



Doctorate in Clinical Psychology Thesis

An exploration of alcohol misuse, attachment and parental relationships

Hannah Ainslie

Supervised by Dr Katy Loble and Dr Mani Mehdikhani

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Introductory Chapter: Thesis Overview

Alcohol consumption in the United Kingdom

Alcohol consumption in the United Kingdom (UK) attracts much political and media attention. The view of Britain as a “nation of incorrigible boozers” (Nicholls, 2014, para. 2) can be seen in popular culture almost daily, from normalised binge drinking behaviour across popular media to traditional British public houses considered tourist destinations and “Boozy Britain” considered a cultural norm (Betts, 2012). With an economic burden of ill health due to alcohol use alone costing the National Health Service (NHS) an estimated £3.3 billion in 2006-2007 (Scarborough et al., 2011), researchers and historians have looked at the development of drinking in the UK in an effort to understand and inform public health and policy development (Haydock, 2016). However even historically, political attempts to reduce drinking have been considered unsuccessful.

Seventeenth and eighteenth century Britain saw developments in alcohol consumption which shaped the political and social view of drinking and arguably brought a British view of drinking which remains influential (Nicholls, 2014). It is thought that in the 1600s the Thirty Years War saw the introduction of ‘Dutch Courage’ whereby British troops were given the early forms of gin from Holland in the damp weather. As soldiers began to bring it home and it grew popular, King William III is said to have encouraged the English distillation of spirits through deregulation and the popularity of producing and drinking spirits, and gin in particular, soared. Figure 1, William Hogarth’s illustration ‘Gin Lane’ (1751), exemplifies the beginnings of social concern regarding alcohol consumption, signifying a view of the role of gin in mothers’ neglect of their children. Political concern triggered the Gin Act (1736), making gin prohibitively expensive for the working classes. In response, public riots broke out and gin production continued to soar on the black market and from then on prohibition was accepted as unenforceable (Higgs, 1984; Nicholls, 2009). Nevertheless, increasing social concern for

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national welfare due to ‘universal drunkenness’ brought the Temperance Movement in the 1800s, which aimed to promote a law prohibiting the sale of alcohol in the UK, much like the United States (Wilson, 1940). A prototype bill proposed in 1859 was rejected by the House of Commons and alcohol consumption saw another peak in the late 1800s (British Beer and Pub Association, 2007; Nicholls, 2009).

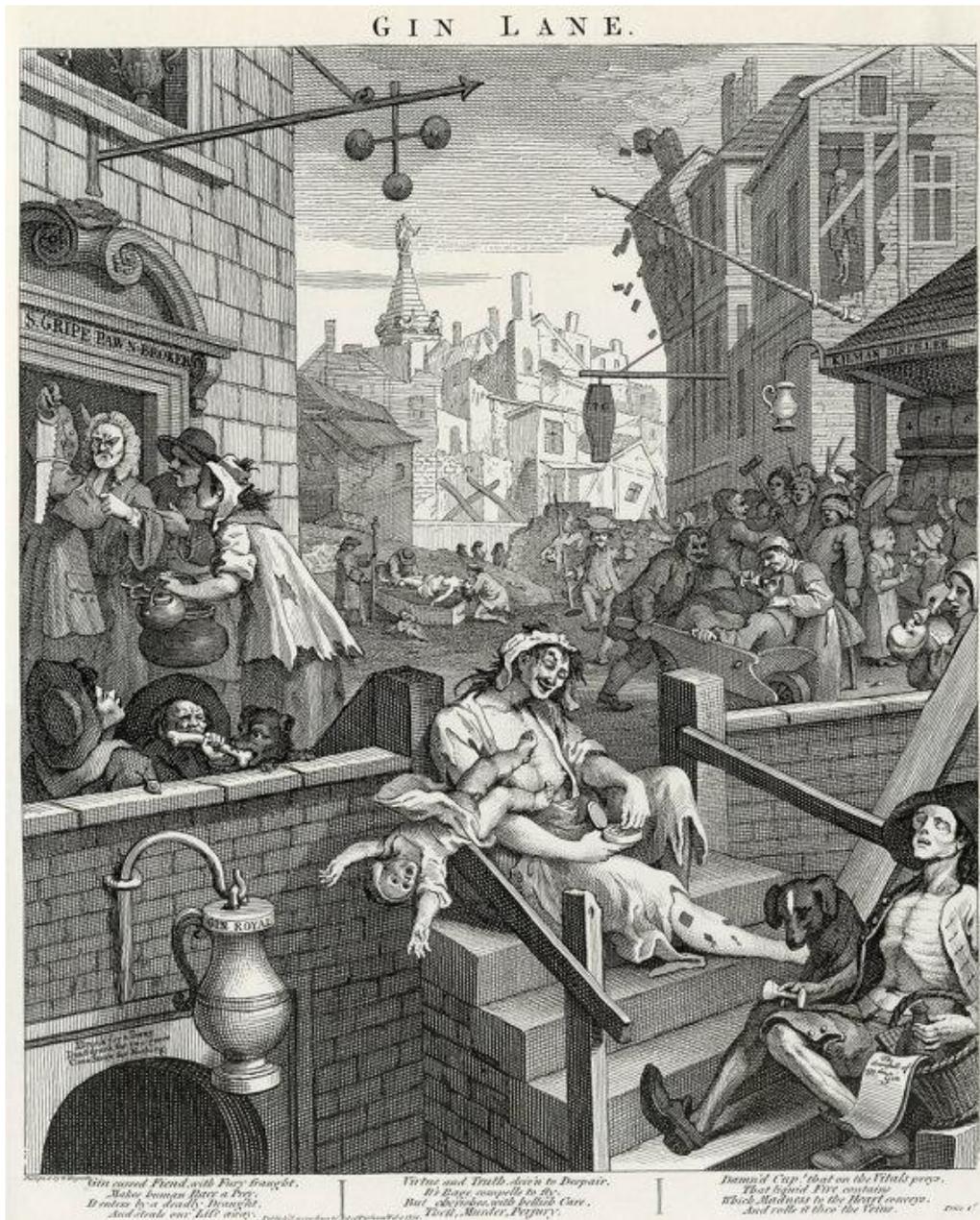


Figure 1. A mother's milk or a mother's ruin? 'Gin Lane' by William Hogarth (1751).

The early 20th century saw a decline in the consumption of alcohol however. At the same time as the outbreak of World War One, which saw millions of young men sent to war, taxes on brewers increased, opening hours were reduced and a ban on the buying of ‘rounds’ was introduced. Reduced rates of alcohol consumption were mostly sustained until the 1960s, which saw the introduction of lager (and ‘lager louts’), more liberal licencing policies and the encouragement of a competitive market. However the 1970s brought health concerns with the acknowledgement of alcohol as the primary determinant for liver disease, which rose dramatically in Britain as it fell across Europe. Between 1992 and 2006 alcohol related mortality doubled, placing alcohol firmly on the political agenda. Despite recent falls in UK consumption, alcohol related deaths remain 70% higher than in the 1990s. This has inevitably increased political and social concern for drinking alcohol in the UK (British Beer and Pub Association, 2007; Haydock, 2016; Nicholls, 2014; Scarborough et al., 2011).

Modern childhood and the development of the understanding of parental relationships

The modern attitude to children and the acknowledgement of parent-child relationships can be traced back to the late 19th and early 20th centuries. The literature of the 1800s has been cited as evidence of this shift, with a genre of books such as Lewis Carroll’s ‘Alice’s Adventures in Wonderland’ in 1865 representing a shift from informative educational content for children to authors offering empathy, entertaining and imaginative engagement with children (Jordan, 1998). From the early 1900s, alongside increased wages for working classes, western culture developed narratives around the importance of children being ‘socialised’ in order to develop into acceptable adults, placing growing responsibility for this onto parents, moving towards ideas of the ‘nuclear family’ and economic independence and away from earlier values of the extended family and community support (Pothan, 1992).

The First and Second World Wars brought attention to the psychological impact of trauma, with medical professionals and researchers developing psychological treatment for shell-shocked soldiers. Much of this work took place at the Tavistock Clinic in London, with European psychiatrists such as Sigmund Freud and Carl Jung joining forces and developing early psychological theories. By the early formation of the NHS, John Bowlby joined the Tavistock Clinic (which had become a leading part of the NHS) and began studying relationships between infants and parents (Dicks, 1970), leading to the development of attachment theory (e.g., Bowlby, 1951). Bowlby and his colleagues were reportedly influenced by observations of children separated from parents when in hospital, and by observations of ‘disturbed and delinquent’ children and their parental relationships. This gave rise to a continually growing and widely scientific-and-socially accepted view of parental relationships as a crucial part of healthy human development (Dicks, 1970; Rustin, 2007).

The current studies

The following two papers consider research and links between experiences of parental rearing and problematic alcohol consumption, and mechanisms by which these may be related. As seen in the above sections, alcohol misuse presents growing demand on overstretched and under resourced NHS services. More recently, psychological studies in the fields of parent-child relationships and alcohol misuse have identified the relationship between adverse childhood experiences and substance and alcohol misuse, including parental factors such as family discord and conflict, poor relationships with parents and insufficient parental monitoring (Comasco, Berglund, Orelund, & Nilsson, 2010; Dermody, Cheong, & Manuck, 2013; Laghi, Baiocco, Lonigro, Capacchione, & Baumgartner, 2012). The following papers take similar lines of investigation exploring specific questions regarding the way in which early parental relationships might be related to alcohol use in adulthood.

A systematic review is presented which examines attachment patterns and alcohol use in adults who self-identify as children of alcoholic parents. This reviews existing research to consider the impact of parental alcohol misuse on attachment patterns and alcohol use later in life, to identify consistent and divergent findings with regard to the argument that childhood attachment contributes to alcohol misuse in adulthood. In a systematic search, the paper reviews eleven quantitative studies examining the relationship between personal alcohol misuse, parental alcohol misuse and attachment. The empirical investigation explores the relationship between childhood relationships and adult alcohol use in an unusually broad sample population that spans non-clinical community alcohol users and individuals hospitalised for alcohol detoxification. Due to the complexities and confusion around the study and concept of 'attachment' (e.g., Ainsworth et al., 1978; Bowlby, 1980; 1988; Crittenden, 1992; Main & Soloman, 1990), this empirical paper uses the Parental Bonding Instrument (PBI, Parker, Tupling & Brown, 1979) which retrospectively measures remembered parental care. The investigation explores how scores on this measure, which has been used extensively in relation to attachment and psychological distress (Manassis, Owens, Adam, West, & Sheldon-Keller, 1999; Wilhelm, Niven, Parker & Hadzi-Pavlovich, 2005; Williams, Harfmann, Ingram, Hagan, & Kramer, 2015) relates to the severity and dependence of alcohol misuse.

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Chapter 1: Systematic Review:

A systematic review of attachment patterns and alcohol misuse in adults who themselves identify as children of alcoholic parents

Note: Intended for submission for publication with the Clinical Psychology Review (see Appendix A for author guidelines).

Abstract***Background***

In the United Kingdom, an estimated 30% of children under 16 live with at least one alcohol misusing parent. A growing body of literature documents the negative impact parental alcohol misuse can have on children, including a variety of psychosocial difficulties. Research also refers to the link between parental alcohol misuse and alcohol misuse difficulties in offspring, however this is not consistently the case. It has been hypothesised that attachment security between parent and child may be a mediating factor, providing some explanation as to why some (but not all) children of alcohol misusing parents develop alcohol misuse difficulties themselves. The aim of this review was to examine the strength of the association between attachment security and alcohol misuse in adults who themselves identify as adult children of alcoholic parents (ACOA), to explore whether this hypothesised and commonly assumed link is supported by empirical evidence.

Methods

In January 2018 three electronic databases, PsycINFO, Medline, and CINAHL Plus were searched using the terms attachment* AND adult* AND alcohol* OR drink* AND parent* OR mother* OR maternal OR father* OR paternal OR family histor* OR intergenerational. Studies were included in the review if they were quantitative, if participants included ACOA and assessed variables including attachment and alcohol consumption. There was no time limit applied to database searches. Eleven studies were selected for inclusion in the review. Study data were extracted using extraction forms and a narrative analysis was performed. Methodological quality and risk of bias were assessed independently by two of the authors using the Quality Assessment Tool for Quantitative Studies (QATQS).

Results and Conclusions

Overall, the review found that in some circumstances, a relationship can be found between ACOA status, alcohol misuse difficulties in adulthood and reported attachment to others. However due to the mixed approaches regarding attachment variables, measures used, sample populations, parent and child gender and ACOA identity, the reliability and generalisability of these findings is limited. It is concluded that due to the inconsistent results, further research is needed in order to provide clarity. It is recommended that future research considers the role of parent and child gender and cultural differences with regards to outcomes for ACOA.

Key word descriptors: Systematic Review, Attachment, Alcohol, ‘Adult Children of Alcoholics’.

Introduction

In the United Kingdom, national household surveys have estimated that approximately 30% of children under 16 years old (3.3 - 3.5 million) have lived with at least one alcohol misusing parent (Manning, Best, Faulkner, & Titherington, 2009), 8% of whom have lived with two alcohol misusing parents. In the USA, it has been estimated as 43% (Rodgers, 2017). Within this research, a variety of terminology is used when referring to heavy and problematic alcohol consumption (e.g. alcohol 'misuse', 'abuse', 'addiction'). This review uses the term 'misuse' throughout, in accordance with national UK guidance (National Institute for Health and Care Excellence, 2018). It is also noted that the terms 'children of alcoholics' (COA) and 'adult children of alcoholics' (ACOA; National Association for Children of Alcoholics, NACOA, 2018; Adult Children of Alcoholics and Dysfunctional Families UK, 2018) are used in the literature referring to individuals who self-identify with these experiences. Although this is not used as a technical term, it is a dominant term used in the literature and among individuals with these experiences, therefore is referred to in the current paper when referring to individuals with experience of parent/s with alcohol misuse difficulties.

A growing body of research evidence has documented the range of complications associated with parental alcohol misuse and the impact this may have on COA. Researchers argue that parental alcohol misuse can lead to inconsistent parenting, conflict and disrupted relationships (Templeton, 2012) which can affect the child's psychosocial wellbeing and development in a number of ways. A body of research has documented a range of difficulties in childhood and adulthood in this population, including behavioural and emotional difficulties, school attendance and performance, relationship difficulties with peers and parents, poorer physical and mental health and substance misuse (Anda et al., 2002; Braitman et al., 2009; Chassin, Rogosch, & Barrera, 1991; Cleaver, Unell, & Aldgate, 2011; Chen & Weitzman, 2005; Coffelt et al., 2006; Hicks, Iacono, & McGue, 2010; Parker & Harford, 1988; Rossow,

Felix, Keating, & McCambridge, 2016; Seilhamer & Jacob, 1990; Sher, Walitzer, Wood, & Brent, 1991; Templeton, 2012).

In a scoping review of adverse outcomes for COA in childhood and adulthood, Rossow et al. (2016) found 99 studies reporting associations between parental drinking, psychological and behavioural difficulties and alcohol or other substance misuse. Rossow et al. identified that whilst 67% of studies identified an increased risk of adverse outcomes in COA, 33% of studies reported no significant association between parental drinking and adverse outcomes. Of the studies that analysed drinking behaviour as an outcome variable (75 studies), 72% reported a significant association between parental drinking and COA drinking, whilst 28% did not. This suggests that the question of whether parental alcohol misuse is associated with a greater chance of adverse outcomes in adulthood cannot be resolved by the literature.

It is also important to consider the wider context of alcohol use and the interaction this may have with alcohol misuse generally. In western cultures for example, drinking alcohol and indeed occasional intoxication is considered a societal norm, therefore the identification of alcohol misuse problems is likely to be different from those of illegal substances (Rehm & Room, 2017). This may be exemplified by the wide variation in estimates of alcohol use disorders in 2010 in the European Union, ranging from less than 1% in Italy and Spain to over 12% in Latvia. This is interesting considering the widely referred to 'Italian heavy drinking culture' (Rehm, Anderson, et al., 2015). As a result, it is suggested that incidence and prevalence rates should be judged as measurements of social norms as well as alcohol use and misuse (Rehm, Allamani, et al., 2015). In addition, if we consider the experiences of COA in light of the above, it is easy to imagine the complexity in comparing the experiences of one COA to the next. For example, whilst one alcohol misusing parent may be repeatedly physically or emotionally absent due to hospitalisation or intoxication, another may be more adept at hiding their drinking in the context of social norms and acceptability (Lambie & Sias,

2005). In addition to this, physiological tolerance of alcohol enables the regular heavy drinker to require increasingly larger quantities of drink to become intoxicated over time (Milam & Ketcham, 1981; Templeton, 2012).

From the more general alcohol misuse literature, we know that it is often entwined with a plethora of psychosocial challenges such as mental health, social and interpersonal difficulties. A variety of risk factors for alcohol and other substance misuse have been evidenced, such as low mood, low self-esteem, impulsivity, delinquency, availability of substances, delinquent or substance abusing peers, insecure attachment to parents, poor family functioning and history of childhood abuse. Protective factors for alcohol and other substance misuse have also been reported, such as secure parent and/or peer attachment, family closeness and residential and school stability (Becker & Grilo, 2006; Chen, Balan, & Price, 2012; Livingston, Laslett, & Dietze, 2008; Miller, Naimi, Brewer, & Jones, 2007; Schindler et al., 2005; Tingey et al., 2016; Włodarczyk et al., 2017). Thus, it is likely that a number of factors around and in addition to ACOA status contribute to the development of alcohol misuse difficulties in this population (Park & Schepp, 2015; Templeton, 2012; Rossow et al., 2016).

Rationale

As seen above, parental alcohol misuse has been associated with various poor psychosocial outcomes for children and may also increase the risk of developing substance misuse and other problems in adulthood (Manning et al., 2009; Rogers, 2017). However evidence suggests that this relationship is mediated by multiple factors, including parental relationships, such that parental alcohol misuse may not impact on attachment relationships in the same way for all children (Rossow et al., 2016; Templeton, 2012). In addition, attachment security is often associated with adult interpersonal functioning and mental health (Bucci, Roberts, Danquah, & Berry, 2015; Gallagher et al., 2017; Oldfield, Humphrey, & Hebron,

2016; Schindler et al., 2005). It is therefore possible that attachment security mediates the relationship between parental alcohol misuse and the child's own substance misuse in adulthood.

According to attachment theorists (Bowlby, 1969; 1980; 1988; Ainsworth, Blehar, Waters, & Wall, 1978) attachment is initially shaped by interactions with primary caregivers in infancy, during which internal representations of relationships with others (known as the internal working model; IWM) are developed to form a template for future relationships. Over 40 decades of research have investigated attachment styles, developing multiple methods for categorising and measuring attachment style (see Table 1 for a list of distinct measures and the corresponding attachment constructs; Schindler & Broning, 2015).

Using attachment theory to think about the role of attachment in the development of substance misuse difficulties it has been proposed that, similarly to an infant seeking the caregiver in times of stress, the substance user becomes progressively more likely to regulate emotions through use of the substance (Mitchesen et al., 2010). This could make sense for COA in the context of inconsistent parenting and disrupted relationships (Templeton, 2012). This theoretical stance suggests that attachment security may be a mediating factor that accounts for substance misuse in ACOA (Pearson, D'Lima, & Kelley, 2012; Vungkhanching, Sher, Jackson, & Parra, 2004).

Table 1.

Corresponding attachment patterns across concepts and measures (Schindler & Broning, 2015)

Age group (measure)	Infants (SS)	Adolescents & adults (AAI)	Adolescents & adults (HSSR)	Adolescents & adults (RQ)
Level of security				
Secure	Secure	Secure-autonomous	Secure	Secure
Insecure	Insecure-avoidant	Insecure-dismissing	—	Dismissing-avoidant
	Insecure-ambivalent	Insecure-preoccupied	Anxious-ambivalent	Preoccupied
	—	—	Avoidant	Fearful-avoidant
Disorganized	Disorganized	Unresolved loss or trauma Hostile-helpless Cannot classify		

Note: SS = Strange Situation (Ainsworth et al., 1978); AAI = Adult Attachment Interview (Hesse, 2008); HSSR = Hazan and Shaver Self Report measure (Hazan & Shaver, 1987); RQ = Relationship Questionnaire (Bartholomew & Horowitz, 1991).

Objectives

The aim was to examine the strength of the association between attachment security and alcohol misuse in adults who themselves identify as ACOA, in order to further explore why some but not all ACOA develop alcohol misuse difficulties.

Methods

Search strategy and study selection

Following a number of scoping searches in 2017, the final electronic searches were conducted in January 2018. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) Checklist (Moher, Liberati, Tetzlaff, & Altman, 2009).¹

Three electronic databases, PsycINFO, Medline, and CINAHL Plus were searched using the terms attachment* AND adult* AND alcohol* OR drink* AND parent* OR mother*

¹ A protocol for the review was developed and registered on Prospero on 5th April 2018. This can be viewed at https://www.crd.york.ac.uk/PROSPERO/display_record.php?RecordID=92682.

OR maternal OR father* OR paternal OR family histor* OR intergenerational. The above process was repeated in May 2018 in order to ensure there were not any additional papers published prior to completion of the review.

Eligibility criteria

Articles were included in the review if they were written or were available in English, represented original research and were quantitative studies using designs such as cross-sectional, correlational, case-control, or prospective. This included both published and unpublished studies. Participants in the studies were aged 18 years or older, drank alcohol and were children of parents who drank alcohol. Studies used the term ‘attachment’ to relate to a relational pattern between an adult and a significant other typically originating from the attachment theories of Bowlby and Ainsworth. A publication time limit was not applied and so the entire database history was searched for each database.

Articles were excluded from the review if they represented qualitative or case study designs and if they were review, commentary or discussion articles. In addition, studies were excluded if participants were aged 17 years or younger, their alcohol use was not recorded or parental alcohol use was not discussed or if there was not parental alcohol use. Studies were not included if they did not use the term ‘attachment’ to relate to a relational pattern between an adult and a significant other deriving from the attachment theories of Bowlby and Ainsworth.

Data extraction and analysis

The relevant study characteristics, methodological information and outcomes were extracted using standardised forms developed by the author, in consultation with the research

team. Main statistical outcomes and strengths of relevant associations between ACOA status, attachment and alcohol use were examined and are illustrated in Table 3.

Quality assessment and risk of bias

The identified studies were assessed for quality and risk of bias using the Quality Assessment Tool for Quantitative Studies (QATQS; National Collaborating Centre for Methods and Tools, 2008; see Appendix C). Two of the authors (HA and KL) conducted quality assessment of the papers independently. The authors then compared ratings, addressed any discrepancies and agreed on final quality ratings (see Table 2).

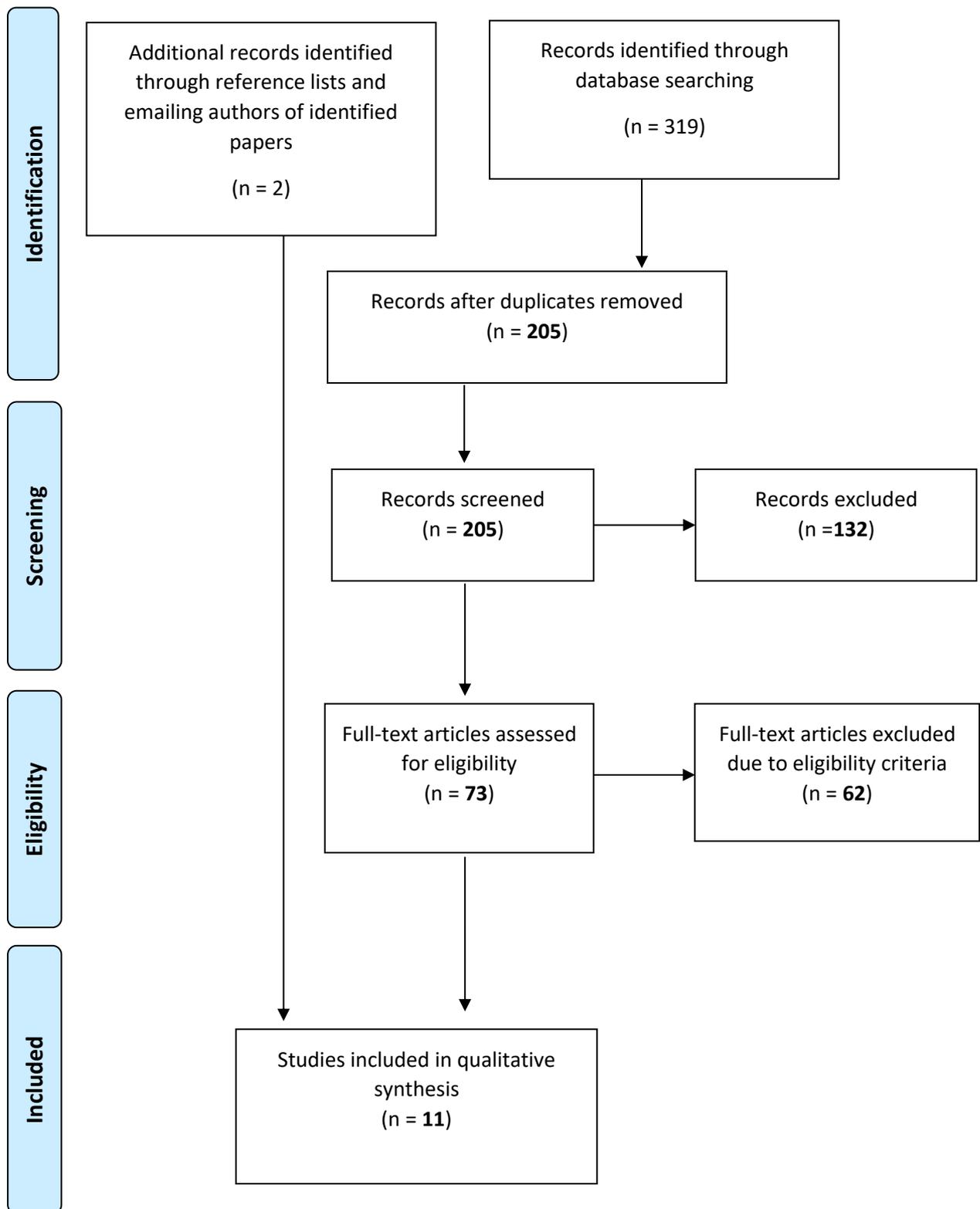


Figure 1. PRISMA flowchart of the study selection process.

Results

Number of studies identified and included

Searches returned 319 articles, of which 114 were duplicates. After initial screening (based on the eligibility criteria above) of the 205 article titles and abstracts, 73 potential papers remained. Reading these in full, 9 were identified to be included using the eligibility criteria. Reading reference lists and emailing all authors of the selected articles (to check for unidentified papers or unpublished work; of which three authors responded stating they had none) provided an additional 2 papers to be included in the review, giving 11 final papers. Three papers were unpublished psychology doctorate/PhD theses and 8 were published journal articles. Figure 1 provides a flowchart demonstrating this process.

Overview of study characteristics

The 11 studies included in the review are marked with an asterisk (*) in the reference list. A summary of the main characteristics can be seen in Table 2. Studies were published between 1993 and 2018. Nine studies were conducted in the USA, one in Canada and one in Portugal. Three studies were psychology PhD theses while the other eight were journal articles. Three had longitudinal designs and eight had cross-sectional designs, all of which used opportunistic sampling to recruit from either university student populations, substance use health care services or more general community populations (see Table 2). The cross-sectional study by De La Rosa et al. (2010) made up the baseline phase of the longitudinal study by De La Rosa et al. (2015). All studies used self-report measures which were administered either via postal questionnaire packs, online survey or face to face (see Table 2 for details). Sample sizes ranged from $n = 112$ to $n = 1,095$, with a total of 3,525 participants included in the 11 studies. Mean ages ranged from 18.5 years to 39 years. With regards to participant gender, two studies had a female only sample (De La Rosa et al., 2010; De La Rosa et al., 2015), one study had a

male only sample (Vaz-Serra, Canavarro, & Ramalheira, 1998), whilst the other seven studies ranged from 54% to 87.1% female. Study participants were predominantly identified as White with respect to ethnicity. Two studies' samples were 100% Latina (De La Rosa et al., 2010; De La Rosa et al., 2015). One study sample was 53% African American, 47% Puerto Rican (Lee, Brook, Nezia, & Brook, 2016). The other eight studies ranged from 59.8% (Pearson et al., 2012) to 93.8% white with regard to ethnic background, with a number of ethnic minorities making up the remaining sample percentages. All 11 studies assessed ACOA status (and/or parental drinking), attachment and alcohol use and/or misuse.

In addition to the primary outcome variables identified for the current review (alcohol misuse), studies assessed variables such as mental health outcomes (e.g. anxiety, depression, self-esteem, psychiatric symptomatology, self-consciousness, anger, coping styles), drug use and family environment. The number of variables assessed in studies ranged from two (Vaz-Serra et al., 1998) to 17 (Gordon, 1995).

Measures of ACOA status

The studies varied in how they identified participants as ACOA. Of all participants that took part in the 11 studies, 24% (n = 846) were explicitly identified as children of parents with problematic alcohol use. This may not necessarily be reflective of ACOA status for a number of reasons. Firstly, only six of the 11 studies used validated measures to identify ACOA status (either a variant of the Short Michigan Alcohol Screening Test, SMAST, Selzer, Vinokur, & Van Rooijen, 1975 or Children of Alcoholics Screening Test, CAST, Jones, 1983). The remaining five studies instead used more subjective means to consider the presence of problematic parental drinking. This ranged from asking participants whether their parents drank alcohol or not, to answering yes or no to: "My dad [mom] is an alcoholic". Two of the latter studies (Lee et al., 2016; Vaz-Serra et al., 1998) did not report how they assessed

participants' parental alcohol use therefore the authors of the current review were unable to identify the exact number of participants identified as ACOA in these studies. Two studies (De La Rosa et al., 2010; De La Rosa et al., 2015) referred to substance use generally and did not differentiate between parental drug versus alcohol use.

Measures of Attachment

The measurement of attachment varied between reviewed studies (see Table 2). Ten of the 11 studies used validated tools. Five studies used the validated Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenburg, 1987) which was designed to assess current attachment both to parents and to peers, categorising security of attachment into three dimensions of trust, communication and alienation. Bice Broussard (1998) used two attachment measures in addition to the IPPA: the Parental Style Questionnaire (Hazan & Shaver, 1987), measuring parenting styles as: cold/rejecting, inconsistent/ambivalent and warm/responsive for both parents separately. They also used the Adult Attachment Style Questionnaire (AASQ; Bartholomew and Horowitz, 1991), measuring adult attachment style.

Five of the studies used another five different validated measures: the Reciprocal Attachment Questionnaire (RAQ, West, Sheldon & Reiffer, 1987; 1988; 1992) measures attachment to a significant other, such as a romantic partner. The RAQ uses four subscales relating to attachment quality (separation protest, feared loss, proximity seeking, and reciprocity), four dimensions relating to dysfunctional attachment (compulsive self-reliance, compulsive care-seeking, compulsive care-giving, angry withdrawal) and separately assesses the provisions offered by the attachment figure (use of attachment figure and perceived availability of attachment figure). The Experiences in Close Relationships - Relationship Structure Questionnaire (ECR-RS, Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, 2006; Fraley, Heffernan, Vicary, & Brumbaugh, 2011) was used to measure attachment-related

anxiety and attachment-related avoidance to mother, father and significant other. The Adult Attachment Scale-R (RAAS, Collins & Read, 1990) measures secure, anxious and avoidant attachment patterns to others. The Close Relationships Questionnaire (Hazan & Shaver, 1987) was used to measure secure, avoidant and ambivalent attachment patterns to participants' 'most important romantic relationships'. The four-category attachment measure developed by Bartholomew and Horowitz (1991) measures romantic attachment style using the categories secure, fearful-avoidant, preoccupied and dismissed-avoidant. One remaining study (Lee et al., 2016) used a non-validated or standardised measure which asked 18 questions regarding 'parental warmth' and five questions regarding 'time spent with parents' and utilised the answers to these to encompass the variable 'low parent-child attachment' to enter into a structural equation model. It was not known how the authors generated the questions used.

Measures of alcohol use

Measurement of ACOA alcohol use also varied between reviewed studies. Nine of the studies used validated measures to detect alcohol use. Three studies (Bice Broussard, 1998; Cavell, Jones, Runyan, Constantin-Page, & Velasquez, 1993; Gordon, 1995) used the Adolescent Alcohol Involvement Scale (AAIS, Mayer & Filstead, 1979) measuring level of alcohol use with 14 alcohol-related multiple choice questions. De La Rosa et al. (2010) and De La Rosa et al. (2015) used alcohol use items from the Health and Daily Living Form (HDLF, Billings, Cronkite, & Moos, 1983) to assess monthly and heavy alcohol consumption. El-Guebaly, West, Maticka-Tyndale and Cohn (1993) used validated alcohol subscale of the Millon Clinical Multiaxial Inventory (MCMI, Millon, 1987), which match the Diagnostic and Statistical Manual III Revised (DSM-III-R, American Psychiatric Association, 1987) alcohol abuse items. Pearson et al. (2012) used the Alcohol Use and Disorders Identification Test (AUDIT, Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) assessing alcohol use

amount, frequency, dependence and problems caused by drinking. Rogers (2018) used the CAGE four-item screening questionnaire (an acronym for cutting down, annoyed by criticism, feeling guilty and early morning usage; Ewing, 1984) to assess alcohol-related problems and severity. Vungkhanching et al. (2004) used the Diagnostic Interview Schedule-Version IV (DIS-IV; Robins, Cottler, Bucholz, & Compton, 1994) which is based on the Alcohol Use Disorder criteria of the Diagnostic and Statistical Manual of Mental Disorders-Version IV (DSM-IV; American Psychiatric Association, 1994) to assess presence or absence of alcohol abuse and/or dependence.

One study asked subjective questions regarding alcohol use (Lee et al., 2016) and one study grouped participants at recruitment by those attending alcoholism health services versus those without presence or history of alcohol misuse difficulties (Vaz-Serra et al., 1998).

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Table 2.

Study characteristics

First author (year), format, country	Study design	Recruitment Population	Age in years	Gender split	Ethnicity	Participants with ACOA status (identification method)	Attachment measure(s)	Alcohol use measure(s)	Quality assessment rating (using QATAS)
Bice-Broussard (1998). PhD thesis, USA	Cross-sectional	Opportunistic; 138 college students	18-23	66% female	80% White	49% (n=68) with alcoholic fathers, all with non-problem-drinking mothers (F-SMAST, M-SMAST).	Parent sections of the IPPA, PSQ, AASQ	Modified AAIS	Moderate
Cavell (1993). Journal article, USA	Cross-sectional	Opportunistic; 171 psychology undergraduates.	Mean 18.5	63% female	72% white	42% (n=71) self-identified father-alcoholic COA and 100 non-COA control subjects (asked for yes or no response to two items: "My dad [mom] is an alcoholic"; "My dad's [mom's] drinking caused problems at home").	IPPA	AAIS	Moderate
De La Rosa (2010). Journal article, USA	Cross-sectional, 4 groups	Opportunistic; Community (health fairs, clinics, radio, TV adverts). 158 self-identified mother-daughter dyads (n = 316).	Mean 27	100% female	100% Latina	Group 1). 80 drug and/or alcohol abusing mothers & daughters, 2). 38 abusing mothers, non-abusing daughters, 3). 102 non-abusing mothers, abusing daughters. 4). 96 non-abusing mothers/daughters. ('Alcohol abusers' defined as at least 1 heavy drinking session per month in last year)	IPPA	Alcohol use items from HDLF	Moderate
De La Rosa (2015). Journal article, USA	Longitudinal, 4 groups, 3 waves: 1) (as above,	Opportunistic; wave 1 as above (De la Rosa, 2010). At wave 3 133 dyads (n=266).	Mean 27	100% female	100% Latina	Wave 1 as above; Wave 3 group numbers unspecified.	IPPA	Alcohol use items from HDLF	Strong

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	2) 5 years, 3) 6 years.	Attrition rate 16%.								
El-Guebaly (1993). Journal article, Canada	Cross-sectional	Opportunistic; community health service system. n = 203	Mean 36.6	54% female.	Not stated	51% (n = 102) (CAST)	RAQ	Alcohol & drugs subscales of MCMI	Strong	
Gordon (1995). PhD thesis, USA	Cross-sectional	Opportunistic; 292 undergraduate psychology students	18-48	70% female	70% white	15.9% (n = 46) (SMAST-P)	RQ	AAIS	Moderate	
Lee (2016). Journal article, USA	Longitudinal, 5 waves: 1) 1990, 2) 1994-1996 3) 2000-2001 4) 2004-2006 5) 2011-2013	Opportunistic; New York School children sample. At T5 n = 674	At T1 mean 14.1; At T5 mean 35.9	60% female	53% African Americans, 47% Puerto Ricans	At T5, 10% with maternal alcohol use – percentage with paternal alcohol use not specified ('Parental problem with alcohol use' (Question: has your biological father [mother] had a problem with alcohol use? Yes/no)	'Low parent-child attachment' (23 questions, e.g. 'does your father/mother believe in showing his/her love for you? Very much [0] to not at all [3])	Alcohol use at age 14, 19, 24, 36 (Questions: In past 5 years, average, how many drinks (beer wine, or hard liquor) did you have? In the last 2 weeks, how many times have you had five or more drinks in a row?)	Moderate	
Pearson (2012). Journal article, USA	Cross-sectional,	Opportunistic; Undergraduate students, online, n = 1,095.	Mean 21.8	72.7% female	59.8% white, 24.2% black	4.7% maternal ACOA, 13.7% paternal ACOA, 3.3% both parent ACOA. (CAST)	IPPA	AUDIT	Moderate	
Rodgers (2018). PhD thesis, USA	Cross-sectional	Opportunistic; College sample, via email/online social media postings, n = 155.	23-74, mean 39	87.1% female	Not stated	33% (CAST-6)	ECR-RS	CAGE	Moderate	
Vaz-Serra (1998). Journal article, Portugal	Cross-sectional, 2 groups	Opportunistic; n = 112. Chronic alcoholism group (n = 56),	Clinical mean 38;	100% male	Not stated	34.5% father only drank; mother, both or neither not stated (All participants asked whether both parents drank,	RAAS	n/a (grouped at recruitment)	Weak	

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		from local alcohol services. Control group (n = 56) no history of excessive drinking habits.	Contr ol mean 37.5				father only drank, mother only drank, or both teetotallers)			
Vungkhanching (2004). Journal article, USA	Longitudinal	Opportunistic; 3,158 undergraduate students at baseline. Final sample n = 369	mean 28.9	51% female	93.8% white	202 FH+; 167 FH- (F-MAST, M-MAST and portions of FH-RDC)	AASQ	DIS-IV	Moderate	

Note: F-SMAST = Short Michigan Alcohol Screening Test- Father (Selzer, Vinokur, & Van Rooijen, 1975); M-SMAST = Short Michigan Alcohol Screening Test- Mother (Selzer, Vinokur, & Van Rooijen, 1975); IPPA = Inventory of Parent and Peer Attachment (Armsden & Greenburg, 1987); PSQ = Parental Style Questionnaire (Hazan & Shaver, 1987); AASQ = Adult Attachment Style Questionnaire (Bartholomew and Horowitz, 1991); AAIS = Adolescent Alcohol Involvement Scale (Mayer & Filstead, 1979); HDLF = Health and Daily Living Form (Billings et al., 1983); CAST = Children of Alcoholics Screening Test (Jones, 1983); RAQ = Reciprocal Attachment Questionnaire (West, Sheldon & Reiffer, 1987, 1988, 1992); MCMI = Millon Clinical Multiaxial Inventory (Millon, 1987); SMAST-P = Short Michigan Alcohol Screening Test-Parents (Selzer, Vinokur, & Van Rooijen, 1975); RQ = Close Relationships Questionnaire (Hazan & Shaver, 1987); AUDIT = Alcohol Use and Disorders Identification Test (Saunders et al., 1993); CAST-6 = Children of Alcoholics Screening Test Short-form (Hodgins et al., 1993); ECR-RS = Experiences in Close Relationships - Relationship Structure Questionnaire (Fraley et al 2006; 2011); CAGE = questionnaire (Ewing, 1984); RAAS = Adult Attachment Scale-R (Collins and Read, 1990); FH+ = family history of paternal alcoholism; FH- = no family history of alcoholism; F-MAST & M-MAST = maternal and paternal versions of the SMAST (Crews and Sher, 1992); FH-RDC = Family History-Research Diagnostic Criteria Interview (Endicott et al., 1978); DIS-IV = Diagnostic Interview Schedule-Version IV (Robins et al., 1994).

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Table 3.

Study variables and findings: associations between ACOA status, attachment and alcohol use

First author (year), format, country	ACOA variables	Attachment variables	Alcohol use variables	Main findings	Quality assessment rating (QATQS)
Bice-Broussard (1998). PhD thesis, USA	Paternal ACOA Non-ACOA	Security to mother (m) Security to father (f) Cold/rejecting (m) Cold/rejecting (f) Inconsistent/ambivalent (m) Inconsistent/ambivalent (f) Warm/responsive (m) Warm/responsive (f)	Abstainer Light drinker Moderate drinker Problem drinker	ACOA and non-ACOA differed on mean attachment scores to father (t (127) = 5.09, p < .001, adjusted p = .014) and to mother (t (135) = 2.45, p = .015, adjusted p = .21). Parent attachment was a mediator of relationship between paternal alcoholism and adult attachment style and alcohol use. However neither maternal nor paternal attachment security were moderators between paternal alcoholism and adult attachment style and alcohol use. No overall difference in drinking status across the ACOA and non-ACOA groups.	Moderate
Cavell (1993). Journal article, USA	Paternal ACOA Non-ACOA	Security to mother Security to father	Abstainer Infrequent drinker Average drinker Problem drinker	Paternal alcoholism added significantly to the prediction of perceived attachment security to fathers, (F (1, 169) = 10.35, p < .002) but not to mothers. Drinking status between the ACOA and non-ACOA groups was significantly different (x ² (3, TV = 171) = 12.61, p < .005) with subsequent binomial tests indicating that ACOA were significantly overrepresented among problem drinkers but significantly underrepresented among infrequent drinkers.	Moderate
De La Rosa (2010). Journal article, USA	Abusing mother Non-abusing mother	Security to mother	Abusing daughter Non-abusing daughter	Substance abusing daughters with an abusing mother (dyad 1) reported less secure attachment to their mothers than all other dyad types (r(79) = -.29, p<0.01) (i.e. non-abusing mothers and/or non-abusing daughters).	Moderate
De La Rosa (2015). Journal article, USA	Abusing mother Non-abusing mother	Security to mother	Abusing daughter Non-abusing daughter	Each unit of increase in the attachment score at baseline was associated with a 0.28 drink decrease in monthly alcohol use ($\beta = -0.28$, p < .05) compared with average attachment, with a small effect size (0.09) (Cohen, 1988) of attachment on monthly alcohol use.	Strong
El-Guebaly (1993). Journal article, Canada	ACOA Non-ACOA	<u>Patterns</u> - Compulsive self-reliance Compulsive care-seeking Compulsive care-giving Angry withdrawal	Substance abuse	For women, ACOA and non-ACOA were significantly different in scores on angry withdrawal (t(108) = -2.82, p<0.005), separation protest (t(108) = -2.57, p<0.005), use of the attachment figure (t(108) = -2.57, p<0.005), and perceived availability of the attachment figure (t(108) = -2.59, p<0.005).	Strong

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		<u>Dimensions</u> - Proximity-seeking Separation protest Feared loss Reciprocity <u>Attachment figure</u> - Availability Responsiveness		No significant difference in attachment scores for women based on whether they were or were not substance abusers, nor any interactions between substance abuse and ACOA status. For men, none of the associations were significant.	
Gordon (1995). PhD thesis, USA	ACOA Non-ACOA	Secure Avoidant Ambivalent	Alcohol use/ problems	No significant differences found between ACOA and non-ACOA on attachment, alcohol use, or any other variables. Security of attachment did not function in protective manner in ACOA group which disproves hypothesis for this to be the case.	Moderate
Lee (2016). Journal article, USA	Parental problems with alcohol use in late adolescence (PPA)	Low parent-child attachment at age 19 (LPCA)	Alcohol use in emerging adulthood, Alcohol use in adulthood	PPA was related to LPCA ($\beta = .37, p < .001$), which in turn, was related to self-delinquency in late adolescence ($\beta = .17, p < .01$). Self-delinquency in late adolescence was related to peer delinquency in emerging adulthood ($\beta = .53, p < .001$), which in turn, was associated with alcohol use in emerging adulthood ($\beta = .43, p < .001$) and adulthood ($\beta = .32, p < .05$). LPCA was also related to low satisfaction with school in late adolescence ($\beta = .32, p < .001$), which in turn, was related to self-delinquency in late adolescence ($\beta = .10, p < .05$). Self-delinquency in late adolescence was associated with alcohol use in emerging adulthood ($\beta = .29, p < .001$), which in turn was related to alcohol use in adulthood ($\beta = .96, p < .001$).	Moderate
Pearson (2012). Journal article, USA	Paternal ACOA Maternal ACOA Both parent ACOA Non-ACOA	Security to mother Security to father	Hazardous drinking Alcohol problems Quantity of use Peak consumption	Significant main effect of participant gender on alcohol use variables – men consumed more alcohol and experienced more alcohol problems than women. ACOA status significant effect on alcohol use variables. Maternal ACOA status (but not paternal ACOA status) significantly related to alcohol use variables. Interaction effect: Risk associated with maternal ACOA status decreased as attachment to mother improved. No evidence for buffering hypothesis: more positive relationships with the non-alcohol-abusing parent did not appear to be associated with less alcohol use among ACOAs.	Moderate
Rodgers (2018). PhD thesis, USA	ACOA Non-ACOA	Anxious to mother Avoidance to mother Anxious to father Avoidance to father Anxious to significant other Avoidance to significant other	Personal alcohol abuse (PAA)	ACOA status significantly correlated to PAA ($r(155) = .31, p < 0.01$). ACOA status had a significant ($p < 0.01$) zero-order correlation with avoidant and anxious attachment to mother. ACOA status had a significant ($p < 0.01$) zero-order correlation with avoidant and anxious attachment to father. ACOA status had a significant ($p < 0.01$) zero-order correlation with anxious attachment to significant other.	Moderate

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Vaz-Serra (1998). Journal article, Portugal	Father drank Mother drank Both drank Neither drank	Secure Avoiding Anxious	Alcoholic (A) Non-alcoholic (NA)	In A group, most likely father only drinker (57%), compared to most likely both parents as drinkers in NA group. Between group means showed significant differences regarding anxious ($t(110) = -2.93, p = 0.004$) and secure ($t(110)=1.75, p=0.083$) attachment. In regression analyses, attachment and parental drinking not found to be significant predictors of group status.	Weak
Vungkhanching (2004). Journal article, USA	FH+ (paternal only) FH-	Secure Fearful-avoidant Preoccupied Dismissed-avoidant	Alcohol use disorder (AUD) presence	Significant association between FH+ and attachment ($\chi^2[3, N = 369] = 12.40, P < 0.01$). Fearful-avoidant (OR = 2.18, 95% CI = [1.15, 4.16], $P < 0.05$) and dismissed-avoidant (OR = 2.13, 95% CI = [1.23, 3.68], $P < 0.01$) attachment more likely to meet AUD presence than secure group. Magnitude of FH/AUD association only slightly reduced when attachment entered into model (OR = 2.04, 95% CI = [1.31, 3.18]), suggesting attachment likely does not mediate FH/AUD relation.	Moderate

Attachment security and ACOA status

Nine of the 11 studies reported significant associations between lower attachment security and ACOA status (Bice-Broussard, 1998; Cavell et al., 1993; De La Rosa et al., 2010; De La Rosa et al., 2015; El-Guebaly et al., 1993, Lee et al., 2016; Pearson et al., 2012; Rodgers, 2018; Vungkhanching et al., 2004). Bice-Broussard (1998) found that ACOA reported significantly lower maternal and paternal attachment security compared to non-ACOA. El-Guebaly et al. (1993) reported that female ACOA compared to non-ACOA were significantly different in scores on angry withdrawal, separation protest, use of the attachment figure, and perceived availability of the attachment figure. They did not find significant differences for male ACOA and attachment security. Rodgers (2018) reported significant correlations between ACOA status and insecure avoidant attachment (to mothers and fathers), and insecure anxious attachment (to mothers, fathers and significant others). Vungkhanching et al. (2004) reported a significant association between family history of alcoholism and attachment security. Lee et al. (2016) reported a significant relationship between ‘parental problems with alcohol use’ and ‘low parent-child attachment at age 19’, however they did not use validated measures for their constructs.

In contrast to the above, Gordon (1995) did not find any significant associations between variables. Vaz-Serra et al. (1998) did not find attachment and parental drinking to be significant predictors of drinking status (alcoholics vs. non-alcoholics) in regression analyses. Vaz-Serra et al.’s study was the only paper rated as ‘weak’ when rating quality assessment.

Alcohol use and ACOA status

Seven of the 11 studies reported significant associations between alcohol use and ACOA status (Cavell et al., 1993; De La Rosa et al., 2010; De La Rosa et al., 2015; Lee et al., 2016; Pearson et al., 2012; Rodgers, 2018; Vungkhanching et al., 2004). Considering which

(or both) parent(s) had problematic alcohol use, Pearson et al. (2012) found the significant association between alcohol use and maternal ACOA status, but not for paternal or both parent ACOA status. Four studies did not find significant relationships between alcohol use and ACOA status (Bice-Broussard, 1998; El-Guebaly et al., 1993; Gordon, 1995; Vaz-Serra et al., 1998).

To note, Bice-Broussard (1998), Cavell et al. (1993) and Vungkhanching et al. (2004) considered paternal ACOA status only and De La Rosa et al. (2010) and De La Rosa et al. (2015) considered maternal ACOA status only. El-Guebaly et al. (1993), Gordon (1995), Lee et al. (2016) and Rodgers (2018) did not consider which, or indeed whether both parent(s) abused alcohol. Pearson et al. (2012) and Vaz-Serra et al. (1998) considered whether mother, father or both parents abused alcohol.

Attachment, alcohol use and ACOA status

Pearson et al. (2012), Gordon (1995) and Vungkhanching et al. (2004) considered an attachment buffering hypothesis. That is, whether high attachment security to parents reduces the risk of the intergenerational transmission of alcohol use problems. None of the three studies found unequivocal support for this hypothesis. Vas-Serra et al. (1998) reported attachment security and parental drinking not to be significant predictors of group status (clinical alcoholic group versus non-problem drinking group) in regression analyses, but they did find significant differences between alcoholic and non-alcoholic groups on attachment security. Bice-Broussard (1998) reported parent attachment security to be a mediator of the relationship between paternal alcoholism and adult attachment style and alcohol use, however did not find either maternal or paternal attachment security to be significant moderators between paternal alcoholism and adult attachment security and alcohol use. Conversely, using structural equation modelling, Lee et al. (2016) reported significant relationships between parental problems with

alcohol use, low parent-child attachment security and alcohol use in emerging adulthood and adulthood. These associations were present alongside self-delinquency, peer delinquency and low satisfaction with school in adolescence.

Discussion

The current review intended to examine the strength of the association between attachment security and alcohol misuse in adults who themselves identify as ACOA, with a view to further exploring why some but not all ACOA develop alcohol misuse difficulties. The articles included suggest that in some circumstances, there is a relationship between ACOA status, alcohol misuse difficulties in adulthood and reported attachment to others. It is interesting to note that this review found 64% of included studies (seven of the 11 studies) reported problematic alcohol use was higher for people who self-identify as ACOA, mirroring the 66% of studies finding this relationship in Rossow et al.'s (2016) scoping review of 99 studies. Exploring why 33% of their reviewed studies did not find a relationship between parental drinking and alcohol misuse, Rossow et al. suggested study characteristics such as lack of statistic power, primary study focus, insufficient control for confounding factors and various study biases may be accountable. In the current review, this could be applied to Gordon's (1995) study which had a small sample combined with a high number of measures (17), questioning the validity of their findings due to lack of power (Cohen, 1988). In addition, Vaz-Serra et al.'s (1998) study was rated as 'weak' in quality by the current authors due to study characteristics (i.e. possible selection bias, possible confounding variables and data collection).

Based on the findings of this review we might assume that there is a relationship between attachment and ACOA status in some circumstances, yet due to the mixed approaches regarding attachment variables, measures used, sample populations, parent and child gender

and ACOA identity, it is not possible to propose what the nature of this complex relationship may be. Three studies had considered an attachment buffering effect for ACOA, yet support for their theory was not found. It is interesting to observe the findings between studies in consideration of possible explanations for differences between findings and with regards to future research.

In terms of quality assessment, some studies had more methodological rigour than others. For example, as longitudinal studies, De La Rosa et al. (2015) and Vungkhanching et al. (2004) presented especially valuable research in allowing us to test prospective and causative hypotheses, compared to single time points in the cross-sectional studies. De La Rosa et al. (2015) and Vungkhanching et al. (2004) were quality-rated as strong and moderate, respectively, and both reported significant associations between ACOA status and alcohol misuse and between ACOA status and attachment security (although De La Rosa et al. only considered maternal attachment).

Comparatively, it is interesting to note that studies that did not find a significant relationship between ACOA status and attachment may be lower in methodological quality. As mentioned above, Vaz-Serra et al.'s (1998) study was rated as weak due to study characteristics (i.e. possible selection bias, etc.) and Gordon's (1995) study was rated as moderate in quality, yet the high number of variables ($n = 17$) call into question the power of analysis in this context (Cohen, 1988) therefore we cannot be sure of the significance and validity of findings. Gordon's study did not find any significant associations between variables.

The studies varied in whether they were concerned with maternal or paternal alcohol use. For ACOA status, four studies did not specify which (or both) parent(s) drank (El-Guebaly et al., 1993; Gordon, 1995; Lee et al., 2016; Rodgers, 2018). Whereas three studies only considered paternal drinking (Bice-Broussard, 1998; Cavell et al., 1993; Vungkhanching et al., 2004), two studies only considered maternal drinking (De La Rosa et al., 2010; De La Rosa et

al., 2015), and two studies specified whether mother, father, both or neither drank (Pearson et al., 2012; Vaz-Serra et al., 1998). Sample genders also varied from 100% male (Vaz-Serra et al., 1998) or 100% female (De La Rosa et al., 2010; De La Rosa et al., 2015) to varying ratios of male to female (see Table 2; Bice-Broussard, 1998; Cavell et al., 1993; El-Guebaly et al., 1993; Gordon, 1995; Lee et al., 2016; Pearson et al., 2012; Rodgers, 2018; Vungkhanching et al., 2004). Such variability means it is difficult to identify specific gender differences or patterns which may or may not be there.

However, some studies identified interesting gender-specific findings to note. Only considering paternal alcoholism, Cavell et al. (1993) found paternal alcoholism added significantly to the prediction of perceived attachment security to fathers, but not to mothers, for both males and females. El-Guebaly et al. (1993) found significant associations between ACOA status and attachment for females, but not for males. El-Guebaly et al. did not specify paternal and/or maternal ACOA status. In 100% female and mother studies, De La Rosa et al. (2010) and De La Rosa et al. (2015) found significant associations between ACOA status and attachment, and between ACOA status and problematic alcohol use. Yet in the only 100% male study, Vaz-Serra et al. (1998) did not report significant associations between the same variables. Although each of these findings need to be explored further in future research, they are interesting in light of earlier attachment research focussing on maternal attachment (e.g. Ainsworth et al., 1978, Strange Situation Test).

Attachment research brings complications with regards to measurement of attachment, due to differences in categorical vs continuous, retrospective versus current, as well as the subjects of the attachment relationship (parents and specifically to which parents, partners, peers etc.), as seen in Table 1. For instance, five studies used measures only pertinent to attachment to parents (Cavell et al., 1993; De La Rosa et al., 2010; De La Rosa et al., 2015; Lee et al., 2016; Pearson et al., 2012), four studies only used measures of adult attachment style

(El-Guebaly et al., 1993; Gordon, 1995; Vaz-Serra et al., 1998; Vungkhanching et al., 2004), whereas two studies measured both adult attachment and attachment to parents (Bice-Broussard, 1998; Rodgers, 2018). Although we know that parent-child attachment is related to adult attachment, there is evidence that attachment style can change over the course of a person's lifetime (Pinquart, Feubner & Ahnert, 2013). Much of the existing literature presents adult attachment style as a global and stable construct and does not acknowledge that although highly correlated, childhood attachment and adult attachment are not the same construct and indirect and implicit assumptions are made when grouping the two together. This complicates our ability to interpret the findings from the current review and leads onto considerations for future research.

Limitations of review

The current review can contribute to the growing literature around adverse consequences of being raised by parents with alcohol misuse difficulties for COA and ACOA. However there are also limitations to note. This review takes a narrow focus, looking at attachment as a possible protective factor for risk of developing alcohol misuse difficulties. However the authors acknowledge that there are a large range of protective factors that may also mediate any relationship between parental drinking and alcohol abuse in adulthood. This includes, but is not limited to, general family closeness, pro-social peers and residential area and school stability (Becker & Grilo, 2006; Chen et al., 2012; Livingston et al., 2008; Miller et al., 2007; Schindler et al., 2005; Tingey et al, 2016; Wlodarczyk et al., 2017). It is also noteworthy that children can copy their parents' attachment coping behaviours. For drinking to cope behaviour, this will likely depend on whether children are aware of or exposed to their parents' drinking (Claudia et al., 2018; Spijkerman, Van den Eijnden, Overbeek & Engels, 2007).

It is also clear that the current review is limited in its ability to draw more definitive conclusions due to the variance between studies regarding a number of factors, such as attachment and ACOA measures and variables as well as study samples' age, gender, ethnicity and target populations which also varied considerably. However this could also be considered helpful in that some of the differences in findings between these studies provides more population-specific hypotheses for future reviews. This variability is also a clear indication of the limited amount of research on this topic.

Conclusions and considerations for future research

To our knowledge this was the first systematic review to consider both attachment and alcohol misuse for ACOA populations, and by doing so it has also highlighted some key gaps in the literature. Due to the varied results, it seems that further research is needed in order to create a clearer picture of the mechanisms by which COA are more likely to develop the adverse consequences already documented. Although this review did not find consistent evidence for a 'buffering hypothesis' of attachment security in COA, it would be beneficial to explore the role of attachment further due to the significant associations that were found. Based on our observations in this review, it would be important to consider both the parents' and the child's gender with regards to alcohol abusing (and non-alcohol abusing) parent and attachment. It would also be helpful to consider the impact of the age of onset of parental alcohol misuse with regards to the stage of the child's development in which disruptions may occur. In addition, it would be helpful to consider cultural differences due to previous findings (Rehm & Room, 2017; Rehm, Anderson, et al., 2015). Studies in this review included samples from the USA, Canada and Portugal and more research with other population groups outside of North America and continental Europe would be a welcome development.

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Chapter 2: Empirical paper:

Relationships between memories of perceived parental care and alcohol misuse

Note: Intended for submission for publication with the Journal of Clinical Psychology (see Appendix B for author guidelines).

Abstract***Background***

In the United Kingdom, increasing strain is being placed on the National Health Service due to chronic alcohol misuse and related physical and mental health difficulties. In attempting to understand causative factors, a body of literature has considered the relationship between adverse childhood experiences and in particular parental relationship difficulties preceding problematic alcohol misuse in adulthood. Due to complexities and controversies around the research of attachment and the multiple concepts and measures, the current study deploys the Parental Bonding Instrument (PBI), found to possess good face validity and significant relationships with constructs of psychological distress. Multiple studies have evidenced a relationship between scores on the PBI and substance and/or alcohol misuse, however, such studies have not been conducted with a UK sample and have not been conducted using samples with a wider variance in alcohol use.

Methods

The current quantitative study selectively recruited 86 participants (53 males and 33 females) from both clinical (43 alcohol detox patients) and non-clinical (43 individuals recruited via a university website) populations, allowing for group comparisons and simultaneously increasing the variance in alcohol use. Hierarchical regression analyses were used to assess the degree to which maternal and paternal bonding (assessed using the PBI) predicted alcohol misuse (assessed by the Alcohol Use and Disorders Identification Test and the Leeds Dependence Questionnaire). Symptoms of depression were also measured (using the Patient Health Questionnaire, PHQ9) in order to examine the potential impact of depression scores on both PBI scores and alcohol misuse.

Results and conclusions

Overall, remembered parental care was not found to predict alcohol misuse, however the study identified differences between the clinical and non-clinical groups. In the clinical group, alcohol misuse correlated with depression symptoms, yet in the non-clinical group depression symptoms did not relate to alcohol misuse. Therefore, drinking motives may differ between clinical and non-clinical samples. In addition, it was found that remembered experiences of parental care may be more consistent in non-clinical populations, and more inconsistent in clinical populations. The limitations of the study are discussed, however the conclusion remains that there is no consistent evidence to suggest a relationship between remembered parental care and adult alcohol usage.

Key word descriptors: Alcohol, Substance misuse, Remembered parental care, Attachment.

Introduction: Background

Alcohol misuse and underlying causes

In the United Kingdom, alcohol misuse² presents a significant demand on National Health Service (NHS) resources. For example, an NHS report estimated 9% of adult men and 4% of adult women show signs of alcohol dependence (NHS Choices, 2011). In addition, the charity Alcohol Concern reported a national survey to have found 63% of all alcohol-related deaths in 2012 to be caused by alcoholic liver disease in England and Wales (Office for National Statistics, 2014). This highlights the need to further understand causative and mediating factors influencing alcohol dependency and addiction in this country.

Research suggests a significant link between adverse childhood experiences, psychological distress and substance and alcohol use difficulties, most commonly including family discord and conflict, poor relationships with parents, insufficient parental monitoring, delinquency (including early substance misuse) and association with delinquent peers (Choo & Shek, 2013; Comasco, Berglund, Oreland, & Nilsson, 2010; Dermody, Cheong, & Manuck, 2013; Dishion, Nelson & Bullock, 2004; Grant et al., 2004; Laghi, Baiocco, Lonigro, Capacchione, & Baumgartner, 2012). Conversely, research has also evidenced that positive family and parental relationships and internalisation of positive social norms and values reduce risk of delinquency and alcohol use (Bell, Forthun, & Sun, 2000; Kuntsche & Silbereisen, 2004). Underlying these factors, parental bond and the related construct of attachment have been proposed as key components in the development of alcohol use difficulties and this continues to be explored (Daire, Turk, Johnson, & Dominguez, 2013; Jurcik, Moulding, & Naujokaitis, 2013; Luk, Patock-Peckham, & King, 2015; Musseti, Terrone, Corsano, Magnani, & Salvatore, 2016; Pellerone, Tolini, & Polopoli, 2014; Smorti & Guarnieri, 2015).

² Within the literature a variety of terms are used to refer to problematic substance or alcohol use, such as alcohol use disorder, addiction, dependence, abuse, misuse, etc., often referring to the same problematic behaviour. For the purpose of consistency, this chapter will use the term 'alcohol misuse' throughout, in accordance with national UK guidance (National Institute for Health and Care Excellence, 2018).

Attachment, early parental relationships and substance misuse

Attachment theory refers to a theoretical approach that is broadly grounded in the work of Bowlby (1980; 1988) and Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978), and has been extensively researched and developed over the past five decades. Whilst there are debates and distinct theoretical divisions within the field (e.g., Ainsworth et al., 1978; Bowlby, 1980; 1988; Crittenden, 1992; Main & Solomon, 1990), broadly attachment theory refers to the idea that infant-mother relationships can be assessed in terms of their ability to support positive infant development. Early attachment theorists (Ainsworth et al., 1978; Bowlby, 1980; 1988) suggested that the relationship with primary caregivers in childhood influences the development of internal representations of relationships with others and this was suggested to form a template for future relationships. It was reported that attachment style between infants and primary caregivers was associated with later attachment behaviours, level of attachment security and this may be predictive of later psychological well-being. Out of this research emerged identification of attachment style 'categories', namely secure, ambivalent, avoidant, and later disorganised/disorientated (Ainsworth et al., 1978; Main & Solomon, 1990). It was also acknowledged that individuals' 'internal working models' (IWM) and attachment styles can alter in response to life events and changes in the relationships with key attachment figures (Thompson, Lamb & Estes, 1982).

A later, second 'stream' of attachment research began to look at attachment styles and experiences in adulthood including adult-adult relationships. For example, Hazan and Shaver (1987) considered relationships as an extension of the attachment 'system' proposed by Bowlby and colleagues. Others have developed this further and proposed a two-dimensional, four-category model, viewing adult attachment style as a combination of positive or negative views of the self and of others and attachment-related anxiety or avoidance in adult relationships (Griffin & Bartholomew, 1994; Brennan, Clark & Shaver, 1998).

Over the last 50 years or so, the study of parental relationships and attachment has been used to explore a plethora of difficulties related to psychological functioning. More recently this has included substance misuse due to the observation of long-standing interpersonal difficulties and emotional regulation difficulties as core elements of both insecure attachment styles and substance addiction (Cassidy & Shaver, 2008; Wyrzykowska, Glogowska, & Mickiewicz, 2014). It has been proposed that, similarly to an infant seeking the caregiver in times of stress, the substance user becomes progressively more likely to regulate emotions through use of the substance; this may be regarded as a form of ‘safe haven’ effect produced by drug use (de Rick, Vanheule, & Verhaeghe, 2009). Of course, it cannot be denied that physiological features of substance addiction (i.e. tolerance and dependency) will then also play a part, depending on the chosen substance (Segura-Garcia et al., 2016; Wise & Koob, 2014).

Although current literature demonstrates awareness of the importance of interpersonal relationships and attachment with regards to substance misuse (Wyrzykowska et al., 2014), there is limited knowledge around the impact of historical childhood parental relationships on substance addiction. Given that alcohol use often starts some time in adolescence, it could be argued that experiences of parental care, warmth and safety have some relationship with the progression and severity of addiction (Segura-Garcia et al., 2016). This demonstrates the significance of understanding childhood experiences of parental relationships and their relevance in clinical practice.

Although the construct of attachment has been involved in explanations of various psychological difficulties (Enns, Cox, & Clara, 2002), including substance misuse, the assessment of attachment within research is complicated. For example, in recent decades, there has been a lack of consistency of theoretical and methodological approaches to the study of attachment. Whereas some see attachment security as a continuum (e.g., Fraley & Spieker,

2003) others take a categorical approach (e.g., Ainsworth et al., 1978), from which a multitude of assessment measures have been developed (e.g., Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010; Manning, Dickson, Palmier-Claus, Cunliffe, & Taylor, 2017). Complexity is added when considering factors such as self-report, assessment method and age of respondent compared to the population/mode of assessment when measures were designed. In addition, childhood attachment measures (which are scarce compared to adult attachment measures) were originally developed based on the observation of young children (Ainsworth et al., 1978; Ravitz et al., 2010), which questions the validity of utilising childhood attachment measures retrospectively with older/adult populations. In addition, measures that are considered to possess good reliability and validity which retrospectively assess childhood attachment, such as the Adult Attachment Interview, require intense training and significant time scoring and re-scoring, complicating the accessibility of such tools for clinicians and researchers. This creates difficulty with regards to the retrospective assessment of childhood parental relationships using attachment.

Based on the premise that childhood parental relationships are crucial for healthy development, Parker, Tupling and Brown (1979) developed the Parental Bonding Instrument (PBI) which is based on their identification of two basic components of parenting; parental care (warmth and nurturance) and parental control (over-protection; encouragement of dependence on parents). The PBI was designed specifically for retrospective assessment of parental relationships as perceived by the child and has been reported to possess good reliability both generally (Parker, 1989) and when compared with the Adult Attachment Interview (Parker, 1983; Manassis, Owens, Adam, West, & Sheldon-Keller, 1999). Wilhelm, Niven, Parker and Hadzi-Pavlovich (2005) demonstrated stability on the PBI over a 20 year period. Although the PBI has been found to share some relationship with attachment security, it avoids some of the controversy within the attachment literature regarding the construct of attachment (c.f. Meins,

2017) by not defining the questionnaire as global parent-child relationship categories, but merely the childhood recollections of parental care. Indeed Musetti et al. (2016) demonstrated that scores on the PBI, and not the construct of childhood attachment (as assessed by the AAI) was more significant in relating to psychological distress in substance abuse. Scores on the PBI are found to correlate with depression (Lizardi & Klein, 2005), eating disorders (Cooper & Young, 2016) and borderline personality traits (Infurna et al., 2016), indicating that self-report on this measure appears to relate to important elements of psychological distress (Williams, Harfmann, Ingram, Hagan, & Kramer, 2015). The AAI, as the only well-recognised validated attachment tool that specifically retrospectively measures childhood attachment to parents, requires intensive training and significant time scoring. The PBI explores remembered parental relationships, but is more practical than the attachment measures which require extensive training and are more demanding of participants. Therefore the current study uses the PBI as an alternative. It has also been argued that level of psychological distress can influence participants' recall and memories of parental care, with the same participants reporting lower levels of care when reporting higher levels of distress and reporting higher levels of care when reporting lower levels of distress (Gillham, Putter & Kash, 2007).

Parental bonding and substance and alcohol misuse

Multiple studies have evidenced a relationship between scores on the PBI and substance and/or alcohol misuse (Daire et al., 2013; Gerra et al., 2004; Jurcik et al., 2013; Luk et al., 2015; Musetti et al., 2016; Patock-Peckham & Morgan-Lopez, 2007; Pellerone et al., 2014; Segura-García et al., 2016), however, fewer studies consider child gender combined with maternal and/or paternal relationships separately and findings are inconsistent (Barnes, Reifman, Farrell, & Dintcheff, 2000; Barowski, Ievers-Landis, Lovegreen, & Trapl, 2003; Smorti & Guarnieri, 2015). For example, Smorti and Guarnieri (2015; adolescent Italian

sample) reported an indirect negative relationship between maternal care and alcohol use in females (mediated by social and coping drinking motives), but not in males, and no relationship was reported for paternal bond for either males or females. Similarly, Jurcik et al. (2013; Canadian university student sample) and Tok & Ozyurt (2015; Turkish university student sample) reported a significant relationship between maternal low care/high overprotection and alcohol use, but no relationship was reported for paternal care/overprotection for either males or females. Alternatively, Segura-Garcia et al. (2016) reported no relationship between maternal care and alcohol use for either males or females, yet they did report a significant relationship between maternal over-protection, paternal care and over-protection and alcohol abuse. However, Segura-Garcia et al.'s (2016) alcohol sample was small ($n = 26$), older (37.8 years) and made up of alcohol addiction service patients in Italy. In contrast, Rambeu et al. (2018) did find a significant negative relationship between alcohol use and maternal care (yet not for paternal care), when exploring the same correlations in a community sample of older participants (mean age 47 years) in Germany. Thus it appears that the findings are far from consistent, and may well be affected by the participant demographic and social characteristics.

It appears that many studies focus on a narrow range of drinking behaviours, either in the community or within clinical services. This poses a question regarding whether the relationships found relate to general psychological relationships or whether they are only found in subsets of people using alcohol. In order to take this into account research participants could be selectively recruited from both populations (clinical and community), allowing for group comparisons and simultaneously increasing the variance in alcohol use. The proposed research therefore offers replication in a novel population (UK sample, with a variance in alcohol use) and an extension to the current understanding of how remembered parental care relates to alcohol misuse.

Objectives

The current study explores remembered maternal and paternal relationships in individuals who drink alcohol or have experienced recent alcohol dependence. It extends the current research literature to a UK clinical population, giving research findings relevance to UK NHS clinicians working with service users experiencing alcohol dependence. Whilst psychologists commonly give credence to the role of early adverse childhood experiences in adult alcohol use (see Edalati & Krank, 2016), this approach contrasts with biological and physiological models of addiction (see Nutt, Lingford-Hughes, Erritzoe, & Stokes, 2015; West, 2001), and thus it is important to explore these theoretical assumptions empirically.

Hypotheses

1. Remembered levels of parental low care and high overprotection (as assessed by the PBI) will be correlated with alcohol use and dependence.
2. There will be differences between the control and alcohol dependent groups in scores on the PBI.
3. There will be differences between males and females in scores on the PBI.
4. Severity of alcohol use and dependence will be associated with Patient Health Questionnaire (PHQ9) scores.

Method

Participants

A sample of 86 participants were recruited in total, 43 (comprising 26 males and 17 females) within the alcohol dependent group and 43 (comprising 28 males and 15 females) forming the control group. The recruitment and procedure differed for control group and alcohol dependent participants and thus is described separately below. The two groups were matched on age and gender but differed in level of education (see Table 1 for demographic information).

Table 1.

Demographic characteristics of the sample.

Group (n)	Gender (n)	Mean age in years (range)	Mean education level (range)
Clinical (43)	Male (25)	47.7 (30 – 72)	1.7 (0 – 4)
	Female (18)	46 (33 – 69)	1 (0 – 4)
Control (43)	Male (28)	49.1 (34 – 73)	3.3 (1 – 5)
	Female (15)	38.9 (31 – 47)	4 (2 – 5)

Note: Education level values: 0 = none, 1 = GCSEs or equivalent, 2 = Further education, 3 = A Levels or equivalent, 4 = Undergraduate degree, 5 = Postgraduate.

Design

A between-group cross sectional correlational design was used to explore relationships between the constructs, to explore the relationship of predictor variables (remembered maternal care/overprotection and remembered paternal care/overprotection) to the dependent variables of alcohol use and dependency.

Procedure*Clinical group*

Two alcohol addiction treatment services supported the research and facilitated direct recruitment with service users undergoing alcohol detoxification. Service staff identified appropriate potential participants based on inclusion and exclusion criteria, in conjunction with their clinical judgment.

An information sheet was offered to participants identified as eligible for the study (see Appendix D). This included information about the nature, purpose and background of the study, invitation to take part, what was being asked of them, inclusion and exclusion criteria, researcher contact details and details around consent, confidentiality and data storage. The information sheet also detailed possible disadvantages or risks around taking part, that the study will ask them about past and present relationships, and that they were free not to take part or to withdraw at any point (up to the point of data anonymisation). Once potential participants had given consent to be approached by the researcher, the researcher approached them to discuss the project and if they were happy to participate, a time was arranged for them to complete the consent form and questionnaire. Written consent for participation was obtained prior to completion of the questionnaire (see Appendix E).

Participants were offered a remuneration for their time and contribution to the study. An £8 WH Smith shop gift voucher was identified as an appropriate remuneration method for (i) ease of access for participants and (ii) non-promotion of purchasing alcohol. Participants were also given a debrief sheet following participation (see Appendix F) giving more detail about the study and contact details for independent sources of support.

Control group

In order to match the control participants on age and gender, recruitment of the control group began once the entire clinical sample had been recruited. Recruitment of the control group was conducted in two phases to reduce the chance of collecting unusable data (for example having an overly young or female non-clinical sample and having to discard a proportion of responses). Participants were recruited through advertising at the University of Liverpool via posters and the online web portal, which included the main inclusion and exclusion criteria and a web link to the online questionnaire (see Appendices G and H). Once control participants completed the measures they were asked to provide their email address so the researcher could contact them to provide the remuneration voucher (email addresses were stored separate to data to maintain confidentiality). Participants' scores for the AUDIT were generated automatically and shown to participants at the end of the online questionnaire, giving an indication of their level of alcohol use (see below) and advising to contact their General Practitioner if they scored above 8 (indicating harmful or hazardous drinking).

Measures

To assess alcohol use severity the Alcohol Use Disorders Identification Test (AUDIT; WHO, 2001; see Appendix I) was used. The AUDIT is reported to be the "gold standard" of alcohol identification tests, developed by the World Health Organisation Department of Mental Health and Substance Dependence. It comprises 10 alcohol use questions, which report hazardous and harmful patterns of alcohol consumption as well as alcohol dependence. A score of 8 or more on the AUDIT is associated with harmful or hazardous drinking, and a score of 13 or more in women, and 15 or more in men, is likely to indicate alcohol dependence. The AUDIT was developed over two decades and has been used internationally in clinical and research settings. It has been reported to provide an accurate measure of alcohol use risk across

gender, age, and cultures (WHO, 2001). As this is used in routine clinical practice and as an NHS screening tool, it allows the research sample to be meaningfully discussed in relation to community clinical presentations. It is recommended due to its continued international development, strong validity, and value for stability over time.

It is acknowledged that the AUDIT has been used for different purposes in the literature, including either as a measure of hazardous drinking, harmful drinking or as a measure of alcohol dependence (which are the three domains described in the AUDIT Manual, WHO, 2001). For this reason, Selin (2006) tested the performance of its subsets (consumption items, AUDIT-C; and problem items, AUDIT-P) and of the full AUDIT (AUDIT-10) against four criteria: high-volume drinking, alcohol-related social problems, alcohol-related health problems, and alcohol dependence in a general population sample of 600 Swedish subjects. The results demonstrated that, at the recommended cut-off score of 8+, the full AUDIT performed well against all four criteria, including alcohol dependence.

The Leeds Dependence Questionnaire (LDQ; see Appendix J) was also used as further support to assess for substance dependence. The LDQ is a 10-item self-report questionnaire designed to measure dependence upon a variety of substances. It was designed to be sensitive to change over time and to be sensitive through the range from mild to severe dependence. Although continuum scores are preferred, it is proposed that a score of 20 is indicative of severe dependence (Raistrick et al., 1994). The LDQ has been shown to have good internal consistency and reliability (Lennings, 1999).

To assess remembered parental care, the PBI is a self-report questionnaire measuring fundamental parental styles as perceived by the child. The measure is retrospective; adults (over 16 years) complete the measure for how they remember their parents during their first 16 years of life. There are 25 item questions, including 12 'care' items and 13 'overprotection' items (Parker, Tupling, & Brown, 1979; see Appendix K). There is evidence that the PBI

compares well optimal (secure) attachment histories, but less well for participants expressing idealisation or anger towards mothers (Manassis et al., 1999). Multiple-studies have evidenced a relationship between scores on the PBI and substance use and/or alcohol dependence (Patock-Peckham & Morgan-Lopez, 2007; Segura-García et al., 2016; Gerra et al., 2004), however none have contrasted this with a control group, and thus it remains possible that the relationship between remembered parental care and substance use is only found in populations with high levels of substance abuse, and is not a general influencing factor, but specific to clinical samples. Therefore the current study explores whether the purported relationship between PBI and substance use can be found in the UK, and is evident in individuals with severe levels of alcohol dependency and in a matched group of individuals reporting non-problematic alcohol use.

Due to the relationship between PBI scores and depression (Lizardi & Klein, 2005) and between substance misuse and depression (Dermody, Cheong, & Manuck, 2013), the Patient Health Questionnaire (PHQ9; Kroenke, Spitzer, & Williams, 2001; see Appendix L) was administered in order to examine the potential impact of depression scores on both PBI scores and alcohol misuse scores. The PHQ9 is a self-report 9 item likert scale measure, routinely used in primary care to screen for symptoms of low mood and depression. The PHQ9 has been found to demonstrate diagnostic validity, with good sensitivity and specificity for major depression (Kroenke et al., 2001).

Service user consultation

The University of Liverpool Experts by Experience (LExE) group were consulted with in April 2016. LExE reviewed and offered suggestions regarding recruitment and project feasibility and gave their approval for the study prior to application for study sponsorship and ethical approval.

Permission of ethics committees

The project was sponsored by the University of Liverpool and ethical approval was sought and received from the North West NHS Research Ethics Committee and Health Research Authority (see Appendix M).

Data analysis

G*power calculations (Faul, Erdfelder, Lang, & Buchner, 2007) revealed that the total sample of 86 participants with a medium effect size provided a power of .81 at a significance level of .05 for a multiple regression model based on four predictor variables (remembered maternal care, remembered maternal overprotection, remembered paternal care, remembered paternal overprotection).

Data were analysed using IBM® Statistical Package for the Social Sciences (SPSS) for Windows, version 22. Prior to performing analyses, data were screened for parametric analyses suitability. This included screening for missing values, normality and linearity.

Examination of missing data revealed that six of the seven continuous variables contained missing data (alcohol dependence, remembered maternal care, remembered maternal overprotection, remembered paternal care, remembered paternal overprotection, depression). Little's Missing Completely at Random (MCAR) test revealed a non-significant result, indicating that data were missing completely at random ($\chi^2 = 949.6$, $df = 975$, $p = .71$).

For four of the variables with missing data, $\leq 5\%$ of participants had $\leq 9\%$ of their data missing (alcohol dependence, remembered maternal care, remembered maternal overprotection, depression), allowing mean substitution to be utilised (as recommended by Tabachnick & Fidell, 2013). For the remaining two continuous variables with missing data (remembered paternal care, remembered paternal overprotection), two participants (2.3%) had

≤ 9% of their data missing on each variable, allowing for mean substitution to be used. However a further four participants for remembered paternal care, and five participants for remembered paternal overprotection had between 23% and 100% of their data missing. As a result, pairwise deletion was utilised for these four participants on remembered paternal care, and for five participants for remembered paternal overprotection (Tabachnick & Fidell, 2013).

For demographic variables (gender, age, highest education attainment level), data was missing for one participant for education attainment level and this was excluded from analyses via pairwise deletion.

Assessing for normality of distribution of continuous data, skewness and kurtosis z scores were calculated, histograms, normality Q-Q plots and scatterplots were examined and a statistical test of normality was undertaken (Pallant, 2010). Several of the variables did not meet assumptions of normality, including both predictor and dependent variables. This indicated that parametric analyses could not be utilised. Therefore, Spearman's rank coefficient was utilised to for correlation analyses.

Normality Q-Q plots revealed two outliers for remembered paternal overprotection. Due to the skewness that these outliers were contributing to ($z > 1.96$, $p < .001$), in order to limit the impact on analyses they were given the value of the next highest score plus one (Tabachnick & Fidell, 2013). Re-calculating skewness z scores and normality Q-Q plots revealed data for remembered paternal overprotection was no longer significantly skewed. However, results of the Kolmogorov-Smirnov test showed significance on the remaining four of the five predictor variables, demonstrating non-normality (remembered maternal care: $K-S(86)=.14$, $p<.001$; remembered maternal overprotection: $K-S(86)=.12$, $p<.05$; remembered paternal care: $K-S(82)=.12$, $p<.05$; depression: $K-S(86)=.17$, $p<.001$). Although it is acknowledged that the Kolmogorov-Smirnov test can be considered sensitive (Nguyen, Carlin, & Lee, 2013), bivariate scatterplots also revealed non-normal shapes of data scattering.

For the multiple regression analyses, regression residual scatterplots and collinearity statistics demonstrated that assumptions of linearity and homoscedasticity were met and multicollinearity was not present. Although findings for normality tests of the dependent variables (AUDIT and LDQ) revealed significance ($p < .001$) indicating non-normal distributions, it was decided that data transformation would not be performed as all other assumptions were met and in order to minimise complications around interpretation following analyses (Ribeiro-Oliveira et al., 2018).

Descriptive statistics were calculated to consider sample characteristics, followed by bivariate analyses (Spearman's rank coefficient correlations) to examine one to one relationships between each of the variables. The data was initially examined as an entire group, then the clinical and control groups were separated for comparison in correlational analyses. The data was then split by gender only for correlational analyses, in order to examine possible gender differences. Due to the number of tests carried out, the significance level was set at $p < .001$ in order to limit the likelihood of type one or type two errors (Tabachnick & Fidell, 2013). In addition, observed z values were calculated in order to measure whether significant correlation coefficients were significantly different between groups. Hierarchical multiple regression was utilised in order to examine the individual contributions of each of the predictor variables (remembered maternal care, remembered maternal overprotection, remembered paternal care, remembered paternal overprotection) to the outcome variables (AUDIT and LDQ). As previous studies report significance for maternal bond more than for paternal bond (Jurcik et al., 2013; Segura-Garcia et al., 2016; Rambeu et al., 2018; Smorti & Guarnieri, 2015; Tok & Ozyurt, 2015), predictor variables were entered into the regression model in the following order: step 1: remembered maternal care, step 2: remembered maternal overprotection, step 3: remembered paternal care, step 4: remembered paternal overprotection.

Results

Descriptive statistics

Table 2 presents the descriptive statistics for all continuous variables, after missing data and outliers had been addressed.

Table 2.

Descriptive statistics for continuous variables.

	Mean	Standard Deviation	Median	Range
Age	46.3	10.9	44.0	43 (30 – 73)
Clinical	46.9	9.9	47.0	42 (30 – 72)
Control	45.6	12.0	40.0	42 (31 – 73)
Education	2.4	1.7	2.0	5 (0 – 5)
Clinical	1.3	1.1	1.0	4 (0 – 4)
Control	3.6	1.4	4.0	4 (1 – 5)
AUDIT^a	20.1	14.1	17.0	40 (0 – 40)
Clinical	33.1	6.5	34.0	28 (12 – 40)
Control	7.1	3.8	6.0	18 (0 – 18)
LDQ^a	13.6	12.5	7.5	30 (0 – 30)
Clinical	24.8	7.0	28.0	27 (3 – 30)
Control	2.3	2.4	1.0	9 (0 – 9)
MC	24.2	10.8	27.0	36 (0 – 36)
Clinical	24.1	12.4	29.0	36 (0 – 36)
Control	24.3	9.2	27.0	33 (3 – 36)
MO	11.1	7.9	11.0	33 (0 – 33)
Clinical	11.4	7.7	10.0	33 (0 – 33)
Control	10.7	8.2	12.0	29 (0 – 29)
PC	21.0	12.1	24.0	36 (0 – 36)
Clinical	19.7	14.3	25.0	36 (0 – 36)
Control	22.3	9.7	24.0	36 (0 – 36)
PO	21.0	12.1	24.0	36 (0 – 36)
Clinical	9.7	7.2	9.0	24 (0 – 24)
Control	10.2	8.0	9.0	32 (0 – 32)
PHQ9	11.8	9.6	8.5	27 (0 – 27)
Clinical	19.8	6.2	21.0	22 (5 – 27)
Control	3.7	3.8	3.0	16 (0 – 16)

^a Dependent variables

Note: MC: remembered maternal care, MO: remembered maternal overprotection, PC: remembered paternal care, PO: remembered paternal overprotection.

Unsurprisingly, mean scores for the AUDIT, LDQ and PHQ9 were higher in the clinical group than in the control group, and mean education attainment level was higher in the control group than the clinical group. Mann Whitney U Tests revealed significant differences between groups for AUDIT scores (clinical: Md = 34.0, n = 43; control: Md = 6.0, n = 43; U = 5.5, z =

-7.95, $p < .001$, $r = -.86$), LDQ scores (clinical: Md = 28.0, $n = 43$; control: Md = 1.0, $n = 43$; $U = 18.5$, $z = -7.86$, $p < .001$, $r = -.85$) PHQ9 scores (clinical: Md = 21.0, $n = 43$; control: Md = 3.0, $n = 43$; $U = 44.0$, $z = -7.63$, $p < .001$, $r = -.82$) and education (clinical: Md = 1.0, $n = 43$; control: Md = 4.0, $n = 43$; $U = 223.0$, $z = -6.07$, $p < .001$, $r = -.65$). Groups were not significantly different for age (clinical: Md = 47, $n = 43$; control: Md = 40, $n = 43$; $U = 773.5$, $z = -1.31$, $p = .19$, $r = -.14$), maternal care (clinical: Md = 29.0, $n = 43$; control: Md = 27.0, $n = 43$; $U = 848.5$, $z = -.66$, $p = .51$, $r = -.07$), maternal overprotection (clinical: Md = 10.0, $n = 43$; control: Md = 12.0, $n = 43$; $U = 863.5$, $z = -.53$, $p = .60$, $r = -.06$), paternal care (clinical: Md = 25.0, $n = 39$; control: Md = 24.0, $n = 43$; $U = 800.5$, $z = -.354$, $p = .72$, $r = -.04$) or paternal overprotection (clinical: Md = 9.0, $n = 38$; control: Md = 9.0, $n = 43$; $U = 804.0$, $z = -.123$, $p = .90$, $r = -.01$; see Appendix N).

Bivariate analyses

Tables 3 and 4 present Spearman's rho correlations for the continuous variables, as an entire sample and split by group (Table 3) and gender (Table 4).

Table 3.

Spearman's rho correlations (r) for continuous variables, for the entire sample and for the clinical and control group.

	1	2	3	4	5	6	7	8
1. Age	-							
Clinical								
Control								
2. AUDIT^a	.03	-						
Clinical	n = 86							
Control								
3. LDQ^a	.00	.89*	-					
Clinical	n = 86	n = 86						
Control								
4. MC	.19	.09	.15	-				
Clinical	n = 86	n = 86	n = 86					
Control								
5. MO	-.10	.08	.10	-.20	-			
Clinical	n = 86	n = 86	n = 86	n = 86				
Control								
6. PC	-.04	-.07	-.05	.23	-.09	-		
Clinical	n = 82							
Control								
7. PO	-.10	.04	.00	-.10	.52*	-.33	-	
Clinical	n = 81							
Control								
8. Depression (PHQ-9)	-.08	.85*	.87*	-.00	.20	-.10	.10	-
Clinical	n = 86	n = 82	n = 81					
Control								

^a Dependent variables

* p < .001

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Table 4.

Spearman's rho correlations (r) for continuous variables, for the entire sample and for males and females separately.

	1	2	3	4	5	6	7	8
1. Age	-							
Male								
Female								
2. AUDIT^a	.03	-						
	n = 86							
Males	-.20							
	n = 46							
Females	.47							
	n = 40							
3. LDQ^a	.00	.89*	-					
	n = 86	n = 86						
Males	-.29	.85*						
	n = 46	n = 46						
Females	.42	.89*						
	n = 40	n = 40						
4. MC	.19	.09	.15	-				
	n = 86	n = 86	n = 86					
Males	.08	-.22	-.21					
	n = 46	n = 46	n = 46					
Females	.40*	.42	.47					
	n = 40	n = 40	n = 40					
5. MO	-.10	.08	.10	-.20	-			
	n = 86	n = 86	n = 86	n = 86				
Males	-.10	.15	.16	.34				
	n = 46	n = 46	n = 46	n = 46				
Females	-.09	-.08	.06	-.01				
	n = 40	n = 40	n = 40	n = 40				
6. PC	-.04	-.07	-.05	.23	-.09	-		
	n = 82							
Males	-.09	.04	.12	.30	-.26			
	n = 43							
Females	-.12	-.18	-.18	.17	.11			
	n = 39							
7. PO	-.10	.04	.00	-.10	.52*	-.33	-	
	n = 81							
Males	-.14	.33*	.29	-.11	.50	-.35		
	n = 43							
Females	-.10	-.34	-.21	-.05	.53	-.29		
	n = 38							
8. Depression (PHQ-9)	-.08	.85*	.87*	-.00	.20	-.10	.10	-
	n = 86	n = 82	n = 81					
Males	-.33	.78*	.85*	-.26	.28	.13	.27	
	n = 46	n = 43	n = 43					
Females	.42	.88*	.86*	.28	.04	-.24	-.20	
	n = 40	n = 39	n = 38					

^a Dependent variables

* p < .001

For the dependent variables, a significant strong positive relationship was observed between AUDIT (alcohol use) and LDQ (alcohol dependency) scores in the entire sample ($r_s = .89, n = 86, p < .000$), yet was significant in the clinical group only ($r_s = .74, n = 43, p < .000$), and non-significant in the control group ($r_s = .39, n = 43, p = .01$). Little difference was observed between males and females (males: $r_s = .85, n = 46, p < .000$; females: $r_s = .89, n = 40, p < .000$). No statistically significant correlations were observed between the dependent (AUDIT, LDQ) and predictor variables (PBI maternal and paternal care and overprotection) either as an entire sample or when split into the clinical or control group or split by gender.

Age was not found to show significant correlations with any other variables when the entire sample was analysed as a whole or when split by group or gender.

The relationships between PHQ9 (depression) scores and AUDIT and LDQ scores were significant, strong and positive for the entire sample (AUDIT: $r_s = .85, n = 86, p < .001$; LDQ: $r_s = .87, n = 86, p < .001$) and the clinical group (AUDIT: $r_s = .78, n = 43, p < .001$; LDQ: $r_s = .67, n = 43, p < .001$) and for both males (AUDIT: $r_s = .78, n = 46, p < .001$; LDQ: $r_s = .85, n = 46, p < .001$) and females (AUDIT: $r_s = .88, n = 40, p < .001$; LDQ: $r_s = .86, n = 40, p < .001$). Yet for the control group, PHQ9 scores were not significantly related to AUDIT scores or LDQ scores.

In the entire sample and when split by group or gender, no significant relationships were found between PHQ9 scores and PBI scores.

Of the predictor variables, a moderate positive relationship was found between maternal overprotection and paternal overprotection ($r_s = .52, n = 81, p < .001$) in the entire sample.

In the control group, moderate positive relationships were found between maternal care and paternal care scores ($r_s = .56, n = 43, p < .001$) and between maternal overprotection and paternal overprotection scores ($r_s = .57, n = 43, p < .001$). A moderate negative relationship was found between paternal care and paternal overprotection scores ($r_s = -.54, n = 43, p < .001$).

In the clinical group, no significant relationships were found between PBI scores. When the sample was split by gender, no significant relationships were found between PBI scores.

Statistical tests were conducted to compare whether the different correlation coefficients found between groups were significantly different. Correlation coefficients were compared where they demonstrated significance of $p < .001$ in either group. Nine pairs of correlation coefficients were compared (see Appendix O). The tests indicated that while the magnitude of the correlations varied, only three pairs of correlation coefficients were found to be statistically significantly different between clinical and control groups. Significant differences were found between the clinical and control groups correlations between AUDIT and PHQ9 scores (clinical: $r_s = .78$, $n = 43$, $p < .001$; control: $r_s = .14$, $n = 43$, $p = .38$; $Z_{obs} = 4.04$), maternal care and paternal care scores (clinical: $r_s = -.02$, $n = 39$, $p = .89$; control: $r_s = .56$, $n = 43$, $p < .001$; $Z_{obs} = -2.80$) and paternal care and paternal overprotection scores (clinical: $r_s = -.14$, $n = 38$, $p = .40$; control: $r_s = -.54$, $n = 43$, $p < .001$; $Z_{obs} = -2.0$). There were no statistically significant differences found between correlation coefficients between males and females.

Hierarchical multiple regression

Due to the exploratory nature of analyses with regards to the potential contribution of the four PBI predictor variables, it was decided that hierarchical multiple regression analyses would be most appropriate in order to allow the authors to verify correlational analyses that there was no relationship between the four PBI variables and the variance in the dependent variables (AUDIT and LDQ). Table 5 displays findings from the hierarchical regression analyses.

Table 5.

Hierarchical regression analyses.

Step Predictor	Dependent variable									
	AUDIT					LDQ				
	B	SE(B)	β	R^2	$R^2\Delta$	B	SE(B)	β	R^2	$R^2\Delta$
Step 1				.00	.00				.00	.00
MC	-.01	.15	-.01			.04	.13	.04		
Step 2				.00	.00				.01	.01
MC	-.01	.15	-.01			.05	.13	.05		
MO	.07	.21	.04			.12	.18	.08		
Step 3				.01	.01				.02	.02
MC	.02	.15	.01			.08	.13	.07		
MO	.06	.21	.03			.11	.19	.07		
PC	-.11	.14	-.09			-.13	.12	-.12		
Step 4				.01	.00				.03	.00
MC	.02	.15	.02			.10	.13	.08		
MO	.08	.24	.04			.17	.21	.10		
PC	-.12	.14	-.10			-.15	.13	-.15		
PO	-.05	.26	-.02			-.13	.23	-.08		

Note: no significance was observed.

The overall regression model found that the predictor variables did not significantly account for variance in AUDIT scores ($R^2 = .01$, $F(4,76) = .20$, $p = .94$) or LDQ scores ($R^2 = .03$, $F(4,76) = .50$, $p = .74$).

Discussion

The study examines the relationship between alcohol misuse and remembered parental care. The study adds to the existing evidence base using a novel UK sample with a wide variance in alcohol use, recruiting males and females from clinical and non-clinical populations. Overall, remembered parental care was not found to predict variance in scores on either alcohol use or dependence.

Alcohol misuse and remembered parental care

There was no relationship found between alcohol misuse and remembered parental care for the entire sample, when split into clinical and control groups or when split by gender, therefore rejecting hypothesis one. It is noteworthy that the data distributions of alcohol use and dependency were not normally distributed in the current study, providing less opportunity for the observation of linear relationships (Field, 2013). For example, examining histograms revealed that although sampling allowed for recruitment of the upper and lower levels of alcohol misuse, few participants reported mid-range levels of drinking, proving a more limited variance in drinking than was intended. The null finding is inconsistent with studies which found significant relationships between maternal low care and high overprotection and alcohol misuse (Jurcik et al., 2013; Rambeau et al., 2018; Tok & Ozyurt, 2015) or significant relationships between paternal low care and high over-protection and alcohol misuse (Segura-Garcia et al., 2016). Ceiling effects in the clinical group of the present study may have affected whether a relationship could be statistically observed in analyses. However the current results do concur with the null findings reported in a number of recent studies of the relationship between remembered parental care (using the PBI) and adult alcohol misuse (Jurcik et al., 2013; Tok & Ozyurt, 2015; Segura-Garcia et al., 2016; Rambeau et al., 2018). Whilst those studies reported some null findings and some significant relationships, Smorti and Guarnieri

(2015), consistent with the present results, reported no direct relationships between PBI scores and alcohol use. In a sample of 298 adolescents recruited via high schools and universities in Italy, Smorti and Guarnieri used a structural equation modelling (SEM) technique to assess direct and indirect effects of parental bonding on alcohol use. Although they did not report direct effects, they did report finding indirect relationships, finding social and coping drinking motives as mediators of the effect of maternal bond on alcohol use quantity in females but not in males. This is worth noting in light of current and previous null findings which have not considered mediating factors in analyses (e.g., Jurcik et al., 2013; Tok & Ozyurt, 2015; Segura-Garcia et al., 2016; Rambeu et al., 2018). It may be for example that mediator relationships existed in the current and previous studies which reported null findings, but were not tested. However given the variance in findings and lack of consistency between studies utilising similar populations (i.e. age, community or clinical) it is not possible to draw conclusions from these findings.

Given the socio-cultural context of alcohol and substance use, the differences in populations across studies is an important factor to consider when interpreting conflicting and concurring results. For example, a non-clinical community sample of Italian adolescents aged 16 to 20 years (Smorti & Guarnieri, 2015), non-clinical Canadian and Turkish university students with a mean age of 20 years (Jurcik et al., 2013; Tok & Ozyurt, 2015), clinical sample of Italian adults misusing alcohol and accessing community alcohol services with a mean age of 35 years (Segura-Garcia et al., 2016) and a clinical sample of German adults in the community with a mean age of 47 years (Rambeu et al., 2018). The present study samples a population of adults aged between 30 and 73 years, living in the UK, recruited via university advertising and also from alcohol misuse recovery inpatient services. This more varied sampling strategy was an attempt to increase the variance in alcohol use, from problematic to non-problematic drinkers in clinical and non-clinical populations. But the study did not find

differences between the two subgroups regarding the relationship between PBI scores and alcohol misuse scores (i.e. neither group demonstrated significant relationships between PBI scores and alcohol misuse). It may be that relationships between alcohol misuse and remembered parental care vary between subsets of people who drink alcohol. Therefore the variance in the psychological relationship with alcohol misuse between populations could potentially be responsible for inconsistencies in the literature and inconsistencies in the current study. For example, the current study recruited an inpatient clinical population, whereas previous studies utilising clinical samples mostly recruited community samples of problem drinkers.

Remembered parental care and group differences

For the total sample, correlations between the PBI subscales of remembered maternal and paternal care and overprotection were non-significant. This is not surprising, given that previous research suggests that there may be differences between clinical and non-clinical samples (Manassis et al., 1999) and there may be differences between males and females (Wilhelm et al., 2005), which could skew findings for the overall sample in this study. It was hypothesised that there would be differences in remembered parental care between the control and clinical groups (hypothesis two) and between males and females (hypothesis three). There were not significant differences found between males and females, rejecting hypothesis 3. This is inconsistent with the previous research which has found gender differences among samples (e.g., Smorti & Guarnieri, 2015; Wilhelm, Gillis & Parker, 2005). However, as above, inconsistencies have been found between different subsets of populations and the sampling method in the current study could account for this. For example, if gender differences exist between clinical and non-clinical groups, lower numbers of females in the clinical ($n = 18$) and control ($n = 15$) groups would not provide adequate power to allow these differences to be

observed. It therefore may be possible that gender differences were present in the current sample, but power limited the scope of the study to detect them.

There were significant differences found between the clinical and control groups' PBI scores, providing support for hypothesis two. In the clinical group, no significant relationships were observed between maternal and paternal care and overprotection scores. In the control group by comparison, a positive correlation was found between maternal care and paternal care and a negative correlation was found between paternal care and paternal overprotection. This finding is in line with expectations regarding previous research regarding the PBI. Thus the study replicates the findings of Musetti et al. (2016) and Wilhelm et al. (2005) in terms of the PBI subscales when exploring the PBI in a community sample. However the way in which the subscales are interrelated does not appear to be replicated in a clinical sample of adults undergoing alcohol detoxification. It is also worth considering that Manassis et al. (1999) reported that PBI scores were more consistent with findings on the Adult Attachment Interview for optimal parenting histories, but less consistent for participants expressing idealisation or anger towards their mothers. In addition, Gillham, Putter and Kash (2007) argue that level of psychological distress can influence participants' recall and memories of parental care, having found the same participants reporting lower levels of care when reporting higher levels of distress and reporting higher levels of care when reporting lower levels of distress. Indeed, according to attachment theory, those with more insecure-avoidant attachment styles would be more likely to deny or suppress distressing memories of parental relationships (Mikulincer & Shaver, 2018). This avoidance may not be detected using the PBI, whereas the more thorough interviewing and analytical scoring of the Adult Attachment Interview would be more likely to detect these defensive processes. Thus we cannot infer that that responses on the PBI reflect an accurate representation of the individual's relationship with their parent. As with all self-report measures, the biasing processes of retrieving and communicating memories will distort the

objectivity of the measure. It is possible that measures of remembered parental care that allow for relationships to be inferred rather than directly described might reveal a different pattern. This suggests that more caution should be taken when using the PBI with clinical populations with increased likelihood of distress and insecure attachment memories.

Alcohol misuse and depressive symptoms

Hypothesis four proposed that more severe alcohol use and dependence would be associated with symptoms of depression. This was supported by the current findings in that alcohol use, alcohol dependence and depressive symptoms were all significantly correlated for the sample overall. This is in accordance with a body of previous research findings with community samples, linking substance and alcohol misuse difficulties with psychological distress (e.g., Comasco et al., 2010; Dermody, Cheong, & Manuck, 2013; Grant et al., 2004). When exploring group differences, the relationship between alcohol use and depression was significant only for the clinical group, but not the control group. It was considered that this may be explained by floor effects in the current control group due to the low and limited variance for alcohol use and dependence. However this would be inconsistent with previous findings noted above from community samples. It may be that reasons for drinking may have varied between groups, which was considered by Smorti and Guarnieri (2015) who reported social and coping drinking motives to mediate the relationship between drinking and PBI scores. However it is not possible to draw conclusions from the current finding and this study highlights the importance of not overgeneralising findings across populations.

Limitations and future research

The sampling procedure was intended to provide greater variance in both drinking and demographics than previously achieved and to compare significantly different groups. The

consequence was that this limited the power of the study to statistically explore differences between subsets of the sample. If for example the sample had been larger or if the study had focussed on a more specific sample, greater power would have been achieved and more specific sample characteristics could have been considered in hierarchical regression analyses. This may have provided enough power to identify relationships that are not visible in the current smaller sample. However, smaller effects that are not visible in the current sample may not necessarily be clinically relevant.

Recruitment methods employed to gain variance in alcohol should also be considered with regards to the limited mid-range alcohol misuse data available and non-normal distribution. This may be tackled in future research by recruiting from a wider range of clinical samples such as outpatients completing detoxification in the community. In addition, greater variance from non-clinical populations may be achieved through general population recruitment rather than university recruitment, which likely accesses higher levels of socioeconomic status therefore potentially different mental health status and potentially different drinking motives (Higher Education Funding Council for England, 2017; Smorti & Guarnieri, 2015). However recruitment and engagement with these populations may be more challenging due to routes of access for researchers.

Recruitment and missing data should also be considered with regards to the impact this may have had on analyses. In the clinical group, five participants for remembered paternal care and overprotection had between 23% and 100% of their data missing which resulted in pairwise deletion. During recruitment, it was explained to participants that they could choose not to answer questions that they found distressing. Three participants voluntarily told the researcher that they chose not to answer the questions regarding paternal care. Two of these individuals explained it was due to distressing memories, and one explained it was due to not knowing their father in childhood. Given that this data was missing, the analysis was not able to capture

any relationships between their paternal care experiences and their drinking behaviour and psychological distress, despite it potentially being significant. These verbal reports suggest it may also be of benefit to assess levels of adverse childhood experiences in future studies alongside remembered parental care, alcohol misuse and depression in clinical samples.

Based on the study findings and the noted methodological limitations, further research in this area would be beneficial in order to provide further clarity. Due to the complexities around self-report, retrospective and cross-sectional research, it may be more difficult to consistently identify significant relationships. However findings from the current study suggest that it would be beneficial to recruit larger samples of subsets of drinking populations and to consider mediation studies including variables such as drinking motives (e.g., Smorti & Guarnieri, 2015) and adverse childhood experiences in order to shed further light on relationships between remembered parental care and alcohol misuse. Specifically, it has been suggested that the PBI may be less reliable when used with clinical samples, therefore it would be helpful to repeat the current design but with additional groups including lower severity community clinical and post-detox samples in order to further test this hypothesis. It would also be helpful to look at depression levels in order to examine whether depression scores impact statistical relationships at lower levels of clinical severity. In addition, longitudinal research would be helpful in order to assess the potential impact of mood on how individuals remember parental care (e.g., Gillham, Putter & Kash, 2007) and how this relates to varied levels of alcohol misuse in repeated measures and longitudinal designs. Further research using UK samples would also be of benefit considering the lack of research in this field in the UK.

Conclusions and clinical implications

Although research exists considering childhood attachment and alcohol misuse, the complexity around research and the number of attachment concepts and measures muddies the

water (c.f. Meins, 2017; Ravitz et al., 2017). The PBI, on the other hand, presents a tool to measure childhood recollections of parental care without using certain constructs or categories and has been identified as possessing good reliability and validity compared to the Adult Attachment Interview (Parker, 1983; Manassis, et al., 1999) and has demonstrated significance in relating to psychological distress in substance misuse (Musetti et al., 2016). To the author's knowledge, the study of alcohol misuse and remembered parental care using the PBI has limited published studies (c.f. Jurcik et al., 2013; Rambeu et al., 2018; Segura-Garcia et al., 2016; Smorti & Guarnieri, 2015; Tok & Ozyurt, 2015), none of which were conducted in the UK or explored whether findings were consistent across clinical (severe alcohol use) and non-clinical participants. The current study indicated that the relationships are far from reliably identified, and that there are differences between clinical and community samples in how they report childhood experiences and also in whether alcohol use was related to depression. Although overall findings did not support the primary hypothesis, the study has identified potential differences between clinical and non-clinical populations. For example, findings may suggest that alcohol misuse in clinical populations correlates with depression symptoms, yet in non-clinical populations depression symptoms are not related to alcohol misuse. This may also suggest that different psychological processes are occurring between non-clinical populations and populations experiencing alcohol detoxification. In addition, remembered parental care may be less reliably reported in more severe clinical samples. However these relationships require further investigation in larger samples before conclusions can be drawn.

Despite the methodological limitations and tentative findings, clinical implications can be considered. Given the strong relationship found between alcohol misuse and depressive symptoms in the clinical group, this supports the existing evidence base suggesting problematic drinking is linked to psychological distress (Comasco et al., 2010; Dermody, Cheong, & Manuck, 2013; Grant et al., 2004) at least in clinical samples. Currently, NICE (2018) guidance

recommends offering 12 weekly sessions of cognitive behavioural therapy aimed at addressing and reducing alcohol use. However the current findings may suggest that it would be beneficial for depression symptoms to also be addressed soon after detox, in order to capitalise on recovery potential and tackle the likelihood of relapse. Further research using clinical samples may shed further light on the relevance of remembered parental care and whether it may be helpful to address adverse childhood experiences as part of psychological therapy and promoting recovery for these individuals. Despite this quantitative study and other research indicating caution when exploring childhood experiences in clinical settings, the qualitative experience of talking through the questionnaires with the participants of the study was an emotionally challenging and rewarding experience. The reactions of participants, and the informal reports of staff to the researcher indicated that participants found it difficult and upsetting to consider childhood experiences. Despite this, the opportunity to do this with an appropriately qualified clinician was a positive experience, with at least one participant in the clinical group deciding after the study to follow up a previously declined opportunity for psychological therapy, and others reporting it a useful experience. The study indicates that as the relationships between parental care and adult drinking are far from simple, that assessments of clinical issues should be open to the possibility that problematic drinking may or may not influence current behaviour, and only careful and sensitive clinical assessment will identify when parental care is relevant to that individual.

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Appendix A: Journal author guidelines, Clinical Psychology Review

Article structure

Manuscripts should be prepared according to the guidelines set forth in the Publication Manual of the American Psychological Association (6th ed., 2009). Of note, section headings should not be numbered. Manuscripts should ordinarily not exceed 50 pages, including references and tabular material.

Exceptions may be made with prior approval of the Editor in Chief. Manuscript length can often be managed through the judicious use of appendices. In general the References section should be limited to citations actually discussed in the text. References to articles solely included in meta-analyses should be included in an appendix, which will appear in the on line version of the paper but not in the print copy. Similarly, extensive Tables describing study characteristics, containing material published elsewhere, or presenting formulas and other technical material should also be included in an appendix.

Authors can direct readers to the appendices in appropriate places in the text.

It is authors' responsibility to ensure their reviews are comprehensive and as up to date as possible (at least through the prior calendar year) so the data are still current at the time of publication. Authors are referred to the PRISMA Guidelines (<http://www.prisma-statement.org/statement.htm>) for guidance in conducting reviews and preparing manuscripts. Adherence to the Guidelines is not required, but is recommended to enhance quality of submissions and impact of published papers on the field.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

Title. Concise and informative. Titles are often used in information-retrieval systems.

Avoid abbreviations and formulae where possible. **Note: The title page should be the first page of the manuscript document indicating the author's names and affiliations and the corresponding author's complete contact information.**

Author names and affiliations. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and, if available, the e-mail address of each author within the cover letter.

Corresponding author. Clearly indicate who is willing to handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.**

Abstract

A concise and factual abstract is required (not exceeding 200 words). This should be typed on a separate page following the title page. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

Highlights

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). You can view [example Highlights](#) on our information site.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for

example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 1-4338-0559-6, copies of which may be ordered from [http://books.apa.org/AUTHOR INFORMATION PACK](http://books.apa.org/AUTHOR_INFORMATION_PACK) 15 Jun 2018 www.elsevier.com/locate/clinpsychrev 10 books.cfm?id=4200067 or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK. Details concerning this referencing style can also be found at <http://humanities.byu.edu/linguistics/Henrichsen/APA/APA01.html>

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Reference style

References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication. **References should be formatted with a hanging indent (i.e., the first line of each reference is flush left while the subsequent lines are indented).**

ALCOHOL MISUSE, ATTACHMENT & PARENTAL RELATIONSHIPS

Examples: Reference to a journal publication: Van der Geer, J., Hanraads, J. A. J., & Lupton R. A. (2000). The art of writing a scientific article. *Journal of Scientific Communications*, 163, 51-59.

Reference to a book: Strunk, W., Jr., & White, E. B. (1979). *The elements of style*. (3rd ed.). New York: Macmillan, (Chapter 4).

Reference to a chapter in an edited book: Mettam, G. R., & Adams, L. B. (1994). 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). New York: E-Publishing Inc.

Appendix B: Journal author guidelines, Journal of Clinical Psychology

Author Guidelines

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

All papers published in The British Journal of Clinical Psychology are eligible for Panel A: Psychology, Psychiatry and Neuroscience in the Research Excellence Framework (REF).

The following types of paper are invited:

- Papers reporting original empirical investigations
- Theoretical papers, provided that these are sufficiently related to the empirical data
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications
- Brief reports and comments

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

The word limit for papers submitted for consideration to BJCP is 5000 words and any papers that are over this word limit will be returned to the authors. The word limit does not include the abstract, reference list, figures, or tables. Appendices however are included in the word limit. The Editors retain discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length. In such a case, the authors should contact the Editors before submission of the paper.

3. Submission and reviewing

All manuscripts must be submitted via [Editorial Manager](#). The Journal operates a policy of anonymous (double blind) peer review. We also operate a triage process in which submissions that are out of scope or otherwise inappropriate will be rejected by the editors without external peer review to avoid unnecessary delays. Before submitting, please read the [terms and conditions of submission](#) and the [declaration of competing interests](#). You may also like to use the [Submission Checklist](#) to help you prepare your paper.

By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the regular operations of the publication, including, when necessary, sharing with the publisher (Wiley) and partners for production and publication. The publication and the publisher recognize the importance of protecting the personal information collected from users in the operation of these services, and

have practices in place to ensure that steps are taken to maintain the security, integrity, and privacy of the personal data collected and processed. You can learn more at <https://authorservices.wiley.com/statements/data-protection-policy.html>.

4. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. You may like to use [this](#) template. When entering the author names into Editorial Manager, the corresponding author will be asked to provide a CRediT contributor role to classify the role that each author played in creating the manuscript. Please see the [Project CRediT](#) website for a list of roles.
- The main document must be anonymous. Please do not mention the authors' names or affiliations (including in the Method section) and refer to any previous work in the third person.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript but they must be mentioned in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi. All figures must be mentioned in the text.
- All papers must include a structured abstract of up to 250 words under the headings: Objectives, Methods, Results, Conclusions. Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The 'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.
- All Articles must include Practitioner Points – these are 2–4 bullet points to detail the positive clinical implications of the work, with a further 2–4 bullet points outlining cautions or limitations of the study. They should be placed below the abstract, with the heading 'Practitioner Points'.
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full and provide DOI numbers where possible for journal articles.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright. For guidelines on editorial style, please consult the [APA Publication Manual](#) published by the American Psychological Association.

If you need more information about submitting your manuscript for publication, please email Vicki Pang, Editorial Assistant (bjc@wiley.com) or phone +44 (0) 1243 770 410.

Appendix C: Quality assessment tool



QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES

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'ttell

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'ttell

(Q2) Were the study participants aware of the research question?

- 1 Yes
- 2 No
- 3 Can'ttell

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'ttell

(Q2) Were data collection tools shown to be reliable?

- 1 Yes
- 2 No
- 3 Can'ttell

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'ttell
- 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'ttell
- 5 Not Applicable (i.e. Retrospective case-control)

RATE THIS SECTION	STRONG	MODERATE	WEAK	
See dictionary	1	2	3	NotApplicable

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'ttell

(Q2) Was the consistency of the intervention measured?

- 1 Yes
- 2 No
- 3 Can'ttell

(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'ttell

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'ttell

(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'ttell

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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 D: Clinical group participant information sheet

24/04/2018 version 2,
IRAS Project ID: 224077

**Participant Information Sheet (Clinical Group)**

Title of Study: *Relationships between memories of perceived parental care and alcohol dependency.*

Researchers: Hannah Ainslie, Dr Katy Lobley and Dr Mani Mehdikhani.

Dear prospective participant,

I am inviting you to take part in a research study. Before you decide whether you want to take part or not, it is extremely important that you understand why this research is being done and what it will actually involve. Please take time to read the following information sheet carefully and feel free to ask the researcher if there is anything that you do not understand. Please also feel free to discuss your participation with other people if you wish. I would like to stress that you do not have to accept this invitation and should only agree to take part if you really want to.

1. What is the purpose of the study?

The purpose of the study is to look at the relationship between alcohol dependency and remembered parental care.

2. Why have I been chosen to take part?

You have been chosen because we are interested in the relationship between alcohol dependency and people's experiences of important relationships in their childhood.

3. Do I have to take part?

Absolutely not. Your participation is entirely voluntary. It is up to you to decide if you want to take part and you may discuss your potential participation with people around you and/or your family and friends. If you want, you can also seek independent advice from the University of Liverpool Research Integrity and Governance Department (0151 794 8373, kwilding@liverpool.ac.uk) about taking part in research.

4. What will happen if I take part?

If you agree to take part, I will arrange for us to meet at a mutually convenient time at this service. I am happy for you to ask any questions or talk about the study more if you wish. You will also be asked to complete a questionnaire, which should not take more than 30 minutes to complete. The questionnaire will ask you about your alcohol use and about interpersonal relationships in adulthood recently and memories of parental care in your childhood.

5. Will I be paid if I decide to take part?

You will not be paid in cash, but you will receive a WHSmith voucher worth £8 as recompense and thanks for your contribution to the research.

6. Are there any risks in taking part?

You may experience distress when completing the questionnaire depending on how you feel about your experience of alcohol use and about interpersonal relationships.

7. Are there any benefits in taking part?

There is no direct benefit for you but we hope that your involvement will help future service users.

8. What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to talk to us and let us know by contacting one of the researchers and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with, then you should contact the Research Governance Officer on 0151 794 8290 (ethics@liv.ac.uk). When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher involved, and the details of the complaint you wish to make.

9. Will my participation be kept confidential?

Your participation, and all the information gathered will remain confidential. However, if you disclose information, which indicates that you wish to harm yourself or others, confidentiality will have to be broken and I will have to inform the relevant authority, such as the service that you are registered with. The questionnaire and signed consent form will be kept in a locked cabinet in the University of Liverpool and all personal information will be destroyed after the completion of the study.

10. Will my taking part be covered by an insurance scheme?

Yes, as the study is sponsored by the University of Liverpool and they provide an insurance scheme for researchers.

11. What will happen to the results of the study?

The results of the study will be submitted for publication with scientific journals. You can opt to be sent a copy of the results. In order to do this, we will need to keep a record of your name and address. This information will be kept in a secured and password protected computer file and destroyed after letters are sent out. Study results are likely to be published online within a year of the end of the study (07/2018). No publication deriving from this study will include your personal details or information that can identify you in any way. The research data produced will be made openly available to the wider academic community in accordance with the University of Liverpool Research Data Management Policy and published results may include information on how to access the supporting data.

12. What will happen if I want to stop taking part?

You are free to withdraw from the study up to the point where the information you provide becomes anonymous and the researcher is no longer able to identify the information provided by you. If you chose to withdraw prior to this point, I will destroy any data you had provided and no further use will be made of it.

13. Who can I contact if I have further questions about this research?

If you have any further questions or things that you would like to see clarified before you decide if you want to take part or not, please feel free to contact one of the research team:

Hannah Ainslie
Department of Clinical Psychology
University of Liverpool
Whelan Building, The Quadrangle,
Brownlow Hill,
Liverpool, L69 3GB
hannah.ainslie@liverpool.ac.uk

Dr Katy Loble
Department of Clinical Psychology
University of Liverpool
Whelan Building, The Quadrangle,
Brownlow Hill,
Liverpool, L69 3GB
klobley@liverpool.ac.uk

Dr Mani Mehdikhani
Alcohol & Drugs Directorate
Greater Manchester West Mental
Health NHS Foundation Trust
Chapman Barker Unit,
Manchester, M25 3BL
Mani.Mehdikhani@gmmh.nhs.uk

Thank you for taking the time to read this document.

Appendix E: Clinical group informed consent form

29/08/2017 version 2
IRAS Project ID: 224077

**INFORMED CONSENT FORM (CLINICAL GROUP)**

Title of Research Project: Relationships between memories of perceived parental care and alcohol dependency.

Researcher(s): Hannah Ainslie, Dr Katy Lobley and Dr Mani Mehdikhani

Please initial in each box to confirm you agree

1. I confirm that I have read and have understood the information sheet dated 19/06/17 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily by the researcher.

2. I understand that my participation is voluntary and that I am free to withdraw from the study up to the point where the information I provide becomes anonymous and the researcher is unable to identify the information provided by me. I understand that up to this point, I am free to withdraw without giving any reason and without my rights being affected.

3. I understand that, under the Data Protection Act, I can ask for access to the information I have provided and that I can also request the destruction of that information if I wish. I understand that once the information I have provided becomes anonymised (when the completed questionnaire is in the custody of the researcher at the University of Liverpool) the researcher will be unable to identify it as mine, so I will be unable to access it or request for its destruction.

4. I understand that relevant sections of my medical notes may be looked at by individuals from the clinical service within the NHS Trust, where it is relevant to my taking part in this research. I understand that this will only be in order to identify my suitability for participating in the study and for no other reason. I give permission for these individuals to view my records for this purpose.

5. I agree to take part in the above study.

_____	_____	_____
<i>Participant Name</i>	<i>Date</i>	<i>Signature</i>
_____	_____	_____
<i>Name of person taking consent</i>	<i>Date</i>	<i>Signature</i>

One copy should be given to the participant, one copy retained by the research team and, for patient participants, one copy placed in the medical records.

The contact details of the research team are:

Hannah Ainslie
Department of Clinical Psychology
University of Liverpool
Whelan Building, The Quadrangle,
Brownlow Hill,
Liverpool, L69 3GB
hannah.ainslie@liverpool.ac.uk

Dr Katy Lobley
Department of Clinical Psychology
University of Liverpool
Whelan Building, The Quadrangle,
Brownlow Hill,
Liverpool, L69 3GB
klobley@liverpool.ac.uk

Dr Mani Mehdikhani
Alcohol & Drugs Directorate
Greater Manchester West Mental
Health NHS Foundation Trust
Chapman Barker Unit,
Manchester, M25 3BL
Mani.Mehdikhani@ammh.nhs.uk

Appendix F: Debrief sheet

24/04/2018 version 2
IRAS Project ID: 224077

***Debrief sheet***

Title of Study: *Relationships between memories of perceived parental care and alcohol dependency.*

Researchers: Hannah Ainslie, Dr Katy Lobley and Dr Mani Mehdikhani.

Thank you for participating in the study: “Relationships between memories of perceived parental care and alcohol dependency”. Following your participation in this study, please contact the researcher Hannah Ainslie (see details below) in order to collect your voucher.

This study is an investigation into the relationship between alcohol use and attachment style. This study is important because it may lead to a better understanding of alcohol use difficulties and help us re-shape interventions that are currently being offered to service users.

In the study we ask participants to complete a questionnaire about their alcohol use and memories of perceived parental care in their childhood.

Based on previous research, our expectation is that a greater degree of alcohol use problems will be associated with the experience of difficult relationship styles. Our main research aim is to find out whether peoples experiences of maternal or paternal parental relationship styles in childhood are more closely linked to alcohol use problems. This has not been specifically looked at before.

- Do you have any questions about the study?
- When you were doing it what did you think the study was about?
- Was there a part of the study that was difficult?
- What would you change about the study?

The nature of the questionnaire is not meant to be distressing. However, if the questionnaire leads to distress, unpleasant memories or thoughts, we would encourage you to contact your General Practitioner (GP) and other people who support you. You may also wish to contact an independent support service, which does not require referral from a doctor or a nurse, such as the service(s) listed at the end of this document.

If you would like, we can send you the results and findings of the study. It is really up to you. Again, thank you very much for your participation in our research. If you have any questions you can contact me (details below).

Hannah Ainslie
Department of Clinical Psychology

University of Liverpool
Whelan Building
Brownlow Hill
Liverpool
L69 3GB
hannah.ainslie@liverpool.ac.uk

Independent sources of support and information:

The Samaritans

Providing emotional support 24 hours a day
Tel: 116 123
www.samaritans.org

Sane Line

Offering specialist mental health emotional support 6-11pm everyday
You can also email through their website.
Tel: 0845 767 8000
www.sane.org.uk

AddAction

Adult drug and alcohol services
Tel: 020 7251 5860
www.addaction.org.uk including information for local services/support groups

Talk to FRANK

Friendly, confidential drugs and alcohol advice
Tel: 0300 123 6600
www.talktofrank.com for information, live chat and email

Appendix G: Non-clinical group recruitment poster

**Participants needed for online study:**Alcohol use and relationship styles

- Are you a student OR staff member at the University of Liverpool?
- Do you drink alcohol (and do not regard your drinking as a problem)?
- Can you spare just 30 minutes to complete a questionnaire?

If you answered yes to the above, we need YOU!



You will receive an £8 WHSmith voucher as recompense for your time



Please go to: **goo.gl/PHb6jL** to complete the online questionnaire.

This will contribute towards research seeking to develop understanding the link between lifetime relationship styles and problematic alcohol use.

Hannah Ainslie, Principle Investigator Hannah.ainslie@liverpool.ac.uk

Dr Katy Loble, Chief Investigator klobley@liverpool.ac.uk

Doctorate in Clinical Psychology program, University of Liverpool

Dr Mani Mehdikhani, Secondary Supervisor Mani.Mehdikhani@gmmh.nhs.gov.uk

Greater Manchester Mental Health NHS Foundation Trust

Appendix H: Non-clinical group participant information sheet

24/04/2018 version 3
IRAS Project ID: 224077

**Participant Information Sheet (Control Group)**

Title of Study: *Relationships between memories of perceived parental care and alcohol dependency.*

Researchers: Hannah Ainslie, Dr Katy Lobley and Dr Mani Mehdikhani.

Dear prospective participant,

I am inviting you to take part in a research study. Before you decide whether you want to take part or not, it is extremely important that you understand why this research is being done and what it will actually involve. Please take time to read the following information sheet carefully and feel free to contact the researcher to ask questions if there is anything that you do not understand. Please also feel free to discuss your participation with other people if you wish. I would like to stress that you do not have to accept this invitation and should only agree to take part if you really want to.

14. What is the purpose of the study?

The purpose of the study is to look at the relationship between alcohol dependency and remembered parental care.

15. Why have I been chosen to take part?

You have been chosen because you:

- Are aged 18 years or older
- Are a student or member of staff at the University of Liverpool
- Do not consider yourself to be abusing drugs or alcohol
- Are not teetotal or abstaining from alcohol
- Are not nor have you ever undergone treatment for drug or alcohol abuse

16. Do I have to take part?

Absolutely not, your participation is entirely voluntary. It is up to you to decide if you want to take part and you may discuss your potential participation with people around you and/or your family and friends. If you want, you can also seek independent advice from the University of Liverpool Research Integrity and Governance Department (0151 794 8373, kwilding@liverpool.ac.uk) about taking part in research.

17. What will happen if I take part?

If you agree to take part, you will be asked to complete an online questionnaire, which should not take more than 30 minutes to complete. If you would like to ask the researcher(s) any questions about the study you can contact them either before you complete the questionnaire and/or afterwards. The questionnaire will ask you about your alcohol use and about interpersonal relationships in adulthood recently and memories of parental care in your childhood.

18. Will I be paid if I decide to take part?

You will not be paid in cash, but you will receive a WHSmith voucher worth £8 as recompense and thanks for your contribution to the research.

19. Are there any risks in taking part?

You may experience distress when completing the questionnaire depending on how you feel about your experience of alcohol use and about interpersonal relationships.

20. Are there any benefits in taking part?

There is no direct benefit for you but we hope that your involvement will help people in the future.

21. What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to talk to us and let us know by contacting one of the researchers and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with, then you should contact the Research Governance Officer on 0151 794 8290 (ethics@liv.ac.uk). When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher involved, and the details of the complaint you wish to make.

22. Will my participation be kept confidential?

Your participation, and all the information gathered will remain confidential. The questionnaire and consent data will be kept in a secured and password protected computer file at the University of Liverpool. Any personal identifiable information you give us will be destroyed after the completion of the study.

23. Will my taking part be covered by an insurance scheme?

Yes, as the study is sponsored by the University of Liverpool and they provide an insurance scheme for researchers.

24. What will happen to the results of the study?

The results of the study will be submitted for publication with scientific journals. You can opt to be sent a copy of the results and contact us to give us your name and email or postal address. In order to do this, we will need to keep a record of your name and email or postal address. This information will be kept in a secured and password protected computer file and destroyed after information is sent out. Study results are likely to be published online within a year of the end of the study (07/2018). No publication deriving from this study will include your personal details or information that can identify you in any way. The research data produced will be made openly available to the wider academic community in accordance with the University of Liverpool Research Data Management Policy and published results may include information on how to access the supporting data.

25. What will happen if I want to stop taking part?

You are free to withdraw from the study up to the point where you submit the completed questionnaire online and the researcher is no longer able to identify the information provided by you. If you chose to withdraw prior to this point, any data you had provided will be destroyed and no further use will be made of it.

26. By completing the online questionnaire, you are confirming that you understand the information given and you are giving consent for the information you provide to be included in this study.**27. Who can I contact if I have further questions?**

If you have any further questions or things that you would like to see clarified before you decide if you want to take part or not, please free to contact one of the research team:

Hannah Ainslie
Department of Clinical Psychology
University of Liverpool
Whelan Building, The Quadrangle,
Brownlow Hill,
Liverpool, L69 3GB
hannah.ainslie@liverpool.ac.uk

Dr Katy Lobley
Department of Clinical Psychology
University of Liverpool
Whelan Building, The Quadrangle,
Brownlow Hill,
Liverpool, L69 3GB
klobley@liverpool.ac.uk

Dr Mani Mehdikhani
Alcohol & Drugs Directorate
Greater Manchester West Mental
Health NHS Foundation Trust
Chapman Barker Unit,
Manchester, M25 3BL
Mani.Mehdikhani@gmmh.nhs.uk

Thank you for taking the time to read this document.

Appendix I: Alcohol Use Disorders Identification Test (AUDIT; WHO, 2001)**Alcohol Use Disorders Identification Test (AUDIT): Self-Report Version**

Please CIRCLE your answer in one box that best describes your answer to each question.

Questions	0	1	2	3	4	
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times a month	2 to 3 times a week	4 or more times a week	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more	
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5. How often during the last year have you failed to do what was normally expected from you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9. Have you or someone else been injured as a result of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
10. Has a relative, friend, doctor, or another health worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year	
Total:						

This form is adapted from the World Health Organization's (WHO) Alcohol Use Disorders Identification Test (AUDIT) form, and is provided as a diagnostic tool courtesy of WHO and PacificSource Health Plans.

Appendix J: Leeds Dependence Questionnaire (LDQ; Raistrick et al., 1994)**The Leeds Dependence Questionnaire**

On this page there are questions about the importance of alcohol and/or other drugs in your life.

Think about your drinking/other drug use in the last week and answer each question ticking the closest answer to how you see yourself.

	Never	Sometimes	Often	Nearly always
1. Do you find yourself thinking about when you will next be able to have another drink or take more drugs?				
2. Is drinking or taking drugs more important than anything else you might do during the day?				
3. Do you feel that your need for drink or drugs is too strong to control?				
4. Do you plan your days around getting and taking drink or drugs?				
5. Do you drink or take drugs in a particular way in order to increase the effect it gives you?				
6. Do you take drink or other drugs morning, afternoon and evening?				
7. Do you feel you have to carry on drinking or taking drugs once you have started?				
8. Is getting the effect you want more important than the particular drink or drug you use?				
9. Do you want to take more drink or drugs when the effect starts to wear off?				
10. Do you find it difficult to cope with life without drink or drugs?				

Appendix K: Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979)**Parental Bonding Questionnaire – 1 – MOTHER**

*This questionnaire lists various attitudes and behaviours of parents. As you remember your **MOTHER** in your **first 16 years** would you place a tick in the most appropriate box next to each question.*

	Very like	Moderately like	Moderately unlike	Very unlike
1. Spoke to me in a warm and friendly voice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Did not help me as much as I needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Let me do those things I liked doing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Seemed emotionally cold to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Appeared to understand my problems and worries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Was affectionate to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Liked me to make my own decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Did not want me to grow up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Tried to control everything I did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Invaded my privacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Enjoyed talking things over with me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Frequently smiled at me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Tended to baby me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Did not seem to understand what I needed or wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Let me decide things for myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Made me feel I wasn't wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Could make me feel better when I was upset	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Did not talk with me very much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Tried to make me feel dependent on her/him	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Felt I could not look after myself unless she/he was around	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Gave me as much freedom as I wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Let me go out as often as I wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Was overprotective of me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ALCOHOL MISUSE, ATTACHMENT & PARENTAL RELATIONSHIPS

24. Did not praise me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Let me dress in any way I pleased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Parental Bonding Questionnaire – 2 – FATHER

*This questionnaire lists various attitudes and behaviours of parents. As you remember your **FATHER** in your first 16 years would you place a tick in the most appropriate box next to each question.*

	Very like	Moderately like	Moderately unlike	Very unlike
1. Spoke to me in a warm and friendly voice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Did not help me as much as I needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Let me do those things I liked doing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Seemed emotionally cold to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Appeared to understand my problems and worries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Was affectionate to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Liked me to make my own decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Did not want me to grow up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Tried to control everything I did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Invaded my privacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Enjoyed talking things over with me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Frequently smiled at me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Tended to baby me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Did not seem to understand what I needed or wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Let me decide things for myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Made me feel I wasn't wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Could make me feel better when I was upset	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Did not talk with me very much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Tried to make me feel dependent of her/him	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Felt I could not look after myself unless she/he was around	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Gave me as much freedom as I wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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22. Let me go out as often as I wanted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Was overprotective of me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Did not praise me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Let me dress in any way I pleased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix L: Patient Health Questionnaire (PHQ9; Kroenke, Spitzer, & Williams, 2001)

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(please circle one answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

10. If you scored yourself 1 or more for any of the 9 problems above, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

(please circle one answer)

Not difficult
at all
⑤

Somewhat
difficult
⑤

Very difficult
⑤

Extremely
difficult
⑤

Appendix M: Ethical approvals

M1. DClinPsy Research Review Committee Approval letters



D.Clin.Psychology Programme
 Division of Clinical Psychology
 Whelan Building, Quadrangle
 Brownlow Hill
 LIVERPOOL
 L69 3GB

Tel: 0151 794 5530/5534/5877
 Fax: 0151 794 5537
www.liv.ac.uk/dclinpsychol

Date: 12th December 2016

Hannah Ainslie
 Clinical Psychology Trainee
 Doctorate of Clinical Psychology Doctorate Programme
 University of Liverpool
 L69 3GB

RE: Relationships between retrospectively assessed childhood attachment style and adult attachment style during alcohol dependency.

Trainee: Hannah Ainslie

Supervisors: Dr. Katy Lobley, University of Liverpool & Dr. Mani Mehdikhani, Greater Manchester West NHS Mental Health Foundation Trust

Dear Miss Ainslie,

Thank you for submitting your revised research proposal and the accompanying letter dated 09/12/16.

I can now confirm that your amended proposal (*version 4 date 09/12/16*) meets the requirements of the Research Review Committee and has been approved by the Committee Chair.

Please take this Chairs Action decision as *final* approval from the committee.

You may now progress to the next stages of your research.

I wish you well with your research project.

A handwritten signature in blue ink that reads 'Ross White'.

Dr Ross White
 Chair D.Clin.Psychol. Research Review Committee.

Dr Laura Golding
 Programme Director
l.golding@liv.ac.uk

Dr Jim Williams
 Clinical Director
j.r.williams@liv.ac.uk

Dr Ross White
 Research Director
r.g.white@liv.ac.uk

Dr Gundi Klemle
 Academic Director
gklemle@liv.ac.uk

A member of the
 Russell Group
 Mrs Sue Knight
 Programme Co-ordinator
sknight@liv.ac.uk



D.Clin.Psychology Programme
 Division of Clinical Psychology
 Whelan Building, Quadrangle
 Brownlow Hill
 LIVERPOOL
 L69 3GB

Tel: 0151 794 5530/5534/5877
 Fax: 0151 794 5537
www.liv.ac.uk/dcclinpsycho

Hannah Ainslie
 Trainee Clinical Psychologist
 Doctorate of Clinical Psychology Programme
 University of Liverpool
 L69 3GB

10th April 2018

Dear Hannah,

RE: Relationships between memories of perceived parental care and alcohol use and dependence.

Thank you for notifying the Research Review Committee of the proposed amendment to your research proposal in your recent letter (dated 9th April 2018).

We acknowledge and approve your amended proposal (Version No. 7, dated April 2018) that documents a change to the particular research question being examined.

I wish you well with completing your research.

Yours sincerely,

A handwritten signature in black ink that reads "S Gillespie".

Dr Steven Gillespie
 3rd Year Research Tutor

A member of the
 Russell Group

Dr Laura Golding
 Programme Director
L.golding@liv.ac.uk

Dr Jim Williams
 Clinical Director
j.williams@liv.ac.uk

Dr Ross White
 Research Director
r.s.white@liverpool.ac.uk

Dr Laura Golding
 Academic Director
l.golding@liverpool.ac.uk

Mrs Sue Knight
 Programme Co-ordinator
s.knight@liv.ac.uk

M2. University Sponsorship Approval letters


 Dr Lobley
 Institute of Psychology, Health
 and Society
 University of Liverpool
 Block B Waterhouse Building
 Brownlow Street
 Liverpool
 L69 3GL

Mr Alex Astor
Head of Liverpool Joint Research
Office

University of Liverpool
 Research Support Office
 2nd Floor Block D Waterhouse
 Building
 3 Brownlow Street
 Liverpool
 L69 3GL

Tel: 0151 794 8739
 Email: sponsor@liv.ac.uk

20 March 2017

Sponsor Ref: UoL001300

Re: Sponsorship Approval

“Relationships between retrospectively assessed childhood attachment style and adult attachment style and alcohol dependency.”

Dear Dr Lobley

After consideration at the JRO Non Interventional Sponsorship Sub Committee on 20 March 2017 I am pleased to confirm that the University of Liverpool is prepared to act as Sponsor under the Department of Health’s Research Governance Framework for Health and Social Care 2nd Edition (2005) for the above study.

The following documents have been received by the Joint Research Office

Document title	Version	Date
Research Proposal	4	6.03.2017

Please note this letter does NOT allow you to commence recruitment to your study.

A notification of Sponsor Permission to Proceed will be issued when governance and regulatory requirements have been met. Please see Appendix 1 to this letter for a list of the documents required.

If you have not already applied for regulatory approvals through IRAS you may now do so at <https://www.myresearchproject.org.uk/Home.aspx>.

In order to meet the requirements of the Research Governance Framework 2nd Ed 2005, the University requires you to agree to the following Chief Investigator responsibilities:

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1. Comply with the Research Governance Framework 2nd Ed 2005 and all relevant legislation, including but not limited to the Data Protection Act 1998, the Mental Capacity Act 2005 and the Human Tissue Act 2004;
2. Inform the Research Support Office as soon as possible of any adverse events especially SUSARs and SAE's, Serious Breaches to protocol or relevant legislation or any concerns regarding research conduct;
3. Approval must be gained from the Research Support Office for any amendments to, or changes of status in the study prior to submission to REC and any other regulatory authorities;
4. It is a requirement that Annual Progress Reports are sent to the NHS Research Ethics Committee (REC) annually following the date of Favourable Ethical Approval. You must provide copies of any reports submitted to REC and other regulatory authorities to the Research Support Office;
5. Maintain the study master file;
6. Make available for review any study documentation when requested by the sponsors and regulatory authorities;
7. Upon the completion of the study it is a requirement to submit and an End of Study Declaration (within 90 days of the end of the study) and End of Study Report to REC (within 12 months of the end of the study). You must provide copies of this to the Research Support Office;
8. Ensure you and your study team are up to date with the current RSO SOPs throughout the duration of the study.

The University also requires you to comply with the following:

1. University professional indemnity and clinical trials insurances will apply to the study as appropriate. This is on the assumption that no part of the clinical trial will take place outside of the UK. If you wish to conduct any part of the study in a site outside the UK or you wish to sub-contract any part of the study to a third party specific approvals and consideration of appropriate indemnity would be required;

If you have any queries regarding the sponsorship of the study or the above conditions, please do not hesitate to contact the Joint Research Office governance team on 0151 794 8373 (email sponsor@liv.ac.uk).

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Yours sincerely

A handwritten signature in black ink, appearing to read 'A. Astor'.

Mr Alex Astor
Head of Liverpool Joint Research Office

UoL001300 - Amendment 3



Clinical Research Governance Team

Wed 11/04, 15:59

Ainslie, Hannah; Lobley, Katy

Reply all | v



Download

Dear Hannah

RE: Relationships between retrospectively assessed childhood attachment style and adult attachment style and alcohol dependency – UoL001300

Amendment 3 has now been reviewed and approved by the University as Sponsor. Please find attached the signed amendment form.

The amendment has been approved with the following recommendations.

- Submission to REC is required
- Submission to HRA is required (*this is facilitated by REC*)

If you could provide REC and HRA approval when available it would be greatly appreciated.

Best wishes,

Karen

Karen Wilding

Research Integrity and Governance Manager

Research Support Office

University of Liverpool / Liverpool Joint Research Office

2nd Floor Block D Waterhouse Building

3 Brownlow Street

Liverpool L69 3GL

Tel: 0151 794 8373

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Further evidence removed for confidentiality.

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M3. Ethical Approval letters

Removed for confidentiality.

Appendix N: Mann-Whitney U *r* calculations

$$r = \frac{z}{\sqrt{n}}$$

$$AUDIT\ r = \frac{-7.95}{\sqrt{86}} = \frac{-7.95}{9.274} = -.86$$

$$LDQ\ r = \frac{-7.86}{\sqrt{86}} = \frac{-7.86}{9.274} = -.85$$

$$PHQ9\ r = \frac{-7.63}{\sqrt{86}} = \frac{-7.63}{9.274} = -.82$$

$$Age\ r = \frac{-1.31}{\sqrt{86}} = \frac{-1.31}{9.274} = -.14$$

$$Education\ r = \frac{-6.07}{\sqrt{86}} = \frac{-6.07}{9.274} = -.65$$

$$MC\ r = \frac{-.66}{\sqrt{86}} = \frac{-.66}{9.274} = -.07$$

$$MO\ r = \frac{-.53}{\sqrt{86}} = \frac{-.53}{9.274} = -.06$$

$$PC\ r = \frac{-.35}{\sqrt{82}} = \frac{-.35}{9.055} = -.04$$

$$PO\ r = \frac{-.12}{\sqrt{81}} = \frac{-.12}{9.0} = -.01$$

Appendix O: Significant difference testing calculations for correlation coefficients

Significantly different correlation coefficients (Outside -1.96 to +1.96)

$$Z_{obs} = \frac{Zr_1 - Zr_2}{\sqrt{\frac{1}{n_1-3} + \frac{1}{n_2-3}}}$$

$$AUDIT \& LDQ, \text{clinical \& control} = \frac{.962 - .575}{\sqrt{\frac{1}{43-3} + \frac{1}{43-3}}} = \frac{.387}{\sqrt{\frac{1}{40} + \frac{1}{40}}} = \frac{.387}{\sqrt{.025 + .025}} = \frac{.387}{.224} = 1.728$$

$$AUDIT \& PHQ9, \text{clinical \& control} = \frac{1.045 - .141}{\sqrt{\frac{1}{43-3} + \frac{1}{43-3}}} = \frac{.904}{\sqrt{\frac{1}{40} + \frac{1}{40}}} = \frac{.904}{\sqrt{.025 + .025}} = \frac{.904}{.224} = 4.036$$

$$LDQ \& PHQ9, \text{clinical \& control} = \frac{.802 - .570}{\sqrt{\frac{1}{43-3} + \frac{1}{43-3}}} = \frac{.232}{\sqrt{\frac{1}{40} + \frac{1}{40}}} = \frac{.232}{\sqrt{.025 + .025}} = \frac{.232}{.224} = 1.036$$

$$MC \& PC, \text{clinical \& control} = \frac{.020 - .663}{\sqrt{\frac{1}{39-3} + \frac{1}{43-3}}} = \frac{-.643}{\sqrt{\frac{1}{36} + \frac{1}{40}}} = \frac{-.643}{\sqrt{.028 + .025}} = \frac{-.643}{.230} = -2.796$$

$$MO \& PO, \text{clinical \& control} = \frac{.485 - .655}{\sqrt{\frac{1}{38-3} + \frac{1}{43-3}}} = \frac{-.17}{\sqrt{\frac{1}{35} + \frac{1}{40}}} = \frac{-.17}{\sqrt{.029 + .025}} = \frac{-.17}{.232} = -.733$$

$$PC \& PO, \text{clinical \& control} = \frac{.141 - .604}{\sqrt{\frac{1}{38-3} + \frac{1}{43-3}}} = \frac{-.463}{\sqrt{\frac{1}{35} + \frac{1}{40}}} = \frac{-.463}{\sqrt{.029 + .025}} = \frac{-.463}{.232} = -1.996$$

$$AUDIT \& LDQ, \text{male \& female} = \frac{1.256 - 1.422}{\sqrt{\frac{1}{46-3} + \frac{1}{40-3}}} = \frac{-.166}{\sqrt{\frac{1}{43} + \frac{1}{37}}} = \frac{-.166}{\sqrt{.023 + .027}} = \frac{-.166}{.224} = -0.741$$

$$AUDIT \& PHQ9, \text{male \& female} = \frac{1.045 - 1.376}{\sqrt{\frac{1}{46-3} + \frac{1}{40-3}}} = \frac{-.331}{\sqrt{\frac{1}{43} + \frac{1}{37}}} = \frac{-.331}{\sqrt{.023 + .027}} = \frac{-.331}{.224} = -1.478$$

$$LDQ \& PHQ9, \text{male \& female} = \frac{1.256 - 1.293}{\sqrt{\frac{1}{46-3} + \frac{1}{40-3}}} = \frac{-.037}{\sqrt{\frac{1}{43} + \frac{1}{37}}} = \frac{-.037}{\sqrt{.023 + .027}} = \frac{-.037}{.224} = -0.165$$