already available data and/or biologic material

Regardless of whether material is collected from living or dead patients, they (family or guardian if the deceased has not made a pre-mortem decision) must have given prior written consent. The aspect of confidentiality as well as any wishes from the deceased should be respected.

Data protection, confidentiality and privacy

When biological material is donated for or data is generated as part of a research project authors should ensure, as part of the informed consent procedure, that the participants are made aware what kind of (personal) data will be processed, how it will be used and for what purpose. In case of data acquired via a biobank/biorepository, it is possible they apply a broad consent which allows research participants to consent to a broad range of uses of their data and samples which is regarded by research ethics committees as specific enough to be considered "informed". However, authors should always check the specific biobank/biorepository policies or any other type of data provider policies (in case of non-bio research) to be sure that this is the case.

Consent to Participate

For all research involving human subjects, freely-given, informed consent to participate in the study must be obtained from participants (or their parent or legal guardian in the case of children under 16) and a statement to this effect should appear in the manuscript. In the case of articles describing human transplantation studies, authors must include a statement declaring that no organs/tissues were obtained from prisoners and must also name the institution(s)/clinic(s)/department(s) via which organs/tissues were obtained. For manuscripts reporting studies involving vulnerable groups where there is the potential for coercion or where consent may not have been fully informed, extra care will be taken by the editor and may be referred to the Springer Nature Research Integrity Group.

Consent to Publish

Individuals may consent to participate in a study, but object to having their data published in a journal article. Authors should make sure to also seek consent from individuals to publish their data prior to submitting their paper to a journal. This is in particular applicable to case studies. A consent to publish form can be found here:

Summary of requirements

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Consent to participate' and/or 'Consent to publish'. Other declarations include Funding, Conflicts of interest/competing interests, Ethics approval, Consent, Data and/or Code availability and Authors' contribution statements.

Please see the various examples of wording below and revise/customize the sample statements according to your own needs.

Sample statements for "Consent to participate":

Informed consent was obtained from all individual participants included in the study.

Informed consent was obtained from legal guardians.

Written informed consent was obtained from the parents.

Verbal informed consent was obtained prior to the interview.

Sample statements for "Consent to publish":

The authors affirm that human research participants provided informed consent for publication of the images in Figure(s) 1a, 1b and 1c.

The participant has consented to the submission of the case report to the journal.

Patients signed informed consent regarding publishing their data and photographs.

Sample statements if identifying information about participants is available in the article:

Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.

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Images will be removed from publication if authors have not obtained informed consent or the paper may be removed and replaced with a notice explaining the reason for removal.

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Appendix D: Data Extraction Form

Author(s), Year of Publication, Title & Location of study	Research Aims	Sample	Design	Measurement Tool(s) of Psychological Phenomenon/ Impact	Method of Analysis	Key Findings	Strengths/ weaknesses

Appendix E: Quality Assessment Tool

QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES

Effective Public Health Practice Project

COMPONENT RATINGS

A) SELECTION BIAS

(Q1) Are the individuals selected to participate in the study likely to be representative of the target population?
1 Very likely
2 Somewhat likely
3 Not likely
4 Can't tell

(Q2) What percentage of selected individuals agreed to participate?
1 80 - 100% agreement
2 60 – 79% agreement
3 less than 60% agreement
4 Not applicable
5 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

B) STUDY DESIGN

Indicate the study design
1 Randomized controlled trial
2 Controlled clinical trial
3 Cohort analytic (two group pre + post)
4 Case-control
5 Cohort (one group pre + post (before and after))
6 Interrupted time series
7 Other specify _____
8 Can't tell

Was the study described as randomized? If NO, go to Component C.
No   Yes

If Yes, was the method of randomization described? (See dictionary)
No   Yes

If Yes, was the method appropriate? (See dictionary)
No   Yes

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

C) CONFOUNDERS

(Q1) **Were there important differences between groups prior to the intervention?**
- 1 Yes
- 2 No
- 3 Can't tell

The following are examples of confounders:
- 1 Race
- 2 Sex
- 3 Marital status/family
- 4 Age
- 5 SES (income or class)
- 6 Education
- 7 Health status
- 8 Pre-intervention score on outcome measure

(Q2) **If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g. stratification, matching) or analysis)?**
- 1 80 – 100% (most)
- 2 60 – 79% (some)
- 3 Less than 60% (few or none)
- 4 Can't Tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

D) BLINDING

(Q1) **Was (were) the outcome assessor(s) aware of the intervention or exposure status of participants?**
- 1 Yes
- 2 No
- 3 Can't tell

(Q2) **Were the study participants aware of the research question?**
- 1 Yes
- 2 No
- 3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

E) DATA COLLECTION METHODS

(Q1) **Were data collection tools shown to be valid?**
- 1 Yes
- 2 No
- 3 Can't tell

(Q2) **Were data collection tools shown to be reliable?**
- 1 Yes
- 2 No
- 3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

F)   WITHDRAWALS AND DROP-OUTS

(Q1)   **Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?**
1   Yes
2   No
3   Can't tell
4   Not Applicable (i.e. one time surveys or interviews)

(Q2)   **Indicate the percentage of participants completing the study. (If the percentage differs by groups, record the lowest).**
1   80 -100%
2   60 - 79%
3   less than 60%
4   Can't tell
5   Not Applicable (i.e. Retrospective case-control)

RATE THIS SECTION	STRONG	MODERATE	WEAK	
See dictionary	1	2	3	Not Applicable

G)   INTERVENTION INTEGRITY

(Q1)   **What percentage of participants received the allocated intervention or exposure of interest?**
1   80 -100%
2   60 - 79%
3   less than 60%
4   Can't tell

(Q2)   **Was the consistency of the intervention measured?**
1   Yes
2   No
3   Can't tell

(Q3)   **Is it likely that subjects received an unintended intervention (contamination or co-intervention) that may influence the results?**
4   Yes
5   No
6   Can't tell

H)   ANALYSES

(Q1)   **Indicate the unit of allocation (circle one)**
community   organization/institution   practice/office   individual

(Q2)   **Indicate the unit of analysis (circle one)**
community   organization/institution   practice/office   individual

(Q3)   **Are the statistical methods appropriate for the study design?**
1   Yes
2   No
3   Can't tell

(Q4)   **Is the analysis performed by intervention allocation status (i.e. intention to treat) rather than the actual intervention received?**
1   Yes
2   No
3   Can't tell

GLOBAL RATING

COMPONENT RATINGS

Please transcribe the information from the gray boxes on pages 1-4 onto this page. See dictionary on how to rate this section.

A	SELECTION BIAS	STRONG	MODERATE	WEAK	
		1	2	3	
B	STUDY DESIGN	STRONG	MODERATE	WEAK	
		1	2	3	
C	CONFOUNDERS	STRONG	MODERATE	WEAK	
		1	2	3	
D	BLINDING	STRONG	MODERATE	WEAK	
		1	2	3	
E	DATA COLLECTION METHOD	STRONG	MODERATE	WEAK	
		1	2	3	
F	WITHDRAWALS AND DROPOUTS	STRONG	MODERATE	WEAK	
		1	2	3	Not Applicable

GLOBAL RATING FOR THIS PAPER (circle one):

1	STRONG	(no WEAK ratings)
2	MODERATE	(one WEAK rating)
3	WEAK	(two or more WEAK ratings)

With both reviewers discussing the ratings:

Is there a discrepancy between the two reviewers with respect to the component (A-F) ratings?

      No   Yes

If yes, indicate the reason for the discrepancy

1	Oversight
2	Differences in interpretation of criteria
3	Differences in interpretation of study

Final decision of both reviewers (circle one):

1	STRONG
2	MODERATE
3	WEAK

Appendix F: Dictionary to Accompany Quality Assessment Tool

**Quality Assessment Tool
for Quantitative Studies
Dictionary**

EPHPP
Effective Public Health Practice Project

The purpose of this dictionary is to describe items in the tool thereby assisting raters to score study quality. Due to under-reporting or lack of clarity in the primary study, raters will need to make judgements about the extent that bias may be present. When making judgements about each component, raters should form their opinion based upon information contained in the study rather than making inferences about what the authors intended.

A) SELECTION BIAS

(Q1) Participants are more likely to be representative of the target population if they are randomly selected from a comprehensive list of individuals in the target population (score very likely). They may not be representative if they are referred from a source (e.g. clinic) in a systematic manner (score somewhat likely) or self-referred (score not likely).

(Q2) Refers to the % of subjects in the control and intervention groups that agreed to participate in the study before they were assigned to intervention or control groups.

B) STUDY DESIGN

In this section, raters assess the likelihood of bias due to the allocation process in an experimental study. For observational studies, raters assess the extent that assessments of exposure and outcome are likely to be independent. Generally, the type of design is a good indicator of the extent of bias. In stronger designs, an equivalent control group is present and the allocation process is such that the investigators are unable to predict the sequence.

Randomized Controlled Trial (RCT)
An experimental design where investigators randomly allocate eligible people to an intervention or control group. A rater should describe a study as an RCT if the randomization sequence allows each study participant to have the same chance of receiving each intervention and the investigators could not predict which intervention was next. If the investigators do not describe the allocation process and only use the words 'random' or 'randomly', the study is described as a controlled clinical trial.

See below for more details.

Was the study described as randomized?

Score YES, if the authors used words such as random allocation, randomly assigned, and random assignment.

Score NO, if no mention of randomization is made.

Was the method of randomization described?

Score YES, if the authors describe any method used to generate a random allocation sequence.

Score NO, if the authors do not describe the allocation method or describe methods of allocation such as alternation, case record numbers, dates of birth, day of the week, and any allocation procedure that is entirely transparent before assignment, such as an open list of random numbers of assignments.
If NO is scored, then the study is a controlled clinical trial.

Was the method appropriate?

Score YES, if the randomization sequence allowed each study participant to have the same chance of receiving each intervention and the investigators could not predict which intervention was next. Examples of appropriate approaches include assignment of subjects by a central office unaware of subject characteristics, or sequentially numbered, sealed, opaque envelopes.

Score NO, if the randomization sequence is open to the individuals responsible for recruiting and allocating participants or providing the intervention, since those individuals can influence the allocation process, either knowingly or unknowingly.

If NO is scored, then the study is a controlled clinical trial.

Controlled Clinical Trial (CCT)
An experimental study design where the method of allocating study subjects to intervention or control groups is open to individuals responsible for recruiting subjects or providing the intervention. The method of allocation is transparent before assignment, e.g. an open list of random numbers or allocation by date of birth, etc.

Cohort analytic (two group pre and post)
An observational study design where groups are assembled according to whether or not exposure to the intervention has occurred. Exposure to the intervention is not under the control of the investigators. Study groups might be non-equivalent or not comparable on some feature that affects outcome.

Case control study
A retrospective study design where the investigators gather 'cases' of people who already have the outcome of interest and 'controls' who do not. Both groups are then questioned or their records examined about whether they received the intervention exposure of interest.

Cohort (one group pre + post (before and after)
The same group is pretested, given an intervention, and tested immediately after the intervention. The intervention group, by means of the pretest, act as their own control group.

Interrupted time series
A time series consists of multiple observations over time. Observations can be on the same units (e.g. individuals over time) or on different but similar units (e.g. student achievement scores for particular grade and school). Interrupted time series analysis requires knowing the specific point in the series when an intervention occurred.

C)   CONFOUNDERS

By definition, a confounder is a variable that is associated with the intervention or exposure and causally related to the outcome of interest. Even in a robust study design, groups may not be balanced with respect to important variables prior to the intervention. The authors should indicate if confounders were controlled in the design (by stratification or matching) or in the analysis. If the allocation to intervention and control groups is randomized, the authors must report that the groups were balanced at baseline with respect to confounders (either in the text or a table).

D)   BLINDING

(Q1) Assessors should be described as blinded to which participants were in the control and intervention groups. The purpose of blinding the outcome assessors (who might also be the care providers) is to protect against detection bias.

(Q2) Study participants should not be aware of (i.e. blinded to) the research question. The purpose of blinding the participants is to protect against reporting bias.

E) DATA COLLECTION METHODS

Tools for primary outcome measures must be described as reliable and valid. If 'face' validity or 'content' validity has been demonstrated, this is acceptable. Some sources from which data may be collected are described below:

<u>Self reported data</u> includes data that is collected from participants in the study (e.g. completing a questionnaire, survey, answering questions during an interview, etc.).

<u>Assessment/Screening</u> includes objective data that is retrieved by the researchers. (e.g. observations by investigators).

<u>Medical Records/Vital Statistics</u> refers to the types of formal records used for the extraction of the data.

Reliability and validity can be reported in the study or in a separate study. For example, some standard assessment tools have known reliability and validity.

F) WITHDRAWALS AND DROP-OUTS

Score **YES** if the authors describe BOTH the numbers and reasons for withdrawals and drop-outs.

Score **NO** if either the numbers or reasons for withdrawals and drop-outs are not reported.

The percentage of participants completing the study refers to the % of subjects remaining in the study at the final data collection period in all groups (i.e. control and intervention groups).

G) INTERVENTION INTEGRITY

The number of participants receiving the intended intervention should be noted (consider both frequency and intensity). For example, the authors may have reported that at least 80 percent of the participants received the complete intervention. The authors should describe a method of measuring if the intervention was provided to all participants the same way. As well, the authors should indicate if subjects received an unintended intervention that may have influenced the outcomes. For example, co-intervention occurs when the study group receives an additional intervention (other than that intended). In this case, it is possible that the effect of the intervention may be over-estimated. Contamination refers to situations where the control group accidentally receives the study intervention. This could result in an under-estimation of the impact of the intervention.

H) ANALYSIS APPROPRIATE TO QUESTION

Was the quantitative analysis appropriate to the research question being asked?

An intention-to-treat analysis is one in which all the participants in a trial are analyzed according to the intervention to which they were allocated, whether they received it or not. Intention-to-treat analyses are favoured in assessments of effectiveness as they mirror the noncompliance and treatment changes that are likely to occur when the intervention is used in practice, and because of the risk of attrition bias when participants are excluded from the analysis.

Component Ratings of Study:

For each of the six components A – F, use the following descriptions as a roadmap.

A) SELECTION BIAS

Strong: The selected individuals are very likely to be representative of the target population (Q1 is 1) **and** there is greater than 80% participation (Q2 is 1).

Moderate: The selected individuals are at least somewhat likely to be representative of the target population (Q1 is 1 or 2); **and** there is 60 - 79% participation (Q2 is 2). 'Moderate' may also be assigned if Q1 is 1 or 2 and Q2 is 5 (can't tell).

Weak: The selected individuals are not likely to be representative of the target population (Q1 is 3); **or** there is less than 60% participation (Q2 is 3) **or** selection is not described (Q1 is 4); and the level of participation is not described (Q2 is 5).

B) DESIGN

Strong: will be assigned to those articles that described RCTs and CCTs.

Moderate: will be assigned to those that described a cohort analytic study, a case control study, a cohort design, or an interrupted time series.

Weak: will be assigned to those that used any other method or did not state the method used.

C) CONFOUNDERS

Strong: will be assigned to those articles that controlled for at least 80% of relevant confounders (Q1 is 2); **or** (Q2 is 1).

Moderate: will be given to those studies that controlled for 60 – 79% of relevant confounders (Q1 is 1) **and** (Q2 is 2).

Weak: will be assigned when less than 60% of relevant confounders were controlled (Q1 is 1) **and** (Q2 is 3) **or** control of confounders was not described (Q1 is 3) **and** (Q2 is 4).

D) BLINDING

Strong: The outcome assessor is not aware of the intervention status of participants (Q1 is 2); **and t**he study participants are not aware of the research question (Q2 is 2).

Moderate: The outcome assessor is not aware of the intervention status of participants (Q1 is 2); **or** the study participants are not aware of the research question (Q2 is 2); **or b**linding is not described (Q1 is 3 and Q2 is 3).

Weak: The outcome assessor is aware of the intervention status of participants (Q1 is 1); **and** the study participants are aware of the research question (Q2 is 1).

E) DATA COLLECTION METHODS

Strong: The data collection tools have been shown to be valid (Q1 is 1); **and** the data collection tools have been shown to be reliable (Q2 is 1).

Moderate: The data collection tools have been shown to be valid (Q1 is 1); **and** the data collection tools have not been shown to be reliable (Q2 is 2) **or** reliability is not described (Q2 is 3).

Weak: The data collection tools have not been shown to be valid (Q1 is 2) **or** both reliability and validity are not described (Q1 is 3 and Q2 is 3).

F) WITHDRAWALS AND DROP-OUTS - a rating of:

Strong: will be assigned when the follow-up rate is 80% or greater (Q2 is 1).

Moderate: will be assigned when the follow-up rate is 60 – 79% (Q2 is 2) **OR** Q2 is 5 (N/A).

Weak: will be assigned when a follow-up rate is less than 60% (Q2 is 3) or if the withdrawals and drop-outs were not described (Q2 is 4).

Appendix G: Summary of Methodological Quality of Included Articles

Paper	Selection Bias	Study Design	Confounders	Blinding	Data Collection Methods	Withdrawals and Dropouts	Global Rating
Mander and Lester (2017)	Moderate	Moderate	Weak	Moderate	Weak	Strong	Weak
Martin et al., (2014)	Weak	Weak	Weak	Moderate	Weak	Weak	Weak
Rathee and Pal (2012)	Weak	Weak	Weak	Moderate	Strong	N/A	Weak
Blau and Blau (2019)	Weak	Weak	Strong	Moderate	Strong	N/A	Weak
Evans-Campbell et al., (2012)	Moderate	Moderate	Strong	Moderate	Strong	N/A	Strong
Pfeiffer et al., (2016)	Moderate	Weak	Strong	Moderate	Weak	N/A	Weak
Kalak et al., (2019)	Weak	Weak	Moderate	Moderate	Strong	N/A	Weak
Mutluer et al., (2021)	Weak	Weak	Strong	Moderate	Strong	Weak	Weak

Appendix H: Author Guidelines for Empirical Paper Submission to the *Journal of School Psychology*

Guide for Authors

Types of contributions

The Journal of School Psychology publishes research on assessment; consultation; intervention mechanisms and approaches; and schooling effects on social, cognitive, mental health, and achievement-related outcomes. The vast majority of its articles focus on issues directly relevant to children, adolescents, or families in school and related settings. The Journal of School Psychology editorial team is striving to publish the most methodologically and statistically sophisticated research in the pages of the journal in order to contribute to the science of school psychology. Full-length manuscripts presenting original quantitative and qualitative research are ideal to meet this goal. Scholarly narrative reviews of the literature on research and practices relevant to psychological and behavioral processes in school settings may also be appropriate. The Journal of School Psychology does not typically test reviews, book reviews, obituaries, or comments.
Please format your manuscript according to the Publication Manual of the American Psychological Association, Seventh Edition.
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Associate Professor of Educational Psychology
Chair, Prevention and Intervention Sciences
Co-Director, Rural Education Research and Implementation Center (RERIC)
333 Educational Sciences
1025 W. Johnson St.
Madison, WI 53706
Telephone: (608) 262-4586
Email: craig.albers@wisc.edu
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Van der Geer, J., Hanraads, J. A. J., & Lupton, R. A. (2018). The art of writing a scientific article. Heliyon, 19, Article e00205. https://doi.org/10.1016/j.heliyon.2018.e00205.
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Strunk, W., Jr., & White, E. B. (2000). The elements of style (4th ed.). Longman (Chapter 4).
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Mettam, G. R., & Adams, L. B. (2009). How to prepare an electronic version of your article. In B. S. Jones, & R. Z. Smith (Eds.), Introduction to the electronic age (pp. 281–304). E-Publishing Inc.
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Powertech Systems. (2015). Lithium-ion vs lead-acid cost analysis. Retrieved from http://www.powertechsystems.eu/home/tech-corner/lithium-ion-vs-lead-acid-cost-analysis/. Accessed January 6, 2016
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[dataset] Oguro, M., Imahiro, S., Saito, S., & Nakashizuka, T. (2015). Mortality data for Japanese oak wilt disease and surrounding forest compositions. Mendeley Data, v1. https://doi.org/10.17632/xwj98nb39r.1.
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Engle, E.K., Cash, T.F., & Jarry, J.L. (2009, November). The Body Image Behaviours Inventory-3: Development and validation of the Body Image Compulsive Actions and Body Image Avoidance Scales. Poster session presentation at the meeting of the Association for Behavioural and Cognitive Therapies, New York, NY.
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Coon, E., Berndt, M., Jan, A., Svyatsky, D., Atchley, A., Kikinzon, E., Harp, D., Manzini, G., Shelef, E., Lipnikov, K., Garimella, R., Xu, C., Moulton, D., Karra, S., Painter, S., Jafarov, E., & Molins, S. (2020, March 25). Advanced Terrestrial Simulator (ATS) v0.88 (Version 0.88). Zenodo. https://doi.org/10.5281/zenodo.3727209.

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Additional information

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Appendix I: Confirmation of Ethical Approval

REMOVED FOR SUBMISSION TO HYDRA

Appendix J: Recruitment Email/ Message

Dear Sir/ Madam,

My name is Lolly Hernandez and I am a Trainee Clinical Psychologist. Part of my training involves conducting doctorate research. I am investigating boarding school experiences, attachment, self-criticism and compassion. I was wondering if you may please share the advert and link for my study below with the members of your alumni group? Participation is anonymous and voluntary and involves filling out an online questionnaire. If you have any questions or queries about this, please do not hesitate to get in touch.

Kind regards,

Lolly

https://hull.onlinesurveys.ac.uk/school-experiences-compassion-self-criticism-attachme-2

Appendix K: Social Media Post to Advertise the Study (accompanied by the Advert in Appendix L)

Some of you may know that I am currently doing my Clinical Psychology Doctorate. Part of this involves me having to conduct some research. I am investigating how peoples' school experiences have influenced them in later life. If you would mind filling out the online questionnaire (link below) I would be really grateful! Please feel free to share it with anyone else who might be willing to too! Thank you so much!

Appendix L: Advert for the Study

Ever wondered how your school experience has influenced you and your relationships as an adult?

I would like to invite you to participate in a study aiming to investigate how people's school experiences have influenced them in later life.

It is hoped that the findings from this research will help children and young people in the future.

Interested in taking part in the study? Please follow the link below.

https://hull.onlinesurveys.ac.uk/school-experiences-compassion-self-criticism-attachme-2

Please send any questions/ queries about participation to l.e.hernandez-2018@hull.ac.uk

Appendix M: Participant Information Sheet

YOU ARE WELCOME TO MAKE A COPY OF THIS INFORMATION

Title of study Investigating school experiences, compassion, self-criticism and attachment in adults.

I would like to invite you to participate in a research project which forms part of my doctorate research. Before you decide whether you want to take part, it is important for you to understand why this research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

What is the purpose of the study?

We know very little about how the type of school people attend may influence them in later life. This study is looking to understand more about how people's relationships with themselves (self-criticism and compassion) and others (attachment and compassion) might be influenced by their schooling and what factors and experiences might be particularly important. To do this, we will be comparing attachment styles and levels of compassion and self-criticism in ex-boarders and ex non-boarders. We hope that this study will help us understand more about this area, which may hopefully help to influence practice in schools and therapy settings in the future.

Why have I been invited to take part?

You are being invited to participate in this study because you are aged 18 or over and have attended school.

What will happen if I take part?

If you agree to take part please tick the consent box below to begin the online questionnaire. The questionnaire will take approximately 30-40 minutes, please complete it in a quiet room, free of distractions. You will first be asked some short questions about you and your school experience (e.g. your age, your gender, how long you attended your school for and how close your year group was). Then you will be asked to fill out three questionnaires which measure attachment style, self-criticism and compassion. The final question will ask you what experiences from your school time have influenced you most in your adult life. There are no right or wrong answers and I am only interested in your opinions and experiences.

Do I have to take part?

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in any way. Once you have read this information page, please contact me if you have any questions that will help you make a decision about taking part. If you decide to take part please tick the consent

box below and feel free to make a copy of this information (e.g. take a photo or print) for your own records (optional).

What are the possible risks of taking part?

Participating in the study will require 20-30 minutes of your time and this may be inconvenient for you. Some people may experience emotional distress when they think about their early life or school experiences because it might bring to mind difficult memories. If this happens please feel free to take a break from the questionnaire. At the end of the questionnaire there will be various sources of support that might be helpful to contact should you feel you need this (e.g. your GP, mental health charities and specialist organisations).

Please note that if identifiable details of any victim or perpetrator of abuse or harm is disclosed in the survey the researcher will be obliged to seek advice from the Safeguarding Team at Humber Teaching NHS Foundation Trust. These details may then need to be passed to the Council Safeguarding Team local to the identified school.

What are the possible benefits of taking part?

We cannot promise that you will have any direct benefits from taking part in the study. However, it is hoped that the information you give us will help us to understand more about attending boarding school and how it influences people in later life. It may also help to inform current practices in schools and in therapy settings.

Data handling and confidentiality

Your data will be processed in accordance with the General Data Protection Regulation 2018 (GDPR).

All of the personal information that you provide will be kept strictly confidential. Data you provide in the questionnaire and direct quotes from the final question about your experiences may be used in research publications and presentations, but you will not be identified in these. To protect your anonymity, you will be assigned a code or pseudonym, to ensure it will not be possible to identify you from the information you provide. To protect the security of your answers, they will be stored on an encrypted NHS laptop. After the research is completed, all of responses will be deleted from the encrypted NHS laptop. These will be stored securely in an online storage repository at the University of Hull for ten years. The only time that information cannot be kept confidential is if you disclose something that suggests that you or someone else is at risk of serious harm. If this happens the researcher will need to contact appropriate authorities to ensure that you and other people are safe.

Data Protection Statement

The data controller for this project will be the University of Hull. The University will process your personal data for the purpose of the research outlined above. The legal

basis for processing your personal data for research purposes under GDPR is a 'task in the public interest' You can provide your consent for the use of your personal data in this study by clicking the box below. Information about how the University of Hull processes your data can be found at https://www.hull.ac.uk/choose-hull/university-and-region/key-documents/data-protection.aspx

You have the right to access information held about you. Your right of access can be exercised in accordance with the General Data Protection Regulation. You also have other rights including rights of correction, erasure, objection, and data portability. Questions, comments and requests about your personal data can also be sent to the University of Hull Information Compliance Manager (dataprotection@hull.ac.uk). If you wish to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk.

What if I change my mind about taking part?

You are free to withdraw from the study at any point during completion of the questionnaire by exiting the screen. Withdrawing from the study will not affect you in any way. However, after you submit your responses/ complete the questionnaire, withdrawal of your data will no longer be possible, as the data is anonymised. If you choose to withdraw from the study before this point the data collected will be deleted.

What will happen to the results of the study?

The results of the study will be summarised in a written thesis as part of a Doctorate in Clinical Psychology. The thesis will be available on the University of Hull's online repository https://hydra.hull.ac.uk. The findings may also be published in academic journals or presented at conferences. At the end of the questionnaire there will be an exit screen with the link to a blog, where you can access the results when the research is written up if you wish to do so.

Who should I contact for further information?

If you have any questions or require more information about this study, please contact me using the following contact details:

Lolly Hernandez
Clinical Psychology
Aire Building
The University of Hull
Cottingham Road
Hull
HU6 7RX
E-mail: l.e.hernandez-2018@hull.ac.uk

What if I have further questions, or if something goes wrong?

If you wish to make a complaint about the conduct of the study, you can contact the University of Hull using the research supervisors' details below for further advice and information:

Dr Philip Molyneux and Dr Tim Alexander
Clinical Psychology
Aire Building
The University of Hull
Cottingham Road
Hull
HU6 7RX

Email address: P.Molyneux@hull.ac.uk
Email address: T.Alexander@hull.ac.uk

Thank you for reading this information and for considering taking part in this research. By continuing with the questionnaire, you confirm that you understand the information provided, the terms of participating and give your consent to your data being used in this research.

Appendix N: Demographic Information Questions from the Online Questionnaire

1. How old are you? ＊ *Required*

[   ]

2. What gender do you identify as? ＊ *Required*

○ Male
○ Female
○ Other
○ Prefer not to say

3. What ethnicity do you identify as? ＊ *Required*

[   ]

Please answer the following questions based on the school you spent the majority of your schooling years at.

4. What was the name of the school you spent the majority of your schooling years at? *Optional*

5. What type of school did you spend the majority of your schooling years at? ✳ *Required*

☐ State/ comprehensive
☐ Private
☐ Other

6. What was the gender mix of your school? ✳ *Required*

○ Mixed/ co-educational
○ All male
○ All female
○ Other

7. What type of student were you? ✳ *Required*

○ Day student- (went home at the end of the school day, did not reside at school, applies to most state/comprehensive schools)
○ Full boarder- (only went home in the holidays and/or exeat weekends, resided at school throughout the academic year)
○ Weekly boarder- (resided at school throughout the week, went home on weekends)
○ Other- (e.g. a day student who boarded occasionally, or a day student who changed to a boarder/ vice versa)

8. If applicable: What age did you start boarding?

9. If applicable: What calendar years did you board between?

10. Please indicate your nationality in relation to your schooling: *Optional*

Please select no more than 1 answer(s).
☐ UK national attending a school in the UK
☐ UK national attending a school abroad
☐ Non-UK national attending a school in the UK
☐ Non-UK national attending a school in home country
☐ Non-UK national attending a school neither in the UK nor in home country

11. What age were you when you started at your school? ✴ *Required*

12. Between which calendar years did you attend your school? ✴ *Required*

Appendix O: School Environment Questions from the Online Questionnaire

Please rate the following aspects of your school experience.

This part of the survey uses a table of questions, view as separate questions instead?

13. Staff support * Required

	1- Very unsupportive	2- Unsupportive	3- Somewhat supportive	4- Supportive	5- Very supportive
How supportive were the staff at your school?	☐	☐	☐	☐	☐

This part of the survey uses a table of questions, view as separate questions instead?

14. Your peer group * Required

	1- Not close at all	2- Not very close	3- Somewhat close	4- Close	5- Very Close
How close were your peer group at school?	☐	☐	☐	☐	☐

This part of the survey uses a table of questions, view as separate questions instead?

15. Competitiveness * Required

	1- Not at all competitive	2- A little competitive	3- Somewhat competitive	4- Competitive	5- Very competitive
How competitive was your school?	☐	☐	☐	☐	☐

This part of the survey uses a table of questions, view as separate questions instead?

16. Threat at school * Required

	1- Not very threatening at all	2- A little threatening	3- Somewhat threatening	4- Threatening	5- Very threatening
How threatening was your school? (e.g. punishing, critical, punitive or harsh)	☐	☐	☐	☐	☐

17. What experiences from your school life do you think have influenced you the most in your adult life?
  * Required

Appendix P: Relationship Questionnaire

Scale:
Following are four general relationship styles that people often report. Place a checkmark next to the letter corresponding to the style that best describes you or is closest to the way you are.

____ A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

____ B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

____ C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

____ D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

Now please rate each of the relationship styles above to indicate how well or poorly each description corresponds to your general relationship style.

Style A

1	2	3	4	5	6	7
Disagree Strongly			Neutral/ Mixed			Agree Strongly

Style B

1	2	3	4	5	6	7
Disagree Strongly			Neutral/ Mixed			Agree Strongly

Style C

1	2	3	4	5	6	7
Disagree Strongly			Neutral/ Mixed			Agree Strongly

Style D

1	2	3	4	5	6	7
Disagree Strongly			Neutral/ Mixed			Agree Strongly

Self Report Measures for Love and Compassion Research: *Attachment*

Fetzer Institute

Appendix Q: Forms of Self-Criticising/Attacking and Self-Reassuring Scale

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THE FORMS OF SELF-CRITICISING/ATTACKING &
SELF-REASSURING SCALE (FSCRS)

When things go wrong in our lives or don't work out as we hoped, and we feel we could have done better, we sometimes have *negative and self-critical thoughts and feelings*. These may take the form of feeling worthless, useless or inferior etc. However, people can also try to be supportive of them selves. Below are a series of thoughts and feelings that people sometimes have. Read each statement carefully and circle the number that best describes how much each statement is true for you.

Please use the scale below.

Not at all like me	A little bit like me	Moderately like me	Quite a bit like me	Extremely like me
0	1	2	3	4

When things go wrong for me:

1.	I am easily disappointed with myself.	0	1	2	3	4
2.	There is a part of me that puts me down.	0	1	2	3	4
3.	I am able to remind myself of positive things about myself.	0	1	2	3	4
4.	I find it difficult to control my anger and frustration at myself.	0	1	2	3	4
5.	I find it easy to forgive myself.	0	1	2	3	4
6.	There is a part of me that feels I am not good enough.	0	1	2	3	4
7.	I feel beaten down by my own self-critical thoughts.	0	1	2	3	4
8.	I still like being me.	0	1	2	3	4
9.	I have become so angry with myself that I want to hurt or injure myself.	0	1	2	3	4
10.	I have a sense of disgust with myself.	0	1	2	3	4
11.	I can still feel lovable and acceptable.	0	1	2	3	4
12.	I stop caring about myself.	0	1	2	3	4
13.	I find it easy to like myself.	0	1	2	3	4
14.	I remember and dwell on my failings.	0	1	2	3	4
15.	I call myself names.	0	1	2	3	4

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16.	I am gentle and supportive with myself.	0	1	2	3	4
17.	I can't accept failures and setbacks without feeling inadequate.	0	1	2	3	4
18.	I think I deserve my self-criticism.	0	1	2	3	4
19.	I am able to care and look after myself.	0	1	2	3	4
20.	There is a part of me that wants to get rid of the bits I don't like.	0	1	2	3	4
21.	I encourage myself for the future.	0	1	2	3	4
22.	I do not like being me.	0	1	2	3	4

2

Appendix R: The Compassionate Engagement and Action Scales

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THE COMPASSIONATE ENGAGEMENT AND ACTION SCALES

Self-compassion

When things go wrong for us and we become distressed by setbacks, failures, disappointments or losses, we may cope with these in different ways. We are interested in the degree to which people can **be compassionate with themselves**. We define compassion as "a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it." This means there are two aspects to compassion. The *first* is the ability to be motivated to engage with things/feelings that are difficult as opposed to trying to avoid or supress them. The *second* aspect of compassion is the ability to focus on what is helpful to us. Just like a doctor with his/her patient. The first is to be motivated and able to pay attention to the pain and (learn how to) make sense of it. The second is to be able to take the action that will be helpful. Below is a series of questions that ask you about these two aspects of compassion. Therefore read each statement carefully and think about how it applies to you if you become distressed. Please rate the items using the following rating scale:

Never										Always
	1	2	3	4	5	6	7	8	9	10

Section 1 – These are questions that ask you about how motivated you are, and able to engage with distress when you experience it. So:

When I'm distressed or upset by things…

1. I am *motivated* to engage and work with my distress when it arises.

Never										Always
	1	2	3	4	5	6	7	8	9	10

2. I *notice,* and am *sensitive* to my distressed feelings when they arise in me.

Never										Always
	1	2	3	4	5	6	7	8	9	10

(r)3. I avoid thinking about my distress and try to distract myself and put it out of my mind.

Never										Always
	1	2	3	4	5	6	7	8	9	10

4. I am *emotionally moved* by my distressed feelings or situations.

Never										Always
	1	2	3	4	5	6	7	8	9	10

5. I *tolerate* the various feelings that are part of my distress.

Never										Always
	1	2	3	4	5	6	7	8	9	10

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6. I *reflect on* and *make sense* of my feelings of distress.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

(r)7 I do not tolerate being distressed.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

8. I am *accepting, non-critical and non-judgemental* of my feelings of distress.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

Section 2 – These questions relate to how you actively cope in compassionate ways with emotions, thoughts and situations that distress you. So:

When I'm distressed or upset by things…

1. I direct my *attention* to what is likely to be helpful to me.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

2. I *think* about and come up with helpful ways to cope with my distress.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

(r)3. I don't know how to help myself.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

4. I take the *actions* and do the things that will be helpful to me.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

5. I create inner feelings of *support, helpfulness and encouragement*.
   Never   Always
      1   2   3   4   5   6   7   8   9   10

NOTE FOR USERS: REVERSE ITEMS (r) ARE NOT INCLUDED IN THE SCORING

2

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Compassion to others

When things go wrong for other people and they become distressed by setbacks, failures, disappointments or losses, we may cope with their distress in different ways. We are interested in the degree to which people can be **compassionate to others**. We define compassion as "a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it." This means there are two aspects to compassion. The *first* is the ability to be motivated to engage with things/feelings that are difficult as opposed to trying to avoid or supress them. The *second* aspect of compassion is the ability to focus on what is helpful. Just like a doctor with his/her patient. The first is to be motivated and able to pay attention to the pain and (learn how to) make sense of it. The second is to be able to take the action that will be helpful. Below is a series of questions that ask you about these two aspects of compassion. Therefore read each statement carefully and think about how it applies to you when **people in your life** become distressed. Please rate the items using the following rating scale:

Never   **Always**
　　　1　　2　　3　　4　　5　　6　　7　　8　　9　　10

Section 1 – These are questions that ask you about how motivated you are, and able to engage with other people's distress when they are experiencing it. So:

When others are distressed or upset by things…

1. I am *motivated* to engage and work with other peoples' distress when it arises.
Never   **Always**
　　　1　　2　　3　　4　　5　　6　　7　　8　　9　　10

2. I *notice* and *am sensitive* to distress in others when it arises.
Never   **Always**
　　　1　　2　　3　　4　　5　　6　　7　　8　　9　　10

(r)3. I avoid thinking about other peoples' distress, try to distract myself and put it out of my mind.
Never   **Always**
　　　1　　2　　3　　4　　5　　6　　7　　8　　9　　10

4. I am *emotionally moved* by expressions of distress in others.
Never   **Always**
　　　1　　2　　3　　4　　5　　6　　7　　8　　9　　10

5. I *tolerate* the various feelings that are part of other people's distress.
Never   **Always**
　　　1　　2　　3　　4　　5　　6　　7　　8　　9　　10

3

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6. I *reflect on* and *make sense* of other people's distress.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

(r)7 I do not tolerate other peoples' distress.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

8. I am *accepting, non-critical and non-judgemental* of others people's distress.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

Section 2 – These questions relate to how you actively respond in compassionate ways when other people are distressed. So:

When others are distressed or upset by things…

1. I direct *attention* to what is likely to be helpful to others.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

2. I *think about and come up* with helpful ways for them to cope with their distress.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

(r)3. I *don't know* how to help other people when they are distressed.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

4. I take the *actions* and *do the things* that will be helpful to others.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

5. I express feelings of *support, helpfulness and encouragement* to others.
       Never   **Always**
              1   2   3   4   5   6   7   8   9   10

NOTE FOR USERS: REVERSE ITEMS (r) ARE NOT INCLUDED IN THE SCORING

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The Compassionate Mind FOUNDATION

Compassion from others

When things go wrong for us and we become distressed by setbacks, failures, disappointments or losses, others may cope with our distress in different ways. We are interested in the degree to which you feel that **important people in your life can be compassionate to your distress**. We define compassion as "a sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it." This means there are two aspects to compassion. The *first* is the ability to be motivated to engage with things/feelings that are difficult as opposed to trying to avoid or supress them. The *second* aspect of compassion is the ability to focus on what is helpful to us or others. Just like a doctor with his/her patient. The first is to be motivated and able to pay attention to the pain and (learn how to) make sense of it. The second is to be able to take the action that will be helpful. Below is a series of questions that ask you about these two aspects of compassion. Therefore read each statement carefully and think about how it applies to the **important people in your life** when you become distressed. Please rate the items using the following rating scale:

Never										Always
1	2	3	4	5	6	7	8	9	10	

Section 1 – These are questions that ask you about how motivated you think others are, and how much they engage with your distress when you experience it. So:

When I'm distressed or upset by things…

1. Other people are actively *motivated* to engage and work with my distress when it arises.

Never										Always
1	2	3	4	5	6	7	8	9	10	

2. Others *notice* and *are sensitive* to my distressed feelings when they arise in me.

Never										Always
1	2	3	4	5	6	7	8	9	10	

(r)3 Others avoid thinking about my distress, try to distract themselves and put it out of their mind.

Never										Always
1	2	3	4	5	6	7	8	9	10	

4. Others are *emotionally moved* by my distressed feelings.

Never										Always
1	2	3	4	5	6	7	8	9	10	

5. Others *tolerate* my various feelings that are part of my distress.

Never										Always
1	2	3	4	5	6	7	8	9	10	

5

6. Others *reflect on* and *make sense* of my feelings of distress.
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

(r)7. Others do not tolerate my distress.
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

8. Others are *accepting, non-critical and non-judgemental* of my feelings of distress.
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

Section 2 – These questions relate to how others actively cope in compassionate ways with emotions and situations that distress you. So:

When I'm distressed or upset by things…

1. Others direct their *attention* to what is likely to be helpful to me.
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

2. Others *think about* and come up with helpful ways for me to cope with my distress.
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

(r)3. Others don't know how to help me when I am distressed
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

4. Others take the *actions* and do the things that will be helpful to me.
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

5. Others treat me with feelings of *support, helpfulness and encouragement.*
Never   **Always**
   1   2   3   4   5   6   7   8   9   10

NOTE FOR USERS: REVERSE ITEMS (r) ARE NOT INCLUDED IN THE SCORING

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Appendix S: Final Screen of Questionnaire with Links to Further Support

Questionnaire Complete

Thank you for giving your time to take part in my research, I really appreciate it.

The results will be available at https://lollyhz.wixsite.com/schoolexperiences from Summer 2021.

If you know someone else who would be happy to complete the questionnaire, please feel free to share it with them: https://hull.onlinesurveys.ac.uk/school-experiences-compassion-self-criticism-attachme-2

Further support

If you feel you have been affected in any way by the content of this study, support can be found by seeing your GP, or at the following sources:

Mind- https://www.mind.org.uk/information-support/helplines/#collapse95602

Samaritans- https://www.samaritans.org/ or call 116 123

CALM- https://www.thecalmzone.net/ or call 0800585858

The Survivors Trust- https://www.thesurvivorstrust.org/find-support

NAPAC- https://napac.org.uk/ or call 0808 801 0331