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Attachment informed working: considering attachment in caregiving in couple relationships, and in upskilling professionals working with children and young people.

Thesis submitted in partial fulfilment of the requirement for the

degree of:

Doctorate of Clinical Psychology (DClinPsy)

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Contents

Paper 2: Does attachment training 'upskill' and increase compassion satisfaction and reduce compassion fatigue in frontline staff?

Declarations

STATEMENT 1

This thesis is being submitted in partial fulfilment of the requirements for the doctorate in clinical psychology (DClinPsy).

Signed _____ Date _____

STATEMENT 2

This work has not been submitted in substance for any other degree or award at this or any other university or place of learning, nor is it being submitted concurrently for any other degree or award (outside of any formal collaboration agreement between the University and a partner organisation)

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STATEMENT 3

I hereby give consent for my thesis, if accepted, to be available in the University's Open Access repository (or, where approved, to be available in the University's library and for inter-library loan), and for the title and summary to be made available to outside organisations, subject to the expiry of a University-approved bar on access if applicable.

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DECLARATION

This thesis is the result of my own independent work, except where otherwise stated, and the views expressed are my own. Other sources are acknowledged by explicit references. The thesis has not been edited by a third party beyond what is permitted by Cardiff University's Use of Third Party Editors by Research Degree Students Procedure.

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(Excluding summary, acknowledgements, declarations, contents pages, appendices, tables, diagrams and figures, references, bibliography, footnotes and endnotes)

Acknowledgments

Thesis Summary

This thesis includes three papers; a systematic review, an empirical paper and a critical appraisal reflection paper.

Paper 1 presents a systematic review examining the effect of attachment style on caregiving behaviour in couples. Caregiving behaviour was observed by videotaped interaction in laboratory settings. Ten studies met the inclusion criteria. Data was extracted and the quality of each study was assessed. Findings generally suggested that not all people are easily able to provide responsive caregiving to their partners, and this may be partly based on their attachment styles, however there were inconsistencies. Measurement issues, sampling biases and low-quality ratings rendered tentative conclusions that cannot be generalised beyond young people in relationships of a relatively short duration.

Paper 2 presents an empirical paper examining the effect attachment training on compassion satisfaction, compassion fatigue, knowledge, confidence and worries in frontline staff in social, health and education services, working with children and young people with attachment and developmental/complex trauma. Compassion satisfaction and fatigue did not change significantly before and after the training. Knowledge and confidence significantly increased and worries significantly decreased before and after training. Factor analyses suggested further work is required for validation of the knowledge, confidence and worries questionnaire. Theoretical and clinical implications of the findings are bespoke to the service facilitating the training.

Paper 3 presents a critical appraisal of papers 1 and 2, and of the research process as whole. This paper includes a reflection on strengths and weaknesses of each paper, the methodologies used, implications of the findings and suggestions for future research, with personal reflections and what I have learnt in terms of my professional development throughout.

Paper 1 has been prepared in accordance with the author guidelines for submission to the journal of personality and social psychology (Appendix 1).

Paper 1: Systematic Review

A systematic review of the effects of attachment style on caregiving in adult romantic relationships

Word count (excluding figures/tables): 7,517

Abstract

Objective: Attachment style may be a factor that influences effective caregiving in romantic relationships. The aim of this review was to systematically review the published literature relating to attachment style differences in observable caregiving behaviours in couples.

Methods: Electronic and hand searches were conducted to identify all published literature relating to the objective. Data were narratively synthesised, and quality assessed using the AXIS tool.

Results: Searches identified 1187 studies, 10 were included. Securely attached caregivers showed higher levels of support and positive behaviours, and lower levels of negative behaviours. Avoidantly attached caregivers were less effective caregivers; offered less caregiving and support, were less responsive, less likely to notice and understand their partner's anxiety, and more likely to react with anger. Findings for anxiously attached caregivers were inconsistent, either finding no associations, higher levels of support, or more unhelpful/unrequired help. Most of the studies had low quality assessment ratings, except for one, which was deemed of moderate quality.

Conclusion: The research suggests that not all people are easily able to provide responsive caregiving to their partners, and this may be partly based on their attachment styles. However, measurement issues in study design, outcome measures, sampling biases, and low-quality ratings mean that the conclusions drawn are tentative and cannot be generalised beyond young people in relationships of relatively short duration.

Clinical implications: Attachment focused interventions may be beneficial for psychological wellbeing within couples, but this cannot be recommended with

confidence until higher quality research is conducted on wider samples from longer-term relationships.

Key Words: Attachment, caregiving, romantic relationships, systematic review.

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1 Introduction

1.1 Attachment

Attachment theory postulates that we are born into the world with an attachment system that activates in times of distress (Bowlby, 1982). This serves an evolutionary function: as new-borns, we are dependent on others for our survival and display behaviour designed to elicit care (Bowlby, 1982). Based on others' responses to our distress, in particular, those of the primary caregiver, we develop 'internal working models' which represent information about ourselves (worthiness of care), other people (dependability and responsiveness) and relationships (predictability, availability to provide support) (Feeney & Collins, 2001). These 'internal working models' we develop lead to certain attachment behaviours, which can be broadly categorised as either a secure or insecure "attachment style" (Ainsworth, Blehar, Waters, & Wall, 1978).

Ainsworth's (1978) 'strange situation' assessment (monitoring the child's reaction when a caregiver leaves the room with a stranger present) provided a classification of three attachment styles, secure, anxious and avoidant (the latter two being types of insecure attachment). A secure attachment style is characterised by the child becoming upset when the caregiver leaves, becoming happy when they return, and seeking comfort from them as their 'secure base' (a safe place that also encourages exploration; Ainsworth et al, 1978). Available, warm and responsive caregivers contribute to the development of a secure attachment style. An anxious attachment style is characterised by children who are very distressed when separated from their caregivers and are not comforted or reassured when the caregiver returns. An

avoidant style is characterised by children who will not seek comfort from their caregiver and shows little preference between a caregiver and a stranger (Ainsworth et al, 1978).

Our need for care does not end in childhood, and often, it is romantic partners who provide us with care in times of need (Feeney & Collins, 2001). Hazan and Shaver (1987) proposed that the same three attachment styles in infancy with a primary caregiver (secure, anxious, avoidant) can be applied between couples in adult romantic relationships.

1.2. Caregiving and its relation to attachment

Bowlby (1982) theorised that in addition to an attachment system, which is designed to elicit care, we also have a caregiving system; with a set of behaviours intended to provide proximity and comfort to those in distress (Cassidy, 1999). Research has shed light on how adult attachment styles affect not only how we receive care, but also how effectively we give care (Feeney & Collins, 2001). If a person has experienced warm and responsive caregiving early in life, which is known to encourage the development of a secure attachment style, then their caregiving systems are primed to provide support and compassion to another person in need (Mikulincer, Shaver, Gillath, & Nitzberg, 2005). Caregiving effectiveness includes behaviours such as providing a secure base, offering support and comfort, and encouraging autonomy (Feeney & Collins, 2001). In order to do this in a relationship, one must be competent in taking another's perspective, expressing empathy and using effective conflict resolution;

these features are often seen in people with secure attachment styles (Fraley & Roisman, 2015).

1.3 Caregiving in couple relationships

Johnson, Lafontaine and Dalgleish (2015) propose that during distress in couple relationships, one partner's attachment system triggers the other partner's caregiving system, intending to restore safety and reduce distress. Attachment insecurity may inhibit effective caregiving, as that person will focus on restoring their own sense of security before attending to their partner's need for comfort (Johnson et al, 2015). People with anxious attachment styles tend to experience difficulties providing proportional, responsive care to their partners due to a preoccupation with their own distress and relationship needs (Collins & Feeney, 2000, Johnson et al, 2015). People with avoidant attachment styles are less able to notice and recognize attachment signals in their partner, are dismissive of their own and their partner's needs for support, express less empathy, are less willing, thus provide less support (Simpson, Rholes & Nelligan, 1992).

Research proposes that people with secure attachment styles provide optimal caregiving (high responsiveness and empathy) in relationships (e.g., Collins & Read, 1990; see Mikulincer & Shaver, 2009, for a review), and also provide support contingent to the situation (Simpson, Rholes, Oriña, & Grich, 2002). Mikulincer and Shaver (2015) report that people who have secure attachment styles are not driven by egoistic motives (e.g. to improve own mood) when providing care to others. This suggests that they are less preoccupied by their own anxiety, thus have a higher

availability of cognitive and emotional resources to dedicate to their partner (Johnson et al, 2015). People in these relationships report higher relationship quality and satisfaction, and show greater psychological and physical health, reduced activity to stressors, greater coping capacity, and resilience (Feeney, Van Vleet, & Jakubiak, 2015).

Research on attachment security and caregiving in couples has used a variety of methodologies, from questionnaire only self-report methods to some observational methods in laboratories or field settings. Cobb, Davila, Bradbury (2001, p. 1141) state that *"relatively little research has examined associations between security and observable couple behaviour".* The choice of methods has implications, as self-report can be unreliable, and it is behaviour that ultimately impacts on partners in relationships.

1.4. Summary

The research indicates that effective caregiving in relationships is important for relationship satisfaction and the physical and psychological health for both partners, but not all caregivers are equally able to respond to their partner's needs successfully (Collins and Feeney, 2000). There is a variety in the methods used and the outcomes of the impact of attachment on caregiving ability*,* and a lack of observational methods to assess caregiving in couple relationships.

Objectives

This study aims to determine whether observable caregiving behaviour in couple relationships is associated with attachment style. Another aim is to review the quality of the included studies in weighing up the conclusions that can be drawn from them, to inform recommendations for future research.

Methods

Search strategy

This review follows the principles outlined by the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) group (Moher, Liberati, Tetzlaff & Altman, 2009). The review was registered on the international prospective register of systematic reviews (PROSPERO, 2019, CRD42019127223).

Initial scoping searches were developed with the expertise of a librarian in the University. Following several scoping searches, search terms were refined, and 5 bibliographic databases were searched for relevant published literature. Electronic databases included: PsychINFO, CINAHL, Medline, Embase, and Scopus. Table 1 illustrates the keywords used to search titles, abstracts and full content. The way in which keywords were entered was modified according to each databases' specific search engine features.

Table 1: General search syntax

Attachment OR attachment behav*	AND	Couples OR romantic relationships OR intimate relationships	AND	Caregiv* OR social support OR sensitivity OR empathy

Backward citation chaining was completed by examining the reference lists of included full-text studies, as well as relevant theoretical book chapters to ensure a thorough strategy. Searches were repeated in April 2019 to check for any relevant new publications.

Inclusion and Exclusion criteria

All titles and abstracts were screened for basic requirements. Full texts of the relevant abstracts were then further assessed against the inclusion and exclusion criteria. Inclusion criteria included; an adult sample in couple relationships, an observable quantitative measure of caregiving behaviour, a validated measure of attachment style, from a peer review journal and available in English. Exclusion criteria included samples in pre-adult relationships (below 18 years) a clinical population (e.g. papers that specifically sampled people with clinical mental health diagnoses), self-reported caregiving, caregiving to self and dissertations. Figure 1 outlines the searching process.

The researcher decided to exclude 'grey literature' such as dissertations for several reasons; these papers are harder to locate, the peer review status is often unclear,

and it is harder to clearly report on methods (Boland, Cherry & Dickson, 2017). Furthermore, including dissertations does not change the overall outcome of systematic reviews despite the considerable time and effort required to obtain the papers (Vickers & Smith, 2000).

Identification

Electronic database search included: PsychINFO, CINAHL, Medline, Embase, and Scopus.

Records identified through database searching (n = 1187)

Records after duplicates removed (n = 860)

Screening

Records (titles) screened (stage 1 screening) (n = 860)

Records excluded based on titles (n = 769)

Records (abstracts) screened

(stage 2 screening)

(n =91)

Inclusion criteria

-Adults (18+)
-Couple/romantic/intimate relationships
-Peer review journal
-Caregiving measure
-Attachment style measure

Records excluded, with reasons (n = 59)

-Care seeking rather than caregiving x 4

-Clinical population x 7

-No measure of caregiving x 9

-No measure of attachment x 4

-Book chapter/review of area x 24

-Focus not on caregiving (e.g. psychological distress, well-being, self-esteem, appraisals, health) x 8

-Other attachment relationship (e.g. early caregivers) x 3

Eligibility

Full-text articles assessed for eligibility

(stage 3 screening)

(n=32)

Extra inclusion criteria
-Behavioural/observational caregiving measure

Full-text articles excluded, with reasons

(=22)

-Spanish full text x 3

-No observational/behavourial measure of caregiving x 15

- Focus not on caregiving (e.g. 'empathic accuracy', 'secure base script knowledge' x 3

- Care seeking rather than caregiving x 1

Included

Studies included in systematic review (n = 10)

20

Figure 1: PRISMA flow diagram illustrating the search strategy on published studies of attachment and caregiving in adult romantic relationships.

Data Extraction

Data extraction was completed before the quality assessment, to be blind to the quality of each study and reduce bias (Boland, Cherry & Dickson, 2017). The sole researcher extracted the data, and, for accuracy, a fellow researcher checked the domains of extracted data and data extraction method.

Quality Assessment

Studies were assessed for quality using the Appraisal Tool for Cross-Sectional Studies (AXIS, appendix 2) (Downes, Brennan, Williams & Dean, 2016). The AXIS tool was deemed most appropriate as it provided options of 'yes/no/don't know' as responses, rather than a numerical score. This better conveys the weighted qualitative importance of the 'critical' elements of the quality assessment (Downes et al, 2016). However, not obtaining a final quality score can also be a limitation, as it is helpful when judging the overall weaknesses of studies. To combat this limitation, a similar approach by Shea et al (2017) with the AMSTAR-2 quality assessment tool was used.

Method used to categorise quality weaknesses

In quality assessment, Shea et al (2017, p.5) recommends that researchers "*should consider the potential impact of an inadequate rating for each item*" by considering which items are 'critical' and which items are 'non-critical' within the context of the types of studies.

- The researcher reviewed each item of the AXIS and considered whether it was critical or non-critical.

- Table 2 details the seven chosen 'critical' domains by the researcher.

- Each item deemed as critical was checked and agreed with the research supervisor. Appendix 3 details justifications for each selected item.

- All other items were deemed as non-critical.

Table 2: Chosen critical domains

Domain	
Item 2	Was the study design appropriate for the stated aims?
Item 5	Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?
Item 8	Were the risk factor and outcome variables measured appropriate to the aims of the study?
Item 9	Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted or published previously?
Item 10	Is it clear what was used to determined statistical significance and/or precision estimates? (e.g. p-values, confidence intervals)
Item 15	Were the results internally consistent?
Item 17	Were the authors' discussions and conclusions justified by the results?

Based on Shea et al. (2017), the following categorising system was developed; 0 critical flaws and fewer than 4 non-critical flaws was deemed as 'high' quality, 1 critical flaw or no critical flaws but more than 4 non-critical flaws was deemed as 'moderate', 2 critical flaws or 1 critical flaw plus more than 4 non-critical flaws were assigned as 'low', 3+ critical flaws or 2 critical flaws plus more than 4 non-critical flaws was deemed as 'critically low'.

Inter-rater reliability

A second rater quality assessed 25% of the final papers. The kappa calculation between raters was 0.71, which indicates substantial agreement.

Results

Data extraction tables are included in the appendix. Table 3 (appendix 4) reports on the study characteristics across the 10 included studies. Table 4 (appendix 5) details the participant characteristics, and Table 5 reports on attachment and caregiving measures, other measured variables, and the caregiving interaction method (appendix 6).

Narrative Synthesis

Study characteristics. The 10 included studies were carried out between 1992 and 2016. Eight of the studies were cross-sectional/observational designs, and 2 were randomised-experimental/observational designs (Feeney & Collins, 2001, Mikulincer, Shaver, Bar-On, & Sahdra, 2014). The studies were carried out in various locations: eight in the United States, one in New Zealand and two in Israel. Most of the settings were in psychology departments in universities and recruited participants from an undergraduate participant pool in exchange for course credit or paid participation. Other settings included health centres (Jayamaha, Girme & Overall, 2016, Mikulincer, Shaver, Sahdra, & Bar-On, 2013) and a marriage licensing office (Cobb et al, 2001). Two of the studies included a follow up (Cobb et al, 2001, Jayamaha et al, 2016).

Participant characteristics. The number of participants in samples ranged from 61 to 214. One study reported a follow-up sample size of 47 (study 1, Jayamaha et al, 2016). Three of the studies reported age ranges, ranging from 17 – 36 years. Common mean ages were in the early 20's. Three of the studies reported length of relationship ranges (between 3 months – 216 months), with most relationships within the first 2 years. Most of the studies reported the relationship stage; most participants were in exclusive dating relationships (ranges varied in studies 63-100%). In 2 studies, most participants were engaged, cohabiting or married (Jayamaha et al, 2016, Cobb et al, 2001). Three of the studies reported participants' ethnicity, with the highest percentages White Caucasian (from 61%-97%), followed by Asian-American (from 13%-46%) and Latina/Chicana (15-16%). Three of the studies reported varying details of socioeconomic status of participants, with the majority middle class, with college/university education. The sexuality of the couples was mostly heterosexual, or not reported, 1 study reported 1 same-sex relationship in the sample (Collins & Feeney, 2000).

Attachment measures

All studies used validated measures of attachment style, either the adult attachment questionnaire (AAQ; Rholes, Simpson, & Oriña, 1999, Simpson et al, 2002, Jayamaha et al, 2016), the adult attachment interview (AAI; Simpson et al, 2002), the experiences in close relationships scale (ECR; Monin, Feeney, & Schulz, 2012, Mikulincer et al, 2013, Mikulincer et al, 2014), the adult attachment scale (AAS; Collins & Feeney, 2000), the relationships questionnaire (RQ; Feeney & Collins, 2001, Collins & Feeney, 2000, Cobb et al, 2001) or a Likert-type version of the Hazan and Shavers (1987)

measure of three attachment styles (Simpson et al, 1992). Simpson et al (1992) also used the relationship closeness inventory (RCI; a validated measure that measures the degree of closeness and interdependence in a relationship, Berscheid, Snyder, & Omoto, 1989) as a secondary measure. Six of the studies used more than 1 measure.

Caregiving measures

Observer coding schemes. Coding schemes designed for observational studies generally measured caregiving across the papers. Studies employed the use of 2-5 independent raters (blind to the aims of the study) to code caregivers on a variety of behaviours. See table 6 in appendix 7 for further details of each coding scheme. Intra-class correlations (ICCs; McGraw & Wong, 1996) or inter-rater reliabilities were computed to estimate inter-observer reliability. Generally, across all studies, ICCs were high, and analyses included an average of the coder's ratings.

Caregiving interaction method. Couples were videotaped discussing a personal goal in 3 of the studies (Cobb et al, 2001, Jayamaha et al, 2016, Mikulincer et al, 2014 study two), a personal or stressful problem that was not a common source of conflict in the relationship in 3 of the studies (Mikulincer et al, 2014, study one, Mikulincer et al, 2013, Collins & Feeney, 2000) and the remaining 4 studies involved a videotaped stress manipulation (Feeney & Collins, 2001, Monin et al, 2012, Rholes et al, 1999, Simpson et al, 1992, 1999). For example, one member of the couple was told they would be involved in activities 'that many people find distressing' or to give a speech to a panel of judges. Feeney and Collins (2001) did not use videotaped interaction but allowed caregivers to write a 'supportive note' to their distressed partner, which were later coded.

Four studies did not inform participants of the video-recording, until afterwards, thus unobtrusively observed interactions (Monin et al, 2012, Simpson et al, 1992, 1999, Rholes et al, 1999). Three studies informed couples that the interaction would be videotaped (Mikulincer et al, 2013, 2014, Collins & Feeney, 2001). The remaining studies did not state whether participants were aware they were going to be videotaped before couple discussions (Cobb et al, 2001, Jayamaha et al 2016).

Other variables measured

Most studies measured other variables of interest. Table 5 provides details of this. Depending on the type of conversation videotaped, variables such as 'perceived stressfulness' of the problem and pre/post mood were of interest. Relationship level variables such as trust, love, relationship quality, commitment, satisfaction and closeness were commonly measured. Studies used a mixture of validated and bespoke Likert scale measures. Four of the studies used Likert scales (Collins & Feeney, 2001, Collins & Feeney, 2000, Jayamaha et al, 2016, Monin et al, 2012).

Quality assessment narrative synthesis

Table 7 provides details of each item rating for each study and the comparisons between each study in terms of 'critical' domains relevant to designs and outcomes.

The researcher followed the AMSTAR-2 (Shea et al, 2017) recommendation to categorise the studies as follows: studies that contained no critical flaws and less than

4 non-critical flaws were assigned as 'high' quality; studies with one critical flaw, or no critical flaws but more than 4 non-critical flaws were deemed as 'moderate', studies with two critical flaws or one critical flaw plus more than 4 non-critical flaws were assigned as 'low'; studies with three or more critical flaws of two critical flaws and more than 4 non critical flaws were deemed as critically low quality. As seen in table 7, most studies were deemed of low quality except for 1, which was deemed of moderate quality (Collins & Feeney, 2000).

Conflicts of interest are unlikely to be indicated with this topic. Six of the papers acknowledged the source of funding, and the remaining cited the relevant department in which the research took place. Collins and Feeney (2000) and Jayamaha et al (2016) were assigned 'yes' for items 8 and 9 as the studies used validated attachment measures and caregiving behaviour coding schemes, however, the mediational analysis was drawn from the data from Likert scales, limiting the applicability of the conclusions that were based on this analysis. Items related to sampling were globally weak across all the studies. The target population was clear in all of the studies (adults in intimate relationships); however, the sampling frame was often in undergraduate pools, thus offered samples made up of young adults (mean ages in late teens and 20's) and relationship lengths of approximately 18 months. There is a bias inherent in the widely used opportunistic sampling method, most participants took part in exchange for university credit, with their partner's attending out of good will. Many of the studies were unable to collect data on non-responders to the advertisements for the studies, due to this sampling method. Many of the studies were also assigned a 'no' for item 17 for the same reason; there was no discussion of the selection and

sampling bias. Only one paper included a justification of this bias in the discussion, therefore was deemed of moderate quality (Collins & Feeney, 2000).

All of the papers appropriately reported significant results however, some of the papers (Collins & Feeney, 2000; Feeney & Collins, 2001; Jayamaha et al, 2016; Mikulincer et al, 2013, 2014, Monin et al, 2012) also reported results that were non-significant without using the appropriate language, for example reporting that the statistic was lower or higher and the p-value, but not using the term 'non-significant', instead using language such as 'marginally significant' or 'approached significance'. Most of the papers did not make ethical procedures clear, such as informed consent or the right to withdraw. Improved reflection of sampling bias and more explicit statements of ethics would have benefitted the global quality of the selected studies

Table 7: Quality assessment using the AXIS tool.

Study	1. Aims	2. Design	3. Sample size Justification	4. Target Population	5. Sampling Frame	6. Selection	7. Non- responders	8. Variables measured appropriate to aims	9. Validity and Reliability	10. Statistics	11. Replicable method	12. Basic Data	13. Concerns about response rate?	14. Non-responders described?	15. Internally Consistent	16. Comprehensive Description	17. Justified discussion/ conclusion	18. Limitations	19. Conflicts of interest	20. Ethical Approval	OVERALL QUALITY
Cobb et al (2001)	Y	Y (✓)	N	Y	N (X)	N	N	Y (✓)	Y (✓)	Y (✓)	Y	Y	N	N	N (X)	Y	Y (✓)	Y	N	DK	Low
Collins & Feeney (2000)	Y	Y(✓)	N	Y	N (X)	N	N	Y(✓)	Y(✓)	Y(✓)	Y	N	N	N/A	Y (✓)	Y	Y (✓)	Y	N	DK	Moderate
Feeney & Collins (2001)	Y	Y (✓)	N	Y	N (X)	N	N	Y (✓)	Y (✓)	Y (✓)	Y	N	N	N/A	Y(✓)	Y	N (X)	Y	N	DK	Low
Jayamaha et al (2016)	Y	Y(✓)	N	Y	N (X)	N	N	Y(✓)	Y(✓)	Y(✓)	Y	Y	N	N/A	Y (✓)	Y	N (X)	Y	N	DK	Low
Mikulincer et al (2014)	Y	Y (✓)	N	Y	N (X)	N	N	Y (✓)	Y (✓)	Y (✓)	Y	Y	DK	DK	Y(✓)	Y	N (X)	Y	N	Y	Low
Mikulincer et al (2013)	Y	Y(✓)	N	Y	N (X)	N	N	Y(✓)	Y(✓)	Y(✓)	Y	Y	N	N/A	Y (✓)	Y	N (X)	Y	N	Y	Low
Monin et al (2012)	Y	Y (✓)	N	Y	N (X)	N	N	Y (✓)	Y (✓)	Y (✓)	Y	Y	N	N/A	Y(✓)	Y	N (X)	Y	N	DK	Low
Rholes et al (1999)	Y	Y(✓)	N	Y	N (X)	N	N	Y(✓)	Y(✓)	Y(✓)	Y	N	N	N/A	Y (✓)	Y	N (X)	Y	N	DK	Low
Simpson et al (2002)	Y	Y (✓)	N	Y	N (X)	N	N	Y (✓)	Y (✓)	Y (✓)	Y	Y	N	N/A	Y(✓)	Y	N (X)	Y	N	DK	Low
Simpson et al (1992)	Y	Y(✓)	N	Y	N (X)	N	N	Y(✓)	Y(✓)	Y(✓)	Y	N	N	N/A	Y (✓)	Y	N (X)	Y	N	Y	Low

NB: Y= yes, N = No, DK = don't know, and N/A = not applicable. Bold items were deemed as critical. Ticks refer to critical item met; crosses outline where critical items were not met. 0 critical flaws and less than 4 non-critical flaws = high, 1 critical flaw or no critical flaws but more than 4 non-critical flaws= moderate, 2 critical flaws or 1 critical flaw plus more than 4 non-critical flaws were assigned as 'low', 3+ critical flaws or 2 critical flaws plus more than 4 non-critical flaws = critically low

Summary of main findings

Table 8 outlines the outcomes of each study. The following discussion of the main findings are presented tentatively considering the low-quality ratings.

Table 8: brief descriptions of outcomes of each study, associated p values, and overall quality rating

Study	Outcomes	p	Quality
Cobb et al (2001)	Spouse's positive perceptions (of partner's security) increased effective support behaviour, which was associated with satisfaction (held for follow up for support recipients).	< .05	Low
Collins & Feeney (2000)	Partners higher in attachment-anxiety were poorer caregivers; provided less instrumental support, were less responsive and displayed more negative support behaviours, when partners were less effective at seeking support.	<.01-<.05	Moderate
	Supportive behaviours increased when partner's needs were clear.	<.001	
Feeney & Collins (2001)	Avoidant caregivers were instrumentally supportive in the low need condition but not in high.	< .05	Low
	Anxious caregivers were instrumentally supportive in the high need condition and emotionally supportive in both need conditions.	< .05	
Jayamaha et al (2016)	Increased negative support behaviour from anxious support providers when they felt less valued and appreciated.	<.001	Low
Mikulincer et al (2014)	Avoidant attachment (dispositional) was associated with less responsive caregiving.	<.01-<.05	Low
	Caregiving behaviour was more responsive when mental representations of security providers are primed.		
	Security priming buffered the effects of avoidant attachment on secure base provision but not the provision of a safe-haven.	<.01	
Mikulincer et al (2013)	Dispositional and experimentally induced attachment security was associated with greater responsiveness and supportiveness toward a partner.	<.01-<.05	Low
	Security priming overrode the detrimental effects of cognitive depletion and dispositional avoidance on caregiving behaviour, and the tendency of caregivers high in attachment anxiety to provide less care following cognitive depletion.	<.01-<.05	
Monin et al (2012)	Anxiously attached caregivers were not less effective in their caregiving behaviour than less anxiously attached caregivers but reacted to their partner's anxiety expression with more personal distress.	<.01	Low
	Avoidant-attached caregivers were less effective caregivers; less likely to perceive their partner's anxiety expression, and when they did recognise it, they interpreted the expression more negatively than less avoidant caregivers.	<.01-<.05	

Rholes et al (1999)	Avoidant-attached men displayed more anger if partners were more distressed, but not if partners sought higher levels of 'physical' support.	<.05	Low
Simpson et al (2002)	Secure women provided more support if partners sought more and offered less if partner sought less (situationally contingent caregiving). Less avoidant women provided more support than the more avoidant women (main effect).	<.05	Low
Simpson et al (1992)	Secure men (caregivers) offered more support as partners display increased distress; avoidant men provide less support.	<.05	Low

NB: Hierarchical regression analyses were used in all the studies to assess associations between attachment style and caregiving. Where regression wasn't used, the statistical test used is reported.

As mentioned, all but one of the papers were deemed of low quality. The findings from Collins and Feeney (2000) as the only moderate quality paper will be discussed first. Collins and Feeney (2000) found no significant associations between avoidant attachment and poorer caregiving, whereas all the low-quality papers did. Collins and Feeney reported that caregivers high in attachment anxiety were poorer caregivers, were significantly less responsive, provided less instrumental support, and showed higher negative caregiving behaviours. Lastly, caregivers high in attachment anxiety provided significantly higher levels of support when their partners' needs were clear, but low levels when the needs were not clear (Collins & Feeney, 2000).

As tables 7 and 8 show, the remaining nine papers were deemed of low quality. However, there were similarities in some of the findings across attachment styles across the lower quality papers which are discussed below.

Secure attachment style and caregiving (low quality papers)

The papers discussed in this section were all deemed of low quality for the following reasons; selection biases within the sampling frame and method of recruiting participants, and no justification for the methodological issues in the discussions and conclusions (with the exception of Cobb et al, 2001). As such, their findings are to be interpreted with caution.

When papers considered secure attachment, they usually did so by comparing high scorers on either anxious or avoidant attachment, and low scorers (i.e., more secure), rather than reporting on secure attachment per se. However, two papers did specifically categorise carers as secure (Simpson et al,1992, Simpson et al, 2002), and one mentions a positive perception of a partner's attachment security (i.e. a perception that a partners attachment is secure) (Cobb et al, 2001). With secure caregivers, Simpson et al (1992) found significantly greater support provision, particularly when there were higher levels of partner anxiety. Simpson et al (2002) found an interaction effect, in which caregivers scoring higher on security on the AAI, who also had partners with higher support seeking, offered the most support. Even a positive perception of a partner's attachment security influenced caregiving; spouse's positive perceptions of partners were associated with significantly lower levels of negative behaviour and higher levels of positive behaviour, even when controlling for satisfaction (Cobb et al, 2001). There was also a significant association between spouses' security and their perceptions of partners security, indicating that spouse's perceptions of partners were based in part on how spouses saw themselves (Cobb et al, 2001).

Avoidant- attachment style and caregiving (low quality papers)

All but 1 of the studies (Collins & Feeney, 2000, moderate quality) reported an association between avoidant attachment style and less effective caregiving behaviours. The papers discussed in this section were all deemed of low quality for a range of reasons. First, many evidenced biases in how they selected and recruited their participants. For example, although papers defined the target population as 'couples', none of them acknowledged the sampling frame used (e.g. university samples; with the exception of Cobb et al, 2001), and applied findings and conclusions to all couple relationships despite a frame that was not necessarily representative of the entire target population. Measurement reliability and validity was another weakness of the low-quality studies; although, as discussed, many papers used some validated measures, most also used non-validated Likert measures designed for the purpose of the individual study. Given the low quality of these papers, the summary provided in this section is to be read with caution.

Simpson et al (1992) reported that as care-seekers discussed their feelings more extensively, all caregivers made some form of a supportive comment, however, the tendency was less pronounced in avoidant men (beta=0.89 secure men, 0.29 avoidant men). In their later study, caregivers scoring lower on avoidant attachment provided significantly more support than caregivers scoring high on avoidant attachment (Simpson et al, 2002). Caregivers high in avoidant attachment were significantly less likely to notice and understand their partner's expression of anxiety (Monin et al, 2012). When they did perceive partners expressions of anxiety, they reacted with significantly more anger, particularly when support seeker anxiety was high, which lead Monin et

al (2012) to conclude that avoidant caregivers were significantly less effective caregivers. Mikulincer et al (2013) reported that the higher the avoidance score, the lower the responsiveness towards a partner. Mikulincer et al (2014) corroborated this; the higher a caregiver's avoidance score, the lower their responsiveness to a partner's disclosure or a partner's exploration attempts.

There was a trend in the data to suggest that avoidant caregivers were providing particularly low levels of care when care seekers were most in need; for example, when anxiety was high. Simpson et al (1992) reported significantly lower levels of support provision from caregivers high in avoidance when partner anxiety was high. Caregiver avoidance was associated with significantly poorer caregiving behaviours in the high need but not the low need condition (support seekers needs) (Feeney and Collins, 2001). Their partners perceived the notes written by caregivers in the high need condition as significantly less supportive as caregivers' level of avoidance increased (Feeney and Collins, 2001). Likewise, during the 'stress period' (where women were subjected to threat of a stressor), more avoidant men displayed more anger if their partners were more distressed, which resulted in providing significantly less support (Rholes et al, 1999). As distress increased, avoidant caregivers did not increase their level of support (Feeney & Collins, 2001).

Many of the above results still stood after researchers controlled for potential confounders such as caregiver's neuroticism, extraversion and relationship satisfaction (Simpson et al, 2002). Priming avoidant-attached caregivers with the names of security figures significantly increased responsiveness, and this effect was

strongest for the caregivers scoring highest on avoidance (Mikulincer et al, 2013). Caregiver's avoidant attachment was significantly associated with lower ratings of caregiver responsiveness in the neutral priming and security priming conditions, but not in the security priming depletion condition. Overall, security priming helped avoidant-attached caregivers to be more responsive but only when there was no cognitive depletion task involved (Mikulincer et al, 2014). A lack of relationship interdependence and prosocial orientation mediated the low levels of emotional support by avoidant caregivers (Feeney and Collins, 2001).

Anxious- attachment style and caregiving (low quality papers)

The papers discussed in this section were all deemed of low quality for a range of reasons already mentioned such as biases in the selection and recruitment of participants with limited sampling frames, which were not often justified in the discussion, and poor reliability and validity of measures such as Likert scales. In view of these quality issues, the following summary of results should be read with caution.

Findings for the anxious-attachment style and effect on caregiving varied. Three of the studies found no significant associations between high attachment anxiety scores and caregiving behaviour (Simpson et al, 1992; Simpson et al, 2002; Mikulincer et al, 2014) The remaining studies found conflicting results ranging from anxious attachment being associated with the provision of supportive care (e.g., Feeney & Collins, 2001, Monin et al, 2012), to the opposite, in which it was associated with unhelpful support (e.g., Mikulincer et al, 2013, Jayamaha et al 2016).

Mikulincer et al (2013) found that the higher a caregiver's anxious attachment, the higher their negative caregiving behaviours, particularly in the cognitive depletion and neutral priming conditions. On the other hand, coders rated anxious caregivers as significantly more emotionally supportive in their notes (Feeney & Collins, 2001). A significant caregiver anxiety by condition interaction found instrumentally supportive behaviours in the high need condition but not the low, and the provision of emotional support in both need conditions. Higher levels of relationship interdependence partly mediated the more responsive emotional support provided by anxious caregivers (Feeney & Collins, 2001).

The literature suggests that caregiving by anxious caregivers was affected by how the caregiver felt about themselves, Rholes et al (1999) reported that the more anxious the caregiver, the less anger they displayed as their partners were more distressed, however more anger was displayed if their partners were not distressed. During the recovery period, highly anxious caregivers showed very low levels of anger if their partner was distressed during the stress period, leading Rholes et al (1999) to theorise that caregivers high in attachment anxiety suppressed their feelings of anger. Jayamaha et al (2016) found that when support providers reported feeling less valued and appreciated, they exhibited greater negative support behaviour when they were high in attachment anxiety, but not in low attachment anxiety. When support providers higher in attachment anxiety felt valued and appreciated, they engaged in lower levels of negative support behaviours, similar to caregivers scoring lower in attachment anxiety (Jayamaha et al, 2016). Monin et al (2012) indicated that caregivers high in anxious attachment were significantly more likely to notice and understand their partner's expressions of anxiety, and more accurately than caregivers lower in anxious

attachment. Lastly, caregivers higher in anxious attachment experienced significantly more personal distress when their partners expressed anxiety (Monin et al, 2012).

Discussion

Nine of out ten of the included papers were deemed low in quality; therefore, the findings from these studies cannot be relied upon. The highest quality paper (Collins & Feeney, 2000; moderate quality) found no significant associations between avoidant attachment and poorer caregiving, whereas all the other low-quality papers did. As for attachment anxiety, Collins and Feeney reported that caregivers scoring high on this were poorer caregivers, were significantly less responsive, provided less instrumental support, and showed higher negative caregiving behaviours. The lower quality papers showed mixed results with some agreeing with Collins and Feeney (Feeney & Collins 2001, Monin et al, 2012) and others showing the opposite association between attachment anxiety and caregiving (Feeney & Collins, 2001 Jayamaha et al, 2016, Mikulincer et al, 2013) or no association (Simpson et al, 1992; Simpson et al, 2002; Mikulincer et al, 2014). Lastly, Collins and Feeney found that caregivers high in anxious attachment provided significantly higher levels of support when their partners' needs were clear, but low levels when the needs were not clear (Collins & Feeney, 2000). Overall, results indicated that not all people are easily able to provide responsive caregiving to their partners, and this may be partly based on their attachment styles.

Given that the highest quality paper showed an association between anxious attachment style and less effective caregiving, it would be helpful to consider reasons for this association. Collins and Feeney (2000) comment that there is little understanding of the mechanisms that may explain this association, however, suggest that people with attachment anxiety are concerned about being rejected by others and struggle to prioritise a partners attachment needs over their own, which leads to ineffective caregiving. When partners' needs were clear, anxious caregivers did provide effective caregiving, suggesting that anxious caregivers might possess some of the required skills for caregiving, but are not able to always use them (Collins & Feeney, 2000). Other researchers disagree, instead suggesting that people with anxious attachment styles do not possess the required skills to be effective caregivers, for example, they are less skilled at understanding nonverbal messages (Feeney, Noller & Cauan, 1994, as cited by Collins & Feeney, 2000) and show lower levels of responsive listening skills (Mikulincer & Nachshon, 1991, as cited by Collins & Feeney, 2000).

The findings regarding anxious attachment were mixed for the lower quality papers. One reason for this might be low study quality, but we could also tentatively hypothesise that these studies were assessing different aspects of the same attachment ambivalence that participants felt, i.e., in which participants had the capacity to feel close toward their partners at times but also to mistrust their partners' proximity and commitment (Feeney & Collins, 2001). When anxiously attached carers are in a support giving role, they are not antagonistic towards their partners, thus perhaps anxious caregivers feel better, more useful, and more valued when they can offer support (Rholes et al, 1999; Jayamaha et al, 2017).

As for avoidant attachment, as mentioned above, only the low-quality studies found an association between avoidant attachment and less effective caregiving, whereas the highest quality paper did not find any association. It is prudent to conclude therefore that research to date has not supported any association between avoidant attachment and poorer caregiving, although arguably researchers should aim to conduct higher quality studies in order to answer with confidence whether this association exists. Indeed, there is a theoretical basis for expecting that high quality studies in future might find such an association: Overall and Lemay's (2015) conceptualisation of the effects of avoidant attachment in relationships is that dependence on an avoidant person will make them feel uncomfortable; this person may then respond by attempting to increase the feeling of autonomy and power in the relationship (e.g., not noticing the partner's anxiety, minimising the partner's concerns, and refusing support). This may, in turn, increase the level of dependence on the avoidant partner, and eventually this exacerbation might undermine or threaten the relationship, confirming the avoidantly attached person's belief that people cannot be trusted to remain in relationships (Overall & Lemay, 2015). Research shows that avoidant people can deactivate their attachment system (Fraley, Davis & Shaver, 1998, Fraley & Shaver, 1997 as cited by Feeney & Collins, 2001) and defensively exclude emotional information (Mikulincer & Shaver, 2003, as cited by Monin et al, 2012) thereby continuing to avoid opportunities to learn caregiving skills; it stands to reason that this might affect support provision in intimate relationships, and high quality studies would be required in order to answer decisively whether such an association exists.

Several reasons may explain general inconsistencies in findings for both attachment styles; firstly, the unusual situation of being part of a lab-based study, rather than in the home environments (Collins and Feeney, 2000). Secondly, Bartholomew and Horowitz (1991) theorised that there are 4 attachment prototypes; none of the included studies measured the fearful attachment style, all data were analysed under the anxiety or avoidance dimensions, therefore as noted by Collins and Feeney (2000), qualitative differences between the groups may have been missed. For example, Kunce and Shaver (1994) used a self-report caregiving measure and found that fearful attachment (high avoidance and high anxiety) is associated with overinvolved caregiving (Collins & Feeney, 2000), and closely linked to being torn between interdependence and mistrust (Bartholomew & Horowitz, 1991). Thus, the inconsistencies could also reflect how insecure attachment styles inherently involve more variable and unpredictable responses. It could be possible that these papers miscategorised some people with fearful attachments as anxiously or avoidantly attached, who then behaved in opposite ways within their group. Some researchers criticise and doubt the validity of attachment categories, for example, Davila et al (1999, as cited by Cobb et al, 2001) comment on how self-reported attachment can vary and change at different points, and studies have shown instability in attachment styles in relationships over time (Feeney, Noller & Callan, 1994). The original attachment research is criticised for being outdated and culturally biased, as all research was conducted with middle-class American families (Quinn & Mageo, 2013). The classifications of attachment have also been criticised for being vague, unreliable and overly simplistic, without the room to manoeuvre between the styles (Quinn & Mageo, 2013). Crittenden (2006) theorises 'the dynamic-maturational model of attachment' (DMM), which includes 12 different attachment styles, where people can

have more fluid movement between the categories. The DMM model holds different assumptions; that adults can have multiple dispositional underlying styles based on personal experiences in infancy, adulthood, and exposure to danger. Studies using this conceptualisation of attachment may produce a different pattern of results, potentially showing how our ability to be effective caregivers changes across contexts, based on our movement between attachment styles.

This systematic review focuses on one part of a very complex dyadic regulation process regarding attachment. Regulation of the partner operates within a dyadic system that involves self -regulation and regulation by the partner (Overall & Lemay, 2015), thus caregiving, and care-seeking are interdependent, which is in line with Bowlby's understanding of attachment and caregiving as a collective dyad (Collins & Feeney, 2000). The study deemed of highest quality showed an individual influence of attachment style and caregiving, in that, generally, caregivers did not change the way they responded based on a partner's attachment style (Collins & Feeney, 2000). However, there was a general correlation between overall support seeking behaviour and caregiving quality; direct expressions of need (e.g. emotional disclosure) were associated with helpful caregiving behaviours (higher responsiveness and emotional support) whereas indirect expressions of need (hinting, sulking) were associated with unhelpful caregiving behaviours (less responsive, negative behaviours; Collins & Feeney, 2000). Expression of need (e.g. care-seeking) is affected by attachment style, for example, those high in avoidant attachment were more likely to use indirect expressions, thus receive ineffective caregiving (Collins & Feeney, 2000). Overall, the caregiver and care seeker do not interact independently, and *"neither are solely responsible for the outcome of the interaction"* (Collins & Feeney, 2000, p. 1067).

Limitations

The overall quality of the papers was low, with only one paper deemed moderate; thus, conclusions cannot be drawn with confidence. The findings from Collins and Feeney (2000) may be interpreted with the most confidence.

There were a variety of measurement issues in the studies which limit the reliability of the results presented in the review. All studies had a selection bias, with most of the participants being university undergraduates in the first 2 years of their relationships. The findings, therefore, cannot be generalized to older participants, in longer-term relationships at different developmental stages. Many of the participants also took part in exchange for university credit, with their partner's attending out of good will, perhaps reflecting a more caring partner in the first place. Some of the studies used unobtrusive video recording, whereas others notified participants of the video recording. Participants may have behaved differently (demand characteristics) towards each other in this environment, with Simpson et al (1992) suggesting that perhaps, particularly for an avoidantly attached person, it is less threatening to provide support in a 'false' environment than a real-life situation. Lastly, to reiterate, findings from this systematic review cannot be stated with confidence due to the low-quality ratings for most of the studies.

The AXIS tool was selected for quality assessment, its strength is that the items ask about reporting quality and study quality (Downes et al, 2016). However, some of the questions were insensitive to this group of studies, for example, the questions in the

results section of the AXIS (items 12-16) did not appropriately capture studies that reported both significant and 'marginally significant' data. Also, many of the studies used high quality validated questionnaires, alongside bespoke Likert-scale questionnaires, thus question 9 regarding the reliability of measures used was not sensitive to dealing with multiple measures. The 2 studies that included a randomised manipulation in the observational design were also assessed with the AXIS, to ensure consistent quality assessing, however, this was not the most sensitive tool for this design thus may not have captured the intricacies in quality for these papers. As mentioned, AXIS does not have a numerical scale for assessing the quality of the study thus some subjective judgement was required, increasing the likelihood of differences based on opinion (Downes et al, 2016). Efforts were made to reduce this bias with the inclusion of a second rater.

Efforts were made to reduce biases where possible in the selection of studies, however, some biases were likely present. As mentioned, dissertations were excluded, increasing the likelihood of a grey-literature bias as, however, as reported by Vickers & Smith (2000), dissertations do not often change the overall outcome of reviews. There was a language bias as only full-text papers in English were included, due to the researcher's language. Backward citation chaining may have increased citation bias as studies that show significant results are more likely to be cited by other authors, likewise with publication bias; however, the results presented here showed both expected and not-expected associations.

There are many debates in the literature regarding how attachment styles should be measured in adulthood; whether self-report or attachment interviews are the most reliable (Bartholomew & Shaver, 1998, as cited by Collins & Feeney, 2000). Davila et al (1999, as cited by Cobb et al, 2001) comment how self-reported attachment can vary and change at different points, and studies have shown instability in attachment styles in relationships over time (Feeney, Noller & Callan, 1994), it is unknown how this may have affected the results reported here. Attachment measures designed to measure parent-child relationships (e.g. AAI) and romantic relationships (AAQ) question different developmental time frames, thus measure different levels of consciousness within internal working models (Simpson et al, 2002). This may explain why the AAI (interview) and AAQ (self-report), for example, are closely related but not statistically correlated (Simpson et al, 2002), and again may have affected rates of attachment styles in the included studies. Lastly, Simpson et al (1999) discuss that the avoidance dimension in attachment measures focuses on how individuals view others, whereas the anxiety dimension focuses on how individuals view themselves, therefore in studies that involve interactions with significant others, avoidance may account for more of the variance.

Clinical and Service Implications

The research cited in this review focused on young people in new relationships, and no firm conclusions can be drawn given the quality of the cited studies; thus, the implications presented are very tentative and specific to younger adults.

There is an implication for services to remain aware of the role of carers in providing support to service-users accessing a range of NHS services. Perhaps consideration of a partners' attachment style would be useful and how this might influence the care that the service-user may receive in their relationships. Jayamaha et al (2017) cited research indicating that partners reinforcing the value of the relationship helps anxiously attached people feel secure and cope with conflict more effectively (Overall & Simpson, 2015 as cited by Jayamaha et al, 2017). Mikulincer et al (2013, 2014) reported that subliminally enhancing an individual's sense of security (by priming attachment figures) was effective in eliciting better caregiving behaviours for insecure caregivers, however, not when their cognitive resources were experimentally reduced. These caregivers were even less able to provide supportive caregiving when their personal cognitive resources were drained. This has relevance when considering how 'depleted' people feel in society, taking multiple pressures into account, such as work, financial, and child-care. Perhaps the more busy and pressured life becomes, the less able we are at providing responsive and supportive care to our partners, despite the benefits.

Services for adolescents and young adults (e.g. 14-25 years), may consider offering attachment-informed therapy to couples. Emotionally-focused therapy with couples (Johnson, 1996) works on the needs and emotions derived from attachment styles. Therapy aims to educate couples to increase their responsiveness, and to guide partners to change the way they seek and provide support to each other. There is evidence to show that couples who have received this therapy exhibit empathy, trust and the cognitive flexibility seen in people with secure attachments (Johnson, 2002, Johnson et al, 2015).

Future Research

In terms of quality of reporting, although it makes sense to glean the most from the Collins and Feeney (2000) paper, perhaps the high level of similarities in the avoidant attachment style across the lower quality papers may indicate a little more credence in these findings, given their replicability. These aspects thus may deserve further research with higher quality papers.

Again, tentatively, understanding exactly how anxiously attached people interpret their partner's distress may offer solutions on how to modify their responses to become more effective caregivers (Jayamaha et al, 2017). Future research looking into how security priming could transform patterns of caregiving and care-seeking would also be beneficial, for example making the positive memories and feelings towards a partner more accessible for avoidantly attached people thus potentially improving caregiving (Mikulincer et al, 2014). Also increasing the qualitative understanding of anger experienced by caregivers would be a useful avenue for bettering couple interventions directed at domestic violence, for example whether anger experienced was coupled with contempt and an urge to hurt their partner, or whether the anger was more alike frustration at the self for the discomfort experienced (Monin et al, 2012).

The healthcare system in the UK can be set up to pathologize attachment and dependence needs and anxieties, which is a significant issue in mental health services (Johnson et al, 2015). There is a wider societal message of this review; we each have a responsibility to our partners in our relationships, to provide supportive care, to lower

distress, and boost relationship satisfaction. However, at present due to the quality of the studies, conclusions are limited. For the findings to become more generalisable, clinical services and researchers should work together to produce high quality research which looks at a broader range of people and longer-term relationships at different developmental stages, particularly during transitions that place stress on the relationship (e.g. becoming parents), as attachment needs are likely to be amplified (Cobb et al, 2001). These are the types of relationships seen in NHS services when working with carers, and thus will likely be more useful.

Conflict of Interest Declaration

Acknowledgements

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Paper 2 has been prepared in accordance with the author guidelines for submission to the journal of mental health and prevention (Appendix 8).

Paper 2: Empirical paper

Does attachment training 'upskill' and increase compassion satisfaction and reduce compassion fatigue in frontline staff?

Word count (excluding figures/tables): 8,000

Abstract

Objective: Historically, public services have not always met the needs of children and young people (CYP) with attachment and developmental/complex trauma. Attachment theory and research has been shown to foster compassion, and attachment- informed training has been shown as one way to upskill staff. The objective of this paper was to evaluate the effect of attachment-informed training on compassion satisfaction and fatigue, and knowledge, confidence, and worries (KCW) for frontline staff working within health, social and education services with CYP with attachment and developmental/complex trauma.

Methods: A children and adolescent mental health service (CAMHS) service in Wales developed and provided attachment-informed training to health, social and education service staff. Training included two days of theoretical training, an opportunity to put the knowledge into practice, and six skills development sessions (SDS) at 6-week intervals.

Results: Analysis included twenty-one teams (N=369); 15 of which were social services teams, 5 were education teams, and there was 1 healthcare team. There were no significant differences found in compassion satisfaction and fatigue before and after training. There were significant increases in knowledge and confidence, and significant decreases in worries, before and after training. The decrease in worries held for follow up. Staff clustered into three profiles based on knowledge, confidence and worries scores, the more knowledgeable and confident a staff member was, the lower their worries. There were no significant differences found between clusters on measures of compassion satisfaction and fatigue. Confirmatory factor analysis of the KCW measure did not show a good fit to the model, and the principal component

analysis suggested the questions loaded onto two components, with knowledge and confidence potentially measuring the same factor. Examination of demographic factors and co-variables indicates an adequate degree of construct validity.

Conclusion: Tentatively, attachment-informed training may be beneficial for improving knowledge, confidence and worries for frontline staff working with CYP with attachment and developmental/complex trauma, however, future research improving the quality of the KCW measure is required.

Introduction

1.1 Attachment

Attachment theory provides an understanding of psychological functioning in the context of early bonds in close relationships (Bowlby, 1982). Experiences of relationships with early caregivers shape our 'internal working models' or our mental representations about the self in relation to others, which in turn informs expectations in future relationships (Bowlby, 1982). Flexible and available caregivers, who are responsive and sensitive to distress, produce secure attachment patterns in infants (Bowlby, 1982). There are many psychological advantages for secure attachment, such as ability to self-regulate and manage distress, and positive self-esteem (Bowlby, 1982). An unresponsive caregiver is more likely to produce insecure (avoidant or anxious) attachment styles in infants, which are characterised by either heightened or minimised emotional expression. A disorganised attachment style, characterised by a combination of avoidant or anxious patterns, is linked to early childhood abuse or neglect (Main & Soloman, 1990).

Attachment styles can affect a person's help seeking behaviour in the future, for example, adults with a secure attachment style engage in support-seeking behaviour in times of stress (Fraley & Shaver, 2000). Avoidant and anxious insecure attachment styles are common in people experiencing mental health difficulties (73.6% and 90.5% respectively) (MacBeth, Gumley, Schwannauer, & Fisher, 2011). This has implications for how people seek help in mental health services, particularly with regards to relationships with staff, as attachment styles can also influence therapeutic process and outcomes (Mikulincer, Shaver, & Berant, 2013). People who appear to struggle to

engage with services may have avoidant attachment patterns or people who appear demanding of services may have an anxious attachment style (Barber et al, 2006). A national advisory group on mental health, safety, and well-being for the Department of Health UK (Seager et al, 2007) has promoted the use of attachment theory to inform policy and services, thus in some areas, attachment theory has been used to guide the design and delivery of services (Bucci, Roberts, Danquah & Berry, 2014).

1.2 Attachment and developmental/complex trauma

Attachment theory suggests that all children need physical and emotional safety to develop secure attachments, recover from traumatic experiences, develop and thrive (Lieberman & Van Horn, 2011). Research looking at the impact of adverse childhood experiences (ACE's) in Wales highlighted the multiple risk factors and areas of need for CYP with attachment and developmental/complex trauma (Public Health Wales, 2015. The National Assembly for Wales (2014) discovered a 100% increase in CAMHS referrals over 4 years, suggesting that primary care was not meeting these CYP's difficulties. A health board in Wales commissioned a gaps analysis (Waters & Todd-Jones 2016) of services working with CYP and broadly found that CYP with attachment and developmental/complex trauma, presenting with self-harm and behaviour that challenges, were often not accepted into specialist CAMHS, demonstrating that secondary care were also not meeting their needs. (Waters & Todd-Jones 2016). Referrals were rejected due to a variety of issues; a lack of early intervention, an under-resourced service, and professionals requiring extra support and upskilling to hold cases beyond their capacity and capability (Waters & Todd-Jones 2016). There were repeated requests for training, upskilling, and access to

psychological consultation, supervision and intervention (Waters & Todd-Jones 2016). A complex case review identified that CYP with attachment and developmental/complex trauma often present across many public services (such as health, youth justice, local authority), suggesting that agencies need to collaborate closely to improve services (Kirkaldie & McDonnell, 2016).

The importance of trauma history and attachment with regard to emotional wellbeing has not always been fully understood in service delivery, as suggested in a CAMHS inquiry (National Assembly of Wales, 2014); and 3 reports by Break Through Britain/Centre for Social Justice (Couldn't Care Less, 2008, Enough is Enough, 2014 & Completing the Revolution, 2011, as cited by Kirkaldie & McDonnell, 2016). Awareness of the impact of early and developmental trauma in CYP is growing for frontline clinicians and commissioners (Kirkaldie & McDonnell, 2016). Research suggests that the earlier the intervention, the better the outcome for emotional wellbeing, mental health and behavioural difficulties in CYP (Feinstein, 2015). The 'Together for Children and Young people' (Welsh Government, 2015) initiative in Wales emphasised the need for multiple agencies to work together at various levels to meet the needs of CYP with trauma histories. The National Institute for Clinical Excellence (NICE) guidelines (2015) stipulate that alongside parents and carers, the professionals involved with CYP should be primary targets of interventions, particularly teachers, healthcare and social care staff.

A CAMHS service in Wales recently developed a training package for attachment-informed working for frontline staff in health, social, and education services. The

training included 5 themes such as the impact of trauma, the implication of attachment difficulties and awareness of own attachment. From previous research, attachment-informed training is 'effective' when it meets the following components; improved knowledge, skills and confidence of professionals to provide attachment informed intervention to CYP, improved knowledge, skills and confidence of parents and carers helping their CYP, and lastly that CYP feel listened to, safe, and have positive interactions with parents, carers or key workers (Heaney, 2017). For any effective professional training, Zaslow, Tout, Halle, Vick, & Lavelle (2010) recommend a clear focus on a specific skill set, an opportunity to practice the skills, and follow up consultation and supervision to consolidate and enhance the skills. Post training, the service also provided skills development consultation sessions (SDS). The hope for the SDS were to empower and provide support for the professionals within a containing environment, and to consolidate skills and decrease stress (Jackson et al, 2017, see appendix 9). Previous research on trauma-informed training and skills development sessions showed staff reported increases in knowledge and confidence with asking about trauma, were able to make positive changes to their practice and provide appropriate care to service users with trauma histories (Cavanagh, Read, New, 2004). In Waters (2015) research using a bespoke knowledge, confidence and worries questionnaire, following training, staff reported an increase in knowledge about trauma, and an increase in confidence providing assessment and treatment, which held for follow up after 6 months.

1.3 Compassionate caregiving

Alongside an attachment system, we also have a caregiving system, which can be affected by our attachment style (Bowlby, 1982, as cited by Mikulincer & Shaver, 2017). Like the attachment system, if a person has developed under caring and loving circumstances, their caregiving system will be primed with compassionate and empathic resources, whereas if a person has grown up in an inconsistent or unloving environment, their caregiving system will not be primed in the same way (Mikuliner & Shaver, 2017). Research has suggested that secure attachment patterns are associated with greater compassion and caregiving, whereas insecure attachment styles can hinder compassionate caregiving (Mikulincer & Shaver, 2005). Avoidant-attachment was associated with lower willingness and compassion to help a suffering person, and anxious-attachment was associated with increased levels of personal distress but not compassionate caregiving behaviour. Priming attachment security (with the use of attachment figures names), increased compassion and willingness to help a distressed person (Mikulincer, Shaver, Gillath, & Nitzberg, 2005). This may be due to the motivating reasons behind offering support; secure individuals (i.e. score low on avoidance and anxiety dimensions of attachment measures) provided help to others for an altruistic reason (Gillath et al, 2005). Those insecurely attached either provided less help and were less motivated (avoidantly attached) or provided help for reasons pertaining to self- protection or social acceptance (anxiously attached) (Gillath et al, 2005). An insecurely attached caregiver may be preoccupied with their feelings of vulnerability and need for care; thus, they are not as cognitively resourced or able to attend to other people. If a person experiences a sense of security and safety, then they can see others as also requiring compassion and care (Bowlby, 1982, as cited by Mikulincer & Shaver, 2017).

Providing care to people with complex needs can be fatiguing (Rossi et al, 2012), and can lead to emotional exhaustion and burnout (Mikulincer & Shaver, 2017). Professionals working with people who have experienced trauma or suffering can experience compassion satisfaction (CS) and compassion fatigue (CF). CS relates to the perceived pleasure gained from this type of work, for example 'it's gratifying to help others', or 'it's good for society'. CF has two parts, this type of work can lead to burnout (exhaustion, frustration, anger and depression), and secondary trauma (stress driven by fear and work-related secondary exposure to stressful events) (Stamm, 2010). Burnout is associated with hopelessness, and difficulties with working effectively, often due to a high workload with a lack of support, or the perception that increased effort has limited effect (Craig & Sprang, 2010). Secondary traumatic stress (STS) is associated with physical and emotional difficulties such as fear, difficulty sleeping, and intrusive images (Craig & Sprang, 2010). Research shows that CF is prevalent across a variety of frontline settings, including social services, mental health, and children's services (K. B. Adams, Matto, & Harrington, 2001; Anderson, 2000; Cunningham, 2003; Gardell & Harris, 2003; Lloyd, King, & Chenoweth, 2002; Maslach, 2003; Schauben & Frazier, 1995; Sexton, 1999, as cited by Newell & MacNeil, 2011). Using the professional quality of life scale (ProQOL), Rossi et al (2012) found high levels of CF in staff working in community-based mental health services, which increased each working year, leading to higher sickness rates, increased turnover, low morale and less satisfaction reported by service users (Ray, Wong, White & Heaslip, 2013).

As Mikulincer and Shaver (2017, p.197) state "*attachment theory and research provide good leads for fostering effective compassion in therapists, therapy clients, parents and human beings more generally*". This paper will be focusing on changes in

outcomes for professionals (from health, social and education services) following attachment training and 6 SDS. Outcomes include compassion satisfaction, compassion fatigue, knowledge, confidence and worries about working within an attachment/ trauma informed way. The attachment training aims to facilitate an understanding of people in the context of their disrupted attachment relationships and trauma histories, rather than seeing only challenging behaviour (Jackson, Heaney, Walters & Wilcox, 2017). Knowledge of attachment theory may increase compassion satisfaction as the focus is not on the CYP's problematic behaviours but on context and history. The training may encourage reflection on one's own attachment history, which may also increase compassion, particularly if it activates a person's memory of their own caring and loving experience. If frontline staff have high levels of CS, knowledge and confidence and low levels of CF and worries, they are more likely to not only be in work but also provide a supportive, responsive and warm service. The attachment training aims to increase knowledge and confidence and decrease worries about working in an attachment informed way, and the aims for the SDS were to further improve frontline staffs understanding (knowledge) and confidence with attachment-informed working and formulations of CYP. The project also addresses the reliability and validity of the bespoke knowledge, confidence and worries (KCW) questionnaire by investigation through factor analyses.

Hypotheses

Principle questions

- Does attachment training increase compassion satisfaction and decrease compassion fatigue?

- Does attachment training increase knowledge and confidence and decrease worries about working within an attachment/ trauma informed way?

Hypothesis 1: There will be a significant increase in CS and a significant decrease in CF pre to post training.

Hypothesis 2: Increases in CS and decreases in CF will be associated with an increase in knowledge and confidence and a decrease in worries.

Hypothesis 3: There will be significant increases in knowledge and confidence and a significant decrease in worries pre to post training.

Method

The study design and data collection had started prior to the trainee's involvement with the research. The trainee independently developed hypotheses regarding the study's measures and identified appropriate analyses by herself, checking in with the research supervisor that her ideas were sound. The trainee analysed the data, interpreted the results, and discussed her findings by herself, using research supervision as appropriate. Regarding the confirmatory factor analysis and principle component analysis, this was completed in parallel with another trainee; the analysis was undertaken in isolation at first and then verified by discussion with the fellow trainee.

Participants

Participants included professionals from education, social care or health care teams. All participants attended attachment training and up to 6 SDS provided by the Welsh CAMHS service.

Recruitment. The Welsh CAMHS service proposed the attachment training to senior management teams in social care, education and health. For social and health care teams, managers were responsible for prioritising teams to receive training, based on need. Education teams were recruited through the local authority, South East Wales Education consortium (SEWC). Senior managers of SEWC advised the service which pupil referral units had the highest prevalence of attachment trauma and the service prioritised these teams training.

Measures

The Professional Quality of Life Scale (ProQOL). The ProQOL (appendix 10) is a 30-item self-report measure developed by Stamm (2010). It contains three subscales, which cover the three subfactors of the ProQOL; compassion satisfaction (CS), burnout (BO), secondary traumatic stress (STS). Each subscale consists of 10 questions, with each item rated on a 5-point Likert scale. The three subscale scores are summed separately for analysis. A high score on each indicates high levels of compassion satisfaction, and compassion fatigue (BO and STS). The Cronbach's (1951) alpha values were .88 for BO, .75 for CS, and .81 for STS.

Knowledge, confidence and worries questionnaire (KCW). The service adapted a questionnaire from a previous bespoke 21 item questionnaire (Waters, 2015). It measured three subscales; 'knowledge', 'confidence' and 'worries'. There were 10 knowledge questions (1, 2, 3, 4, 5, 6, 7, 14,19, 20), 5 confidence questions (8, 13, 15, 17) and 6 worries questions (9,10,11,12,16,18) (appendix 11). Five-point Likert scales were used to rate items. Factor analyses and construct validity of this questionnaire are included in the results section.

Attachment training package. Each team attended 2 training days, which involved being taken through the training package. The training package was designed to bridge gaps between services, with the involvement of the public. The Welsh CAMHS service commissioned "Voices from Care", who completed focus groups with young care-leavers and interviewed adoptive parents and foster carers about their experiences of education, health and social services. The service also consulted with

the local family and therapies partnership board. The training package covers the following themes;

Theme 1: What is attachment?

- The key components necessary to underpin a secure attachment relationship.

Theme 2: The impact of developmental trauma and disrupted attachment

- How experiences affect brain development and behaviour

Theme 3: The implication of attachment difficulties

- How attachment and developmental trauma impact outcomes for children and young people

Theme 4: Attachment and promoting change

- Using attachment theory to help make positive changes

Theme 5: The importance of looking after yourself

- Working with trauma, distress and behaviours that challenge have an impact on frontline workers.

Skills development sessions (SDS). Each team attended 6 SDS, with approximately 6 weeks between each session. In brief, each SDS involved activities designed to help attendees consolidate their knowledge. Staff had the opportunity to discuss a case, and roleplay one of the individuals involved in the case under discussion (such as that of a carer, social worker, or family member). Facilitators led a discussion to increase attendees' understanding of the case under discussion and joint problem-solving from an attachment perspective and encouraged attendees to make personal reflections

regarding the case, their own feelings and their attachment style. During this case discussion, staff teams were invited to contribute ideas about what the child, family member and worker needs, and again were encouraged to draw on their knowledge of attachment theory when doing so. See appendix 12 for the full SDS session outline.

Procedure

The Welsh CAMHS service organised the location and timing of training. Training took place over two days. The first day covered attachment theory, the effect of trauma and disrupted attachment and the implications of attachment difficulties. The second day included attachment and promoting change and attachment intervention training. Six SDS's skills followed at 6-week intervals.

Measures were included as part of a larger pack of outcome measures and a consent form (appendix 13). There were 3 time points for the collection of the KCW questionnaire; pre-training, post-training and on the 5th consultation session. The ProQOL was collected at 2 time points; pre training and on the 5th consultation session. Data from each time point was added to the database by an assistant psychologist within the service.

Ethics

The health boards research and development department (appendix 14) and the School of Psychology ethics committee (appendix 15) approved the study.

Results

Descriptives

Twenty-one teams (n=369) were included in the analysis; 15 of which were social services teams, 5 were education teams, and there was 1 healthcare team. Teams in social services included families first, flying start, child protection, 14 + and standard social care, disability children teams, family support protection, residential children's home, and fostering teams. The education teams were pupil referral units. The healthcare team was a tier 3 CAMHS team.

Power

Previous research using the ProQOL has typically found medium effect sizes. Using the G*Power software (Faul, Erdfelder, Lang & Buchner, 2007) a post hoc power calculation indicated that with the sample size (n=116), the study had over 80% (as recommended by Cohen, 1988) to detect a medium effect size (0.5). When conducting a principal component analysis (PCA), Laerd (2015) proposed a ratio of 5 to 10 participants per item; therefore, 105-210 participant is sufficient for a 21-item measure.

Statistical Analysis

Analyses were completed using SPSS version 25.0, and the AMOS version 25.0 add-on for SPSS (for confirmatory factor analysis). For participants with over 80% of the data for each questionnaire, missing values were replaced by the nearby mean. Participants with over 20% data missing on a single questionnaire were excluded from the analysis of that questionnaire.

Determining normality

Normality tests are used in statistics to determine if a dataset has a normal distribution. A dataset with a normal distribution will be shaped like a bell curve, high in the middle (variables are likely to fall around the mean or median) and sloping down on the left and the right (Field, 2018; Laerd, 2018).

As described by Laerd (2018) assessing normality of data is essential as normal data is one of the underlying assumptions of parametric statistics. The two commonly used methods of assessing normality are graphically and numerically, both of which have advantages and disadvantages (Laerd). Using numerical statistical tests provide an objective judgement of normality; however, these tests are affected by sample size in that they are under-sensitive to low numbers and over-sensitive to high sample sizes. As a result, Field (2018) recommends subjective judgements using visual inspection on plots or graphs. For example, for the t-tests presented in this paper, the Shapiro-Wilk test was used as a numerical test for normality as this test is appropriate for sample sizes ranging from 50-2000; the test indicates whether a random sample comes from a normal distribution (Laerd). If the significance (p) value is greater than 0.05, the data are deemed to be normally distributed, whereas the data are deemed to deviate significantly from a normal distribution if the p value is below 0.05 (Laerd). A Q-Q plot was also used as a graphical measure of determining normality in the current study, which is a graph of quantiles of the sample data plotted against the quantiles of a theoretical normal distribution. Normality is indicated by data points that are arranged diagonally, whereas data that are not deemed normally distributed do not fall along a straight line (Field). For the ANOVAs presented in this paper, the

assumption of sphericity was assessed using the Mauchly's Test of Sphericity. Sphericity is the equality of variance of the differences between each pair of values, and if this assumption is violated it means that the variances of the differences between values is not equal (Laerd). It is important to check sphericity, as if it is violated this increases the chance of a type 1 error, which ANOVAs are particularly susceptible to (Laerd).

The analyses of the current study are presented in three sections: first, there are the factor analyses and construct validity assessment of the KCWQ; second, within-group analysis of pre and post training measures to assess whether the training improves knowledge, confidence, worries, compassion satisfaction, burnout and secondary traumatic stress; finally, a cluster analysis is presented to investigate profiles of staff.

Factor Analyses

Confirmatory Factor Analysis (CFA).

The following CFA and principle component analysis (PCA) of the KCW questionnaire was undertaken in parallel with another trainee.

A confirmatory factor analysis was conducted on the 21-item questionnaire designed to measure knowledge, confidence and worries (see appendix 11) (n=286). There were three latent variables; knowledge, confidence and worries. Each latent variable was measured with differing numbers of observed variables (10 items for knowledge,

5 for confidence, 6 for worries). Observed variables were responses from 5-point Likert scales.

Appendix 16 details the model for the unstandardized estimates (covariances); the numbers "1" in the diagram indicate that the regression coefficient has been fixed to 1. Coefficients are fixed to minimize the number of parameters estimated. Appendix 17 details the model for standardized estimates (correlations). Table 1 refers to the indicators of fit of the model to the data, table 2 refers to the unstandardized and standardized loadings of each item onto the latent variables.

Table 1: Goodness-of-Fit Indicator of a model for knowledge, confidence and worries

Model	χ2	df	p	TLI	CFI	RMSEA
Three Factor	666.3	186	<0.001	.730	.760	.095

NB: n=286

Table 2: Unstandardized and standardized loadings for 3 factor confirmatory model of knowledge, confidence and worries

Item	Knowledge		Confidence		Worries	
	Unstandardized	Standard-ized	Unstandardized	Standard-ized	Unstandardized	Standard-ized
Qu1	1.00 (-)	0.63				
Qu2	1.07 (.12)	0.67				
Qu3	1.09 (.12)	0.67				
Qu4	0.95 (.12)	0.56				
Qu5	0.86 (.10)	0.61				
Qu6	0.85 (.11)	0.55				
Qu7	1.15 (.12)	0.66				
Qu14	1.17 (.16)	0.67				
Qu19	0.19 (.11)	0.11				
Qu20	0.43 (.10)	0.27				
Qu8			1.00 (-)	**.70**		
Qu13			0.77	.56		
Qu15			0.87 (.09)	.64		
Qu17			0.24 (.09)	.17		
Qu21			0.78 (.08)	.64		
Qu9					1.00 (-)	0.67
Qu10					1.15 (.11)	**0.81**
Qu11					0.82 (.10)	0.59
Qu12					1.11 (0.11)	**0.72**
Qu16					0.51 (.10)	0.33
Qu18					0.29(.08)	0.24

NB: Unstandardized Loadings (standard errors) and standardized loadings. Dashes (--) indicate the standard error was not estimated.

The CFA revealed that the specified model was not a good fit for the patterns observed in the data as shown by a significant chi-square statistic; $\chi2(186) = 666.3$, $p < 0.001$, a TLI figure of under 0.9, a CFI figure of under 0.95 and an RMSEA figure above 0.05. There were only 3 items (questions 8,10, and 12) with high factor loadings (above 0.7).

As seen in appendix 17, knowledge and confidence were shown as highly correlated constructs (0.96).

Face Validity.

A small group of trainee clinical psychologists (n=10) filled in a questionnaire designed to test the KCW questionnaire for face validity (appendix 18).

Figure 1 shows each question, and whether the group rated it as seeming to measure knowledge, confidence or worries.
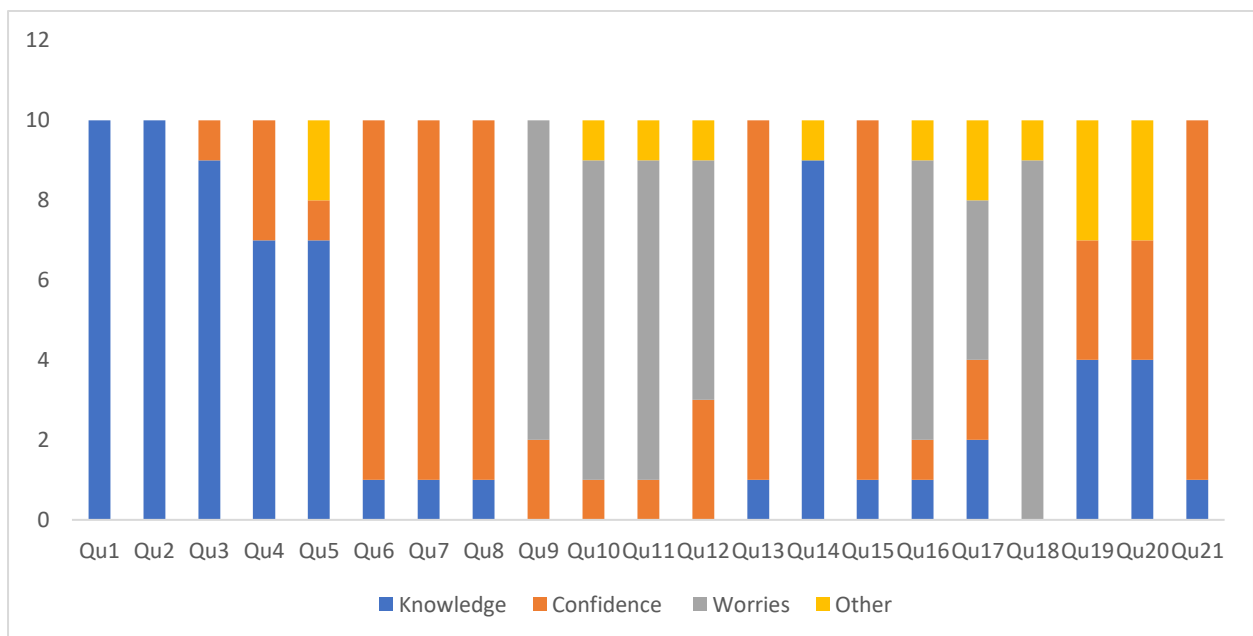
The group rated the items designed to measure knowledge and confidence (questions 1, 2, 3, 4, 5, 6, 7, 8, 13, 14, 15, 17, 19, 20, 21) as either knowledge or confidence (mirroring the high correlation found in the CFA). Items designed to measure worry (questions 9, 10, 11, 12, 16, 18) were more consistent with most people rating them as 'worry' items. The group rated some of the questions (5,10, 11, 12, 14, 16, 17, 18, 19, 20) as measuring something other than knowledge, confidence or worries, such as self-awareness, reflection, and support.

Principal Component Analysis (PCA).

Following poor goodness-to-fit results on the above CFA, and mixed face validity results, a PCA was conducted on the same measure. The suitability of PCA was assessed prior to analysis. Inspection of the correlation matrix showed that 17 of the 21 variables had at least one correlation coefficient greater than 0.3. The overall Kaiser-Mayer-Olkin (KMO) measure was 0.84 with individual KMO measures all greater than 0.5, classifications of marvellous to mediocre, according to Kaiser (1974). Bartlett's Test of Sphericity was statistically significant (p <.0005), indicating that the data was likely factorizable (Laerd, 2015).

The PCA revealed 5 components that had eigenvalues greater than one and which explained 28.1%, 12.1%, 6.7%, 6.4% and 5.7% of the total variance, respectively. Visual inspection of the scree plot indicated that 2 components should be retained (Cattell, 1966). The eigenvalues of 3 of the factors in the 5-component solution were also very close to 1. A 2- component solution met the interpretability criteria. The two-component solution explained 40.1% of the total variance. Varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited 'simple structure' (Thurstone, 1947).

Appendix 19 shows the scree plot used to aid interpretation of 2 components. Table 3 presents the component loadings and communalities of the rotated solution.

Table 3: Component loadings and communalities of the rotated two-factor solution

Rotated Structure Matrix for PCA with Varimax Rotation of a Two Component Questionnaire

	Rotated Component Coefficients		
Items	**Component 1**	**Component 2**	**Communalities**
Qu 3	**.714**	.035	.511
Qu 2	**.707**	.067	.504
Qu 5	**.693**	-.113	.493
Qu 8	**.688**	.237	.530
Qu 1	**.669**	.024	.449
Qu 14	**.665**	.211	.486
Qu 7	**.651**	.266	.495
Qu 4	**.645**	-.100	.426
Qu 15	**.645**	.217	.463
Qu 6	**.594**	.034	.354
Qu 21	**.584**	.352	.465
Qu 13	**.498**	.355	.374
Qu 20	**.316**	-.014	.100
Qu 12	.100	**.768**	.599
Qu 10	.223	**.730**	.583
Qu 11	.016	**.699**	.489
Qu 9	.160	**.640**	.436
Qu 18	-.014	**.562**	.316
Qu 17	.038	**.415**	.174
Qu 16	.061	**.314**	.102
Qu 19	.188	-.217	.465

The interpretation of the data revealed that the items designed to measure knowledge and confidence loaded strongly onto component 1, suggesting these items are measuring the same factor. Items designed to measure worry and 1 item designed to measure confidence (item 17) loaded onto component 2.

Regarding item 17 "I'm unsure whether my service would support me to do attachment informed work with children with attachment difficulties", this item was phrased differently to other confidence items in the questionnaire, using the words "I'm unsure" as opposed to "I am confident." It is possible that this difference in language is the reason this item loads onto component 2 with other 'worry' items, rather than component 1 with other confidence items. Items 16, 17, 19, 20 did not have any

correlation coefficients greater than 0.3, and as can be seen in table 3, these items also loaded weakly on the components. Item 19 had the weakest loadings. Low correlations coefficients and weak loadings suggest that these items are unrelated to the other items and could be removed from the questionnaire.

Construct Validity of KCWQ

In order to further test the validity of the KCW questionnaire, post hoc analyses were completed. Two factors were considered; gender and agency.

Gender.

A pearson point-biserial correlation was run to determine the relationship between knowledge, confidence and worries and gender. Preliminary analyses showed that (a) there were no outliers as assessed by a boxplot; (b) knowledge, confidence and worries scores were normally distributed, as assessed by visual inspection of a Normal Q-Q Plot; and (c) there was homogeneity of variances as assessed by Levene's test for equality of variances ($p = .173, .201, .159$, respectively). There was no statistically significant correlation between gender and knowledge ($p=.45$), confidence ($p=.13$) or worries scores ($p=.22$).

Agency.

Agency refers to whether a staff member is working within a team in social, education or health services. Means and standard deviations for knowledge, confidence and worries for each agency can be found in table 4.

Table 4 presents the means and standard deviations for knowledge, confidence and worries scores for each agency.

	Agency	Mean (SD)
Knowledge	Social Services	32.70 (3.74)
	Education	32.09 (4.50)
	Health	31.01 (3.10)
Confidence	Social Services	14.95 (2.31)
	Education	15.04 (2.54)
	Health	13.61 (2.33)
Worries	Social Services	7.45 (4.13)
	Education	8.49 (3.91)
	Health	8.28 (3.63)

NB: N= Social Services = 182, Education = 86, Health = 18

A one-way multivariate analysis of variance was run to determine the effect of staff's agency on knowledge, confidence and worries scores. There were 2 univariate outliers detected, however a one-way MANOVA without the outliers did not impact significance; therefore, they were kept in the analysis. Knowledge, confidence and worries scores were normally distributed for each agency, as assessed by visual inspection of Normal Q-Q Plots. There was no multicollinearity as assessed by a Pearson correlation for knowledge and confidence (r= .613, p<.001), knowledge and worries (r= -.199, p<.001) and worries and confidence (r=-.402, p< .001). There was a linear relationship between knowledge, confidence and worries for each agency. There were no multivariate outliers in the data, as assessed by Mahalanobis distance. There was homogeneity of variance-covariances matrices, as assessed by Box's test of equality of covariance matrices (p=.017). There was homogeneity of variances, as assessed by Levene's test of homogeneity of variance (p > 05). There were statistically significant differences between the different agencies on the combined dependent

variables $F(6, 562) = 2.47$, p < .05; Wilks' Lambda = .949; partial n^2 = .026. Follow-up univariate ANOVAs were not significant.

Within-group analysis of training measures

PROQOL

Table 6 presents the numbers of participants in the low, average, and high ranges for the three subscales of the ProQOL; compassion satisfaction, burnout and secondary traumatic stress, before and after the attachment training.

Table 6: Baseline scores for the ProQOL

	Compassion Satisfaction N=	Burnout N=	Secondary Traumatic Stress N=
Pre			
Low (22-)	0	37	66
Average (23-41)	93	79	50
High (42+)	23	0	0
Post			
Low (22-)	0	34	72
Average (23-41)	87	82	44
High (42+)	29	0	0

Compassion Satisfaction. A paired-samples t-test (n=116) was used to determine whether there was a statistically significant mean difference between compassion satisfaction before and after training. There were no outliers detected more than 1.5 box-lengths from the edge of the box in a boxplot. The assumption of normality was not violated, as assessed by Shapiro-Wilk's test (p=.650), and visual inspection of a Normal Q-Q Plot (Laerd Statistics, 2015). There was no significance difference in compassion satisfaction scores before ($M = 36.51$, $SD = 5.06)$ and after training ($M= 37.28$, $SD=5.5$), 95% CI [-1.508 0.04], $t(115) = 0.75$, $p >.05$.

Secondary Traumatic Stress. A paired-samples t-test (n=116) was used to determine whether there was a statistically significant mean difference between STS scores before and after training. Two outliers were detected that were more than 1.5 box-lengths from the edge of the box in a boxplot. Inspection of their values did not reveal them to be extreme, and they were kept in the analysis. The assumption of normality was not violated, as assessed by Shapiro-Wilk's test (p=.771), and visual inspection of a Normal Q-Q Plot (Laerd Statistics, 2015).There was no significance difference in STS scores before (*M* = 21.86, *SD* =4.37) and after training (*M*= 21.35, *SD=5.09*), 95% CI [-0.24, 1.27], *t*(115) = 1.34, *p* >.05.

Burnout. A paired-samples t-test (n=116) was used to determine whether there was a statistically significant mean difference between burnout before and after training and after. There were no outliers detected more than 1.5 box-lengths from the edge of the box in a boxplot. The assumption of normality was not violated, as assessed by Shapiro-Wilk's test (p=.150), and visual inspection of a Normal Q-Q Plot (Laerd Statistics, 2015).There was no significance difference in BO scores before (*M* = 25.98, *SD*= 5.39) and after training (*M*= 25.71, *SD*= 5.75), 95% CI [-0.45, 0.99], *t*(115) = 0.75, *p* >.05.

As all three t-tests showed non-significant differences, post hoc analysis for hypothesis 2 was not completed.

Knowledge, Confidence, Worries

    Confidence. A one-way repeated measures ANOVA (n=135) was conducted to determine whether there were statistically significant differences in 'confidence' throughout training and 5 SDS's. The assumption of normality was not violated, as assessed by visual inspection of a Normal Q-Q Plot. There were 20 outliers detected that were more than 1.5 box-lengths from the edge of the box in a boxplot and 1 outlier detected that was more than 3 box-lengths from the edge of the box in a boxplot. When the analysis was run with the outliers, the assumption of sphericity was not violated, as assessed by Mauchly's test of sphericity, $X^2(2) = 4.18$, p =.124. However, when the analysis was run without the outliers, the assumption of sphericity was violated, as assessed by Mauchly's test of sphericity; therefore, a Greenhouse-Geisser correction was applied (ε = 0.908) (Laerd Statistics, 2015).

The attachment training intervention elicited statistically significant changes in confidence over time, $F(1.82, 206.92) = 136.52$, p < .001, partial $\eta2$ = 0.545, with confidence increasing from pre-intervention(M= 11.39$, SD$ = 2.42) to post intervention (M= 15.02$, SD$ = 1.82), and decreasing from post to 5th SDS (follow up) (M=14.15$, SD$ =1.91). Post hoc analysis with a Bonferroni adjustment revealed that confidence was statistically significantly increased from pre-intervention to post intervention (M = 3.61, 95% CI [2.93, 4.29], p < .001), and from pre-intervention to the 5th SDS (follow up) (M = 2.67, 95% CI [1.97, 3.35], p < .001), but also statistically significantly decreased from post-intervention to follow up (M = -0.96, 95% CI [-1.55, -0.36], p < .001).

Worries. A one-way repeated measures ANOVA (n=135) was conducted to determine whether there were statistically significant differences in 'worries' throughout training and 5 SDS'. The assumption of normality was not violated, as assessed by visual inspection of a Normal Q-Q Plot. There were 11 outliers detected that were more than 1.5 box-lengths from the edge of the box in a boxplot. A one-way repeated measures ANOVA without the outliers did not impact significance (p<.001) or assumption of sphericity (.079); therefore, they were kept in the analysis. The assumption of sphericity was not violated, as assessed by Mauchly's test of sphericity ($\chi^2(2)$ = 5.86, p =0.053). (Laerd Statistics, 2015).

The attachment training intervention elicited statistically significant changes in worries over time, $F(2, 268)$ = 22.48, p <.001, partial η2 = 0.144, with worries decreasing from pre-intervention (M=9.33, SD =3.43) to post intervention (M=7.27, SD =3.85) to the 5th SDS (follow up) (M=7.22, SD =3.62). Post hoc analysis with a Bonferroni adjustment revealed that worries statistically significantly decreased from pre-intervention to post intervention (M = -2.06, 95% CI [-2.83, -1.28], p <.001), and from pre-intervention to the 5th SDS (follow up) (M = -2.11, 95% CI [-3.02, -1.19], p < .001). There was no significant difference in worries from post-intervention to follow up (M = -0.05, 95% CI [-0.96, 0.86], p > 05).

Knowledge. The assumption of normality was violated as assessed by visual inspection of a Normal Q-Q Plot. A Friedman test (n=135) was run to determine if there were differences in knowledge during the training and SDS. Pairwise comparisons were performed with a Bonferroni correction for multiple comparisons. Knowledge scores were statistically significantly different at the different time points during the

training and SDS, $\chi^2(2)$ = 131.90, p < .001. Kendall's W statistic = 0.49. Post hoc analysis revealed statistically significant differences in knowledge scores from pre- (*Mdn* = 25.65, p<.001) to post-intervention (*Mdn* = 32.19, p <.001), and from pre-training to the 5th SDS (follow up) (*Mdn* = 30.00, p<.001). Knowledge also statistically significantly decreased from post-intervention to follow up (p=.009).

Consideration was given to bootstrapping as an additional statistical technique to examine whether this permitted a more sophisticated analysis of the data; however, this was not possible on the current version of SPSS with repeated measures designs. Multi-level modelling using hierarchical analysis was also considered due to the nested nature of the design, however this was also not possible due to the complexity of the data; participants were not nested neatly within groups and within facilitators. Even within a particular location, multiple facilitators were involved with different groups at different times throughout the training and skills development sessions, making it very difficult to analyse the specific effects of facilitators, locality, and area on the outcome data. To provide a specific example, 3 teams (e.g. team 1, 2 and 3) from 2 locations trained together with facilitators 1 and 2, and then facilitator 1 saw team 1 for the SDSs with facilitator 3, facilitator 2 saw team 2 from the training with facilitator 5 for the SDSs, and then team 3 saw facilitators 3 and 4 for the SDSs. Ways of mitigating the impact of such highly nested data for future service evaluations are considered in the discussion.

Cluster Analysis

In order to understand non-significant trends in the data, cluster analysis was conducted to generate profiles of staff's CS and CF based on scores of KCW on pre training data. Profiles were based on the staff that had completed both the KCW and ProQOL at pre training time point, rendering a sample size of 287.

Cluster analysis was conducted in two steps to generate profiles based on three factors (knowledge, confidence and worries scores). There was no multicollinearity as assessed by Pearson correlation for knowledge and confidence (r= .66, p<.001), knowledge and worries (r= -.21, p<.001) and worries and confidence (r=-.46, p< .001). In the first step, a hierarchical cluster analysis was conducted (Ward's method with squared Euclidean distance). Based on the dendrogram and the aggregation curve, a three-cluster solution was identified. In the second step, K-means clustering was used to assign individuals to one of the clusters. A discriminant analysis showed differences between clusters (Wilks Lamda = 0.32, p<0.001) with 97.4% of cases correctly classified.

Data revealed three different groups, all characterised by different average knowledge, confidence and worries scores. The groups differed the most in 'knowledge' scores therefore were labelled in line with this. The first group was characterized with mean knowledge and confidence scores that were greater than one SD lower than the overall sample means and worries scores that were greater than one SD above the overall sample means (Table 7). This cluster was thus termed "low knowledge" (n= 58 [20.20%], women 77.59%, men 22.41%).

A second cluster was characterized with mean knowledge, confidence and worries scores similar to the overall average sample means. It was thus named "medium knowledge" cluster (n= 152 [52.96%], women 73.02%, men 26.34%). A third cluster was characterized with mean scores on knowledge and confidence scores that were over one SD above the overall sample means and worries scores that were almost half a SD lower than the overall sample means. It was thus called "high knowledge" cluster (n=77 [26.83%], women 81.81%, men 18.18%). There were no significant differences in the proportions of males and females between the different clusters ($x^{(2)}$= 1.55, p=0.46).

Table 7 cluster analysis means (standard deviations)			
Sample		Clusters	
N = 287	Low Knowledge	Medium Knowledge	High Knowledge
	N = 58 20.20%	N = 152 52.96%	N=77 26.83%
Knowledge 25.54 (4.43)	20.40 (3.64)	24.89 (2.21)	30.70 (2.46)
Confidence 11.44 (2.84)	8.28 (2.30)	11.12 (1.79)	14.45 (1.74)
Worries 9.49 (3.46)	13.03 (3.07)	8.64 (2.54)	8.49 (3.62)

Using one-way analysis of variance, clusters were compared on levels of compassion satisfaction, burnout and secondary traumatic stress. There were no significant differences between the clusters (low, medium, high knowledge) on measures of compassion satisfaction (*F* (2, 284) = .17, *p*=.83), burnout *(F* (2, 284) = 2.33, *p*= .09) and secondary traumatic stress *(F* (2, 284) = 1.73, *p*= .17).

Discussion

For the within-group analysis, there were no significant differences found in any of the three subscales of the ProQOL; compassion satisfaction, burnout or secondary traumatic stress. As such, hypothesis 1 was not supported. Post hoc analysis for hypothesis 2 was not possible due to the non-significant findings of hypothesis 1. Hypothesis 3 was met, with significant increases in knowledge and confidence, and significant decreases in worries from pre to post and pre to follow up. Knowledge and confidence significantly decreased from post to follow up, whereas the reduction in worries held for follow up. The CFA of the KCW questionnaire showed a poor fit to the model, and a PCA suggested a two-component solution. Most of the items designed to measure knowledge and confidence loaded onto the same component. The items designed to measure worries loaded onto a second component. Five of the items had very low correlation coefficients and did not load highly onto either component. Examination of co-variables gender, agency and location provides some primary analysis on the construct validity of the KCWQ measure; scores were not significantly different between genders. The cluster analysis indicated that staff fit into three profiles based on their knowledge, confidence and worries scores (labelled as 'low', 'medium', and 'high' knowledge). There were no significant differences between the clusters (low, medium, high knowledge) on measures of compassion satisfaction, burnout and secondary traumatic stress.

To the researcher's knowledge, this was the first paper looking at the effect of attachment training on CF and CS; therefore, there are not any comparisons for the insignificant findings. Several suggestions might account for the lack of a significant

finding to support hypothesis 1. As the post hoc power analysis showed sufficient power and sample size, it is not likely that this test was underpowered; therefore, the most obvious conclusion from these results is that CF and CS do not change during training. The data on baseline scores for CS and CF may help to explain this; before training, all participants were in the low or average range for BO and STS, and the average or high range for CS. Substantial changes in this measure were therefore unlikely. Arguably the low-average baseline CF levels and average to high levels of CS in staff in public services is an encouraging finding, but perhaps this was reflective of a broader systemic problem regarding the ease of 'admitting' feeling compassion fatigued. Research has shown that historically, people acknowledging their burnout experience stigma and even threats to the stability of their employment if not anonymised (Amanullah, McNally, Zelin, Cole & Cernovsky, 2015). Although individualised data were anonymised in this study, the data was coded by team, the training took place within teams, including managers, and perhaps it felt too threatening to acknowledge feelings of CF within a professional context. Public services rely on, fosters and celebrates the hardworking, resilient staff member who never takes a sick day and routinely works over their allotted hours, Cherniss (1980, as cited by Leiter, 1991) also reasoned that the cultural context of working in public services and professional expectations leads to unrealistic expectations. Sarason's (1977, as cited by Leiter, 1991) research also highlights how people's careers and success are enmeshed with how people appraise themselves, potentially making CF a difficult topic on a personal level as well. Lastly, reviewing the definition of CF, it is also possible that the team members experiencing the most CF either did not attend both days of the training, did not participate in the SDS, or even be at work and off sick, thus their data not captured in this study.

As to hypothesis 3, increase in knowledge and confidence is in line with previous research, which found improved skills and confidence following effective attachment and trauma-informed training and SDS (Cavanagh et al, 2004, Walters, 2015, Heaney, 2017). The questionnaire used to measure KCW was designed specifically to the training, therefore was likely sensitive to the specific attachment themes. The fact that knowledge and confidence scores increased, and worries decreased could be taken as evidence for the efficacy of this training, but this conclusion is tentative given the results of the PCA. The 2-component solution in the PCA explained less than half of the variance; the recommended variance explained for a measure to be deemed valid is 60% (Hair, Black, Babin, & Anderson, 2010), although others in the field disagree with this figure (Laerd, 2015). The PCA indicates that the variables do not generally fit together well. This study does show that the KCW measure requires further thought in terms of the items it includes and the domains it covers. For example, considering the language of some of the weakly loaded questions, or exploratory work into other factor solutions that may explain more of the variance or by accepting a low variance explained percentage and reducing the questionnaire to measure two factors. Lastly, the findings for the SDS suggests that the SDS may not be targeting knowledge and confidence in the same way as the training did due to the significant decreases in both from post training to follow up (the 5th SDS).

The non-significant findings for gender enhance the construct validity of the KCWQ, as it shows that KCW scores do not depend on gender, which is what would be expected. Significantly different KCW based on agency (social services, education, health) is more ambiguous, particularly as the MANOVA found a significant difference, but follow up tests were unable to identify where the significant difference(s) were. The

lack of a significant difference found by the follow-up tests may be due to large discrepancies in sample sizes between each agency (e.g., health had a sample size of 18, and social services had a sample size of 182 staff members) leading to follow-up analyses being underpowered, especially when including agencies with lower sample sizes). It could be argued that the significantly different scores based on agency also enhance construct validity as each agency has a very different background of education and skill set, therefore such baseline differences between agencies might be expected.

The cluster with the highest knowledge scores ('high knowledge' cluster) was also the cluster with the highest confidence and lowest worry scores, which is to be expected. The cluster with the lowest knowledge scores was also the cluster with the lowest confidence and highest worries scores, which again is to be expected. The cluster labelled 'medium knowledge', had the highest sample size and was similar across all the KCW scores to the overall sample. In the present study, at baseline, there was no evidence that these different clusters of knowledge, confidence and worries relating to working within an attachment informed were associated with different levels of compassion satisfaction, burnout or secondary traumatic stress.

Limitations

There are limitations to the reliability of the KCW findings, particularly as the PCA showed poor loadings of some items and explained less than half of the variance. In an ideal world, it would have been good practice to make modifications to the KCW questionnaire from the PCA, collect data with further participants, and retest the

modified version with factor analysis. Secondly, there were also large amounts of missing data at different time points, as shown by the number of participants included in the various analyses, which reduced the sample size. Thirdly research of this nature is very bespoke to the service, and it is hard to generalise to other services, geographical areas and training programmes. Fourthly, the service did not collect demographic data beyond gender, thus, factors such as ethnicity or age may explain some of the findings; however, are missing from the analysis. Lastly, although the service had planned to collect the data such that the same facilitators would teach the same group for both training days and the 6 SDS', this was not possible due to staff sickness and turnover. As a result, the data in this design are highly nested, which makes it very difficult to ascertain whether the outcomes were biased by correlations within facilitators /groups /agencies /locations being significantly higher than between facilitators/ groups / agencies / locations, and makes it very difficult to conduct multilevel modelling analysis. There are clear implications for the service in terms of ensuring for future staff training that the same facilitator sees one group for all the time periods that are to be included in the analysis in order to allow for more complex analysis to be undertaken.

Recommendations for service delivery and clinical practice

Service applications and recommendations include; given that the current study's data on compassion satisfaction, burnout and secondary traumatic stress showed that participants on the whole may not have had any problems in these areas, it may be beneficial for the service to better target individuals with scores on these measures that do evidence problems in these areas, particularly as the service has recruitment

opportunities planned for teams in mainstream schools. It has been argued that scores may not have been reliable if participants felt motivated to downplay problems in these areas and, as such, it may be beneficial for the service to investigate whether participants experienced difficulties talking about these problems, and if so to make changes to the methodology, for example, more stringent anonymising or adding training on burnout and wellness to normalise these experiences. Thirdly, to address the reductions in knowledge and confidence during the SDS, the service could pilot introducing more or 'refresher' theoretical training into the SDS. Regarding the KCW questionnaire, further research into adapting the KCW questionnaire would be useful and whether these changes find a different PCA component solution to explain 60% or more of the variance. Lastly, while we can conclude that KCW may increase as a result of training, the generalisability of this finding is only to staff KCW, and does not in itself speak to how these changes in KCW will be sustained beyond the period this study collected data for, or, crucially, its impact on other vital outcomes such as service-user improvement. The service needs to keep collecting data, and future research should look to see how changes in staff KCW translate into changes in CYP, parents and carers wellbeing and attachment relationships.

Wider implications for theory and practice

Future studies of this nature should focus on a simpler, less nested research designs in the planning stages in order to allow for more complex analyses accounting for factors that might affect the outcomes of interest. The attachment field is lacking high quality, reliable and valid measures for attachment-informed working; therefore, the

analysis of the KCW questionnaire and suggested further analysis also has wider implications for attachment research.

Conflict of Interest Declaration

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List of Tables Paper 2

List of Figures Paper 2

Paper 3 is not intended for publication. It has been prepared in accordance with the APA manual author guidelines, 6th edition.

Paper 3: Critical Appraisal

A reflective paper on the process of completing the systematic review and the empirical paper.

Word count (excluding figures/tables): 4,271

This paper is a critical review reflecting on the research process of the submitted theses. The strengths and weaknesses of paper 1 and 2 are discussed, alongside theoretical implications, service implications, suggestions for further research and proposals for dissemination. Personal and professional development is also included. This paper is not intended for publication.

Systematic review

My interest in attachment theory, research and its applications has developed over the three years of completing the doctorate in clinical psychology. Through my various placements and teaching from local clinicians, my interest in how we can all become more psychologically minded in our everyday lives grew. I started to apply some of this thinking to clients, and broader, to services, for example whether some of the difficulties with accessing services could be addressed at a community, personal level, by a better understanding of our attachment styles within our relationships.

Developing a research question

Throughout the systematic review process, I followed the guidance by Boland, Cherry and Dickson (2017). Appendix 20 maps out the process of discovering my research question. I had a general topic of interest to me, which was attachment style and compassion behaviour, a google scholar search found 3-4 varied papers that looked relevant and interesting. My first step was to check Prospero (National Institute for Health Research, 2019) for other systematic reviews related to the topic. To narrow down my options for a systematic review, I firstly read the 3-4 papers to gain ideas for initial search terms. Secondly, I met with a University librarian with knowledge of

psychological research, for further advice on search terms and carrying out early scoping searches. Thirdly I read some book chapters (Gilbert, 2017, Simpson & Rholes, 1998, 2015, Griffin & Bartholomew, 1994, Cassidy, 1999) to consolidate the conceptual links between attachment and compassion. I discovered issues relating to the measuring and conceptualising of compassion in the literature; current experimental procedures in the research seem to entangle different facets into a compassion definition; therefore, there were many different definitions of compassion and thus various measures. There were also separate bodies of literature on 'self-compassion', 'compassion' or 'compassion behaviour'.

I experimented with searching for many terms used in definitions of compassion as well as 'compassion', such as altruism, prosocial, responsiveness, caregiving, sensitivity, sympathy, and empathy. One of the most conceptually coherent facets of compassion in the literature at this point were behavioural measures of compassion towards other people (e.g. volunteering, caregiving). Over several scoping searches with over 4300 hits, I discovered different topic areas that involved attachment and caregiving/compassion. From this, I could see there was an area of attachment style and caregiving behaviour in various groups (e.g. adult couple relationships, between adult children and their elderly parents, healthcare professionals and clients). I took out the term compassion and saw that the number of hits was not affected by this, which made me question whether all the related terms to compassion were important. I reran the searches with the term 'caregiving' rather than compassion. Five potentially relevant articles were lost with the removal of the compassion words, so I added 3 extra keywords; empathy, social support and sensitivity. With further scoping searches, I was able to refine the search terms and inclusion and exclusion criteria, to

ensure all relevant papers were being picked up across the different databases. I decided not to include 'videotape' as a search term, to keep the breadth of the search wide. I made the decision not to include dissertations at this stage due to the Vickers and Smith (2000) research and to ensure data quality. The PICOSS (population, intervention, comparator, outcome, study design, setting) table (appendix 21) outlined my final plan. Once I had established my research question, I registered it with Prospero (PROSPERO, 2019, CRD42019127223).

Quality Assessment

I chose the Appraisal Tool for Cross Sectional Studies (AXIS, Downes, Brennan, Williams & Dean, 2016) as it provided options of 'yes/no/don't know' as responses, rather than a numerical score. This better conveys the weighted qualitative importance of 'critical' elements of the quality assessment (Downes et al, 2016). It also includes items about quality of reporting as well as the robustness of the method. The limitation of this tool is that it lacks a way to categorise studies in terms of overall quality score. Some of the items were also insensitive to the complexity of some of the studies, this is discussed further in the following paragraphs. On reflection, I could have developed a bespoke tool to rate quality to increase the sensitivity of the measure to this kind of research, however, the use of a non-validated tool would have been a disadvantage as various validities and reliabilities would be unknown.

I discovered that the process of a second-rater was necessary, I had felt that the AXIS checklist was relatively straight-forward, and that subjective bias would be minimal. However, this was not the case, we did have different ratings for some of the items,

and it was often due to exactly how the items were read and understood. We were able to talk about which data pertains to which question (from the AXIS guide), which gave me a clear plan of what information I was using to answer each item, for instance, item 6 was about the sampling method, item 5 was whether the sample was representative but item 4 was a general question of the population. Overall there was a substantial level of agreement with a kappa score of 0.71. When there was disagreement, we discussed our differences until we made a consensus. I realised that 3 papers per work sitting were my limit before my ratings became more subjective; our scores were most divergent for my 4th rated study. By discussing our differences, on reflection, I had missed details or been too lenient with my ratings. As a result, the process of a second-rater highlighted subjectivities to look out for and refined my quality assessment methods.

Having a second rater also allowed discussion of the various issues with non-sensitive questions. For example, item 9 *"were the risk factor and outcome variables measured correctly using instruments/ measurements that had been trialled, piloted or published previously?"* was not particularly sensitive to the vast array of measures used in these studies, many of the studies used validated attachment measures, but also used non-validated Likert scales for other variables. The question also did not adequately capture the quality of the paper which used two methods of measuring of attachment, e.g. self-reported AAQ and face to face interview (adult attachment interview, AAI, George, Kaplan, & Main, 1996), which is a limitation of the quality assessment. I decided to answer "Yes" (item met) if a study used a validated measure, regardless of whether they also used non-validated measures, with the caveat that conclusions regarding caregiving were often drawn from non-validated Likert scale items.

To categorise the studies overall qualities for comparison, I decided to take a similar approach by Shea et al (2017) with the AMSTAR-2 quality assessment tool. I considered the impact of each item and designed a categorising method. I chose the items for the critical domains and overall rating cut-offs from guidance from the AMSTAR-2, in collaboration with my research supervisor. I assigned most of the studies as 'low quality' (defined as having either two critical flaws or 1 critical flaw and 4+ non-critical flaws). The most common critical flaws were the use of an unjustified unrepresentative sample (undergraduates, short relationships) and measurement issues with attachment (most used self-report questionnaires) and caregiving (different coding manuals, Likert scales). Despite having many of the same weaknesses as the other studies, I assigned one paper as 'moderate' quality, and this was due to an included justification of sample bias in the discussion. Generally, low quality made drawing any firm conclusions difficult. I, thus, drew the main conclusions and theoretical implications from the highest quality paper, Collins and Feeney (2000).

Other methodological issues

As mentioned in paper 1, an inherent issue in the field of attachment is the use of self-reported attachment style questionnaires, when attachment styles can fluctuate over time (Davila et al, 1999, as cited by Cobb et al, 2001). This may explain some of the discrepancies in the findings, particularly in relation to anxiously attached caregivers. Only 1 of the papers (Simpson, Rholes, Orina & Grich, 2002) used the AAI (George, Kaplan, & Main, 1996) which has the highest psychometric properties and reliability and validity (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010), and this was likely due to the time and cost involved with using the AAI.

It is also likely there is a language bias present in the systematic review as, during one of the filtering stages, 3 studies were screened out due to only being available in full text in Spanish. In addition to this, studies that report significant findings are most likely to be published in English-language journals whereas studies with null or negative findings are more likely to be published in non-English language journals (Boland et al, 2017). In a similar vein, publication bias is also likely as studies that report significant findings are more likely to be submitted and selected for publication in a peer-reviewed journal than studies that report null findings (Cochrane Methods Bias, nd).

A further limitation was that I was unable to complete a meta-analysis and provide a heterogeneity statistic due to differences in methods and measures used in the included studies.

Theoretical Implications

As Collins and Feeney (2000) comment, there is little understanding regarding the mechanisms that can explain ineffective caregiving. One theory is that adults with anxious attachment styles may be over-reliant on other people and may struggle to minimise their own attachment needs to provide responsive and supportive care (Collins & Feeney, 2000). It is unknown as to whether this may be due to a lack of skills, or a lack of motivation or resources to provide care. Collins and Feeney (2000) argue that as anxious caregivers gave responsive care when partners needs were clear that this suggests they do have the skills but lack the attentional resources; however other research suggests a lower caregiving skill set such as a limited ability

to decode nonverbal messages (Feeney, Noller, & CaUan, 1994, as cited by Collins and Feeney, 2000). Even within the short time during the study interaction, when care-seekers perceived their partners behaviour as caring and supportive, their emotional wellbeing improved. A small provision of care from their partner's helped to decrease their distress, and it is this premise that may help us to understand the continuing benefits of a supportive relationship (Collins & Feeney, 2000). Unsupportive care may lead to feelings of rejection and have the opposite effect by heightening distress. Even small acts of care are likely to support a partner with their daily struggles, and thus lead to improved psychological and physical health and wellbeing (DeLongis, Folkman, & Lazarus, 1988, as cited by Collins & Feeney, 2000). As discussed in paper 1, caregiving is part of a complex dyadic process coupled with care-seeking), and both play a role in the development and maintenance of a happy, healthy relationship.

In considering the theoretical implications from the systematic review, I have consolidated my understanding that part of the role of a psychologist is to be critical regarding understanding research. For example, the use of simple conceptualisations of attachment styles in these papers (i.e. only analysing avoidant and anxious styles) are critiqued in paper 1, and perhaps explain some of the inconsistencies. When reflecting on these implications, I have understood not to overstate or overemphasise findings from papers, and that considering the quality of the research, and the underlying constructs are essential, valuable parts of conducting research.

Implications for clinical practice

During my search for a research question, I learnt about the difficulties associated with conceptualising even well-known ideas such as compassion, and attachment. The most well-used terms can be used so differently by different researchers and clinicians, which has an impact on the quality, comparability and generalisability of the research. It has been helpful for me to reflect on the development of my own research skills and knowledge throughout this process.

Paper 1 highlights potential clinical applications for this type of research, for example experimentally priming people with names of attachment figures to encourage greater responsiveness and improve caregiving in people with insecure attachment styles (Mikulincer & Shaver, 2013, 2014) or by considering a partner's attachment style in the assessment of a young adult, if they are in relationship. However, as mentioned in Paper 1, any theoretical or clinical implications drawn from the review were only tentative due to the poor-quality assessment ratings. I learnt that in this scenario, it is most appropriate to draw implications from the highest rated quality paper. I have also discovered that when drawing implications for clinical practice from research, to again, only draw recommendations for the participants used, such as (in the case for paper 1), participants aged in their 20's involved in the first 2 years of a relationship. I can generalise this learning to how I will approach research, for example, finding a large amount of bias and low-quality research will influence how I will read and understand research papers in the future.

Empirical paper

The general research area was presented during a research fayre at the University. As described in paper 2, a gaps analysis (Waters & Todd-Jones, 2016), and complex case review (Kirkaldie & McDonnell, 2016) found that primary and secondary care services were not meeting the needs of children and young people with attachment and developmental/complex trauma. A CAMHS service in Wales developed a training package for attachment-informed working and are providing it to frontline staff in health, social services and education to bridge the gap between these unmet needs in children's services. The CAMHS service was interested in the impact of this.

Developing a research question

There is a substantial evidence base looking at the differences in attachment styles and compassion for others, in many types of relationships, e.g. parent-child, adult romantic couples, strangers, healthcare professionals-clients. The service was not collecting data on the frontline staff's attachment styles but was providing information about attachment and teaching staff how to work in an attachment informed way with children with attachment and developmental/complex trauma.

My idea for the link of knowledge of attachment to compassion started from a personal anecdotal realisation. During the second year of the doctoral programme, we attended several teaching days on attachment. I remember a day about adult attachment and health services, particularly people labelled as "frequent flyers". I know, for myself, that thinking in an attachment-informed way made me consider people differently, within a context that took trauma and relationship histories into account, when considering their

current behaviour and relationships with services. This affected the way I saw my work, my job, and how I felt about the job. I reasoned that this could be an interesting direction for this research.

The service was collecting data using the professional quality of life scale (ProQOL, Stamm, 2010), which measures compassion satisfaction (perceived pleasure experienced when working with people who have experienced trauma) and compassion fatigue (burnout, and secondary traumatic stress), therefore I decided to focus on this measure, along with the bespoke knowledge, confidence and worries (KCW) questionnaire designed by the service. A fellow trainee psychologist also completed her research with the service. Our projects overlap with the use and analysis of the KCW measure; however, her focus was looking at the impact on staff wellbeing and perceptions of support.

Method

The method used in this project had been pre-determined by the service and was already underway when we got involved. In the design of the attachment training, the service completed literature reviews and coproduced the training with service users and carers, which was a strength of the service. The service commissioned "Voices from Care" to complete focus groups with young care-leavers and interviewed adoptive parents and foster carers about their experiences of education, health and social services to find out how the public was currently experiencing those agencies. The service also consulted with the local family and therapies partnership board with representatives from the leadership of health, social services and education. On a

personal level, it was useful and encouraging to see the added value of a service coproducing training, and I aim to use co-production in my research in the future.

Limitations

Using a bespoke questionnaire is a limitation for the service and the thesis, particularly as it was designed by a member of staff who had left; therefore, it was difficult to obtain information about the process involved in developing the questionnaire. The limited validity and reliability of this questionnaire is a significant limitation. A different, more appropriate methodology may have been to use a Delphi consensus for the measure.

Data and statistical analysis

Throughout the research process, there were various issues with the data. Firstly historically, the data entry for the attachment training had depended on an assistant psychologist working within the understaffed service. As a result, there were a few inconsistencies with the data set, for example, the KCW questionnaire was scaled differently for different staff groups. This meant that a process of data re-coding and data cleaning was required before any analysis could take place. However, this process should be carried out for all data analysis regardless, and it is a good skill to have learnt, and I will remember to use this in my future research. There was also a large proportion of missing data, particularly for the PROQOL. More people completed the KCW measure, and this is likely reflective of the times the measures were taken. The KCW measure was taken before and after the 2-day training and at the 5th skills development session (SDS), whereas the PROQOL was collected before the 2-day training and at the 5th SDS. This suggests that a large proportion of people either

cannot attend the 5th SDS or do not attend all the SDS to the finish. Multiple imputation was attempted to replace missing data; however, this was not appropriate for all the types of analyses I wanted to do (for example, factor analysis). As mentioned in paper 2, for participants with over 80% of the data for each questionnaire, missing values were replaced by the nearby mean. Participants with over 20% of the data for a single questionnaire were not included in that questionnaire's analysis.

I met with two members of the school of psychology team and a University statistician for advice and guidance regarding statistical analysis. The process has taught me that there are differing opinions within statistical methods, and there can be a degree of subjectivity within statistical methods, based on the advice chosen. In hindsight, it would have been easier to have started my statistical analysis sooner, in anticipation of different opinions and guidance. For example, when reading the guidance for principal component analysis, I learnt that there was not one objective way of deciding how many components to retain for rotation and interpretation; the decision has a degree of subjectivity, as well as some statistical consideration (Laerd, 2015). The process of deciding involved 4 criteria, firstly, an eigenvalue less than one should not be retained, as the component explains less variance than a variable would, however, this criterion becomes subjective when the eigenvalue of a component is close to 1 (Laerd, 2015). I originally ran a 5-component solution, and 3 of the factors had eigenvalues very close to 1, highlighting the subjectivity here. The second criterion is regarding the proportion of total variance accounted for, some statisticians suggest retaining as many components that explain at least 60% of the variance, however, others argue that this percentage is arbitrary, thus weakens the criterion (Laerd, 2015). Thirdly, the scree plot test suggested that the number of components to retain are

those before the inflection point of the graph, which represents the point where the graph starts to steady, and further components add very little to the variance (Laerd, 2015). Again, there were different understandings of this criterion in my readings; however, it seemed that by the 3rd component, the graph had levelled out, thus 2 components were before the inflection point. The last criterion, the interpretability criterion, showed that a two-component solution achieved a simple structure, where each variable loads strongly onto one component, and each component loads strongly onto three or more variables (Laerd, 2015). A five-factor or a three-factor solution did not have a simple structure, whereas a two-component solution did. The interpretability criterion is argued as the most important criterion, and it was this one that I ultimately based my decision on for a two-factor solution. PCA is often criticised for its subjectivity, as researchers can achieve very different results from the same data set, based on the decisions made (Laerd, 2015). I have learnt that often there was not a perfect way of answering a question and that it was acceptable to choose a direction of analyses, even with conflicting advice, as long as there were appropriate justifications.

Theoretical Implications

Any theoretical implications for this study are bespoke to the service. Compassion satisfaction and compassion fatigue did not change during training (an insignificant finding for hypothesis 1), which could not be explained by an underpowered sample. The data on baseline scores in the sample suggests that people were already experiencing average-high compassion satisfaction and low-average compassion fatigue at work, therefore it was unlikely that the training would have a significant effect

on this. Another explanation was that it might be possible that the staff members experiencing high levels of compassion fatigue were not actually in work, and potentially off sick, this could have skewed the results. The fact that knowledge and confidence scores significantly increased and worries significantly decreased could be taken as evidence for the efficacy of the training, although within acknowledgements of the limitations of the factor analysis of the KCW. The SDS sustained the same decrease in worries, suggesting that continuing consultation from the service was helpful for staff's professional worries at work.

The non-significant findings in paper 2 were interesting to uncover and explain. An important part of research is to investigate possible reasons for insignificant findings, and I am hopeful that the service will consider these as their data collection continues. I have learnt, again, the importance of not overstating results, but drawing appropriate conclusions, relevant to the sample studied.

Further research

As recommended in paper 2, the service should keep collecting follow-up data, and future research should look to see how changes in KCW translate into changes in service-user outcomes and outcomes for parents and carers, including attachment relationships, and whether these changes in KCW are sustained beyond the period that I collected data for paper 2.

Service development

The study showed that the KCW measure requires further thought in terms of the items it includes and the domains it covers. The service might also want to consider whether there are staff members off sick, and whether compassion fatigue could be the reason, or contributing to the reason for not being at work, and if so, reaching them to provide training and consultation support.

Thesis process as a whole

In terms of the entire line of enquiry, the main limitations were that the research quality was poor (paper 1), and the findings for paper 2 are bespoke to one service, and significant findings are based on a measure that requires further development. That being said, this is a fruitful area for future research; there is tentative research to suggest that effective caregiving is partly based on attachment style for young adults. It is also important to highlight methodological quality for researchers in the field to be aware of the common issues when designing studies. There may also be a future for attachment-informed training to upskill frontline staff working with children with attachment and developmental/complex trauma.

Proposals for dissemination

Paper 1 was prepared in line with guidelines for the Journal of Personality and Social Psychology for submission. Paper 2 was prepared in line with guidelines for the Attachment and Human Development journal for submission. Dissemination of findings will be shared with the service, along with setting up a working group to

implement the recommended changes. My fellow trainee psychologist (with the linked thesis) and I are planning a podcast aimed at the general public to discuss attachment, attachment informed training, and the tentative findings, limitations and service implications of our projects.

Personal and professional development

I have always been interested in research and was heavily involved in different research projects as a psychology placement student, assistant psychologist and trainee clinical psychologist. I have found the thesis process challenging, but also worthwhile. I worked more autonomously than anticipated, and this was partly due to understaffing within the service. In my future endeavours as a clinical psychologist leading a research project within a service, I look forward to designing and developing a project from the beginning. In terms of what I would do the same; I would continue to read research with consideration of quality and therefore the generalisability of the findings, I will continue to assess bias, particularly in samples, and tentatively draw conclusions for that group. An example of what I would do differently, if I am using a bespoke questionnaire in the future, I would initiate a transparent scoring system, with a clear bespoke manual for staff to refer to, and I would start gathering opinions and rationales for types of statistical analysis earlier on in the research process. The process has improved my confidence in doing research, and I look forward to future projects in the future as a qualified clinical psychologist.

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Appendices

Appendix 1

Journal of Personality and Social Psychology Author Guidelines

General Submission Guidelines
The editorial team of *Journal of Personality and Social Psychology* is committed to both transparency and rigor in conducting and reporting research. We believe that science advances through a cyclical and recursive process that includes both (i) a theory-building, exploratory/descriptive phase and (ii) a theory-testing, confirmatory phase. We therefore support and encourage research that is informed by both phases. Guided by this overarching philosophy, we set out some concrete submission standards.

Open Science
Once a paper is published, APA requires authors to share their data with qualified researchers for the purpose of verifying published findings through reanalysis using identical or alternate statistical methods. To facilitate transparent and open research practices, *Journal of Personality and Social Psychology* further encourages researchers to make data, analytic methods, and research materials reported in the published article available to all researchers for the purpose of reproducing the findings and replicating the results by specifying where or how other researchers can access this material.

Availability of Data. Upon submission, authors must indicate whether the data from each study included in the manuscript will be made available or provide a reason for not sharing the data.

Availability of Analytic Methods and Code. Upon submission, authors must indicate whether the analytic methods and code for each study included in the manuscript will be made available or provide a reason for not sharing this information.
Availability of Research Material. Upon submission, authors must indicate whether the research materials for each study included in the manuscript will be made available or provide a reason for not sharing the material.

Upon acceptance of the manuscript for publication, authors must provide links to trusted open-access repositories containing all data and materials they have agreed to provide.

Disclosure of Prior Uses of Data. Upon submission of a manuscript, the author must disclose any prior uses in published, accepted, or under review papers of data reported in the manuscript. The cover letter should include a complete reference list of these articles, and a description of the extent and nature of any overlap between the present submission and the previous work.

Citation Standards

Upon submission, all data sets, materials and program code created by others must be appropriately cited in the text and listed in the reference section. Such materials should be recognized as original intellectual contributions and afforded recognition through citation.

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Appendix 2

Appraisal Tool for Cross Sectional Studies (AXIS)

	Question	Yes	No	Don't know/ Comment
Introduction				
1	Were the aims/objectives of the study clear?			
Methods				
2	Was the study design appropriate for the stated aim(s)?			
3	Was the sample size justified?			
4	Was the target/reference population clearly defined? (Is it clear who the research was about?)			
5	Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?			
6	Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?			
7	Were measures undertaken to address and categorise non-responders?			
8	Were the risk factor and outcome variables measured appropriate to the aims of the study?			
9	Were the risk factor and outcome variables measured correctly using instruments/ measurements that had been trialled, piloted or published previously?			
10	Is it clear what was used to determined statistical significance and/ or precision estimates? (e.g. p-values, confidence intervals)			
11	Were the methods (including statistical methods) sufficiently described to enable them to be repeated?			
Results				
12	Were the basic data adequately described?			
13	Does the response rate raise concerns about non-response bias?			
14	If appropriate, was information about non-responders described?			
15	Were the results internally consistent?			
16	Were the results presented for all the analyses described in the methods?			
Discussion				
17	Were the authors' discussions and conclusions justified by the results?			
18	Were the limitations of the study discussed?			
Other				
19	Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?			
20	Was ethical approval or consent of participants attained?			

Appendix 3

Justifications for critical domains in AXIS

Domain	Justification
Was the study design appropriate for the stated aims? (Item 2)	Standard critical part of testing hypotheses accurately
Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation? (item 5)	Critical for this set of studies because most of the participants are recruited from an undergraduate pool of participants, and are new couple relationships, doesn't capture longer term relationships and how caregiving potentially changes (not all papers reflect on this in the discussions). I think this one also accounts for item 4.
Were the risk factor and outcome variables measured appropriate to the aims of the study? (item 8)	Standard critical part of testing hypotheses accurately.
Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialled, piloted or published previously? (item 9)	Critical for this set of studies as there are inherent problems with assessing attachment style – e.g. self-reported attachment style changes over time. Also lots of likert scales are used, which weakens the quality.
Is it clear what was used to determined statistical significance and/or precision estimates? (e.g. p-values, confidence intervals) (item 10)	See the significance levels in terms of the numbers, rather than relying on an authors written word of significance.
Were the results internally consistent? (item 15)	Standard critical part of testing hypotheses accurately – I've also noticed in one paper that the numbers don't add up (and non-responders are not justified).
Were the authors' discussions and conclusions justified by the results? (item 17)	Standard critical part of testing hypotheses accurately.

Appendix 4

Table 3: Study characteristics of included studies

	Study	Study design	Location	Sponsor	Follow up
1	Cobb, Davila, & Bradbury (2001)	Observational/ Cross sectional	Los Angeles (marriage licenses filed in LA county).	National Institute of Mental Health Grant Social sciences and humanities research council of Canada Doctoral Fellowship award.	1 year
2	Collins & Feeney (2000)	Observational/ Cross sectional	State University of New York at Buffalo	National Science Foundation Grant.	None
3	Feeney & Collins (2001)	Randomised-experimental/observational designs	State University of New York at Buffalo and the University of California, Santa Barbara.	Not reported	None
4	Jayamaha, Girme, & Overall (2016)	Observational/ Cross sectional	Study one = University of Auckland – paid participation Study two = city-based university and associated organisations such as recreation and health centres	School of Psychology University of Auckland	Study 1 - 1 year follow up Study 2 - 1 month follow up.
5	Mikulincer, Shaver, Bar-On, Sahdra (2014)	Randomised-experimental/observational designs	University in Israel.	Grant from the Fetzer Institute.	None

6	Mikulincer, Shaver, Sahdra, Bar-On (2013)	Observational/ Cross sectional	Interdisciplinary Centre in Herzliya and the University of California.	Grant from the Fetzer Institute.	None
7	Monin, Feeney, & Schulz (2012)	Observational/ Cross sectional	Carnegie Mellon University	Yale School of Public Health Carnegie Mellon University University of Pittsburgh	None
8	Rholes, Simpson, & Orina (1999)	Observational/ Cross sectional	Texas A&M University	National Institute of Mental Health Grant.	None
9	Simpson, Rholes, Oriña, & Grich (2002)	Observational/ Cross sectional	Texas A&M University	National Institute of Mental Health Grant.	None
10	Simpson, Rholes, & Nelligan (1992)	Observational/ Cross sectional	Texas A&M University	Department of Psychology, Texas A&M University.	None

Appendix 5

Table 4: Participant characteristics from included studies

	Study	No. of couples *Analysis N=*	Age	Length/stage of relationship	Ethnicity	Socio-economic status	Sexuality
1	Cobb, Davila, & Bradbury (2001)	172 *161*	Wives mean age = 26 year (SD=3.4) Husbands mean age = 27.6 years (SD= 3.9)	All newlyweds (1st marriage) > 6 months.	Wives = 61% Caucasian, 15% Asian American/ Pacific Islander, 5% African American, 16% Latina/ Chicana, 2% Middle Eastern, and 1% identified themselves as "other". Husbands = 67% Caucasian, 13% Asian American/ Pacific Islander, 4% African American, 15% Latino/ Chicano, 1 % Middle Eastern.	Wives = 16.2 years of education (SD = 2) Median annual income ranged from $11,000-$20,000. Husbands = 15.6 years of education (SD = 2.2) Median annual income range from $21,000 to $30,000.	Not reported

2	Collins & Feeney (2000)	93 *93*	"Caregivers" mean age = 19.8 (range 17-33) "Care receivers" mean age = 19 years (17-26).	Mean relationship length = 12.6 months (1-60 months)	Not reported.	Not reported.	One lesbian couple, the remaining were heterosexual.
3	Feeney & Collins (2001)	202 *192*	"Support recipients" mean age = 19.1 years (range = 17-33). Caregivers mean age = 19.5 years (17-28 years).	Mean relationship length = 14. 4 months (1-95 months). Dating 93%, married or engaged 7%.	Not reported.	Not reported	Not reported.
4	Jayamaha, Girme, & Overall (2016)	Study one =61 couples Follow up =47 couples Study two = 100 Follow up = N	Study 1 mean age = 23 years. Study 2 mean age = 22.64 years.	Study 1 = 15% married, 49% cohabiting, 30% serious, 6% steady/dating. Mean relationship length = 2.81 years. Study 2 = 13% married, 36% cohabiting, 47% serious, 4% steady/dating Mean relationship length = 3.28 years.	Not reported.	Not reported	All heterosexual couples in both studies.

		not reported

Not reported | | | | |
| 5 | Mikulincer, Shaver, Bar-On, Sahdra (2014) | Study 1 = 80

Study 2 = 120

Not reported | Study 1 = Men's mean age = 25.36. Women's mean age = 23.63.

Study 2= Men's mean age = 22.59. Women's mean age = 21.24. | Study 1 = Dating 100% Mean relationship duration = 17.63 months.

Study 2= Dating 100%. Mean relationship duration = 19.33 months.

All couples in both studies dating >6 months. | Study 1 = all Israeli participants

Study 2 = all participants living in California Further breakdown of ethnicity data were not reported. | Not reported. | All heterosexual couples in both studies. |
| 6 | Mikulincer, Shaver, Sahdra, Bar-On (2013) | 78 Israeli

136 American

214 | Men's mean age = 24.54. Women's mean age = 23.76. | Mean relationship duration = 24.05 months.

All couples dating >6 months. | 78 Israeli

136 American

Further breakdown of ethnicity data were not reported. | Not reported. | All heterosexual |
| 7 | Monin, Feeney, & Schulz (2012) | 75

75 | Mean age = 22 (range 18-36, SD = 3.63). | 11 married couples, 64 dating couples. | Caucasian 84%, Asian 46%, African American 6%, | Professional degrees 19%, Graduate | Not reported. |

#	Study	N	Age	Relationship	Ethnicity	Education/Recruitment	Sexuality
				Mean relationship duration = 30 months (range = 6-216, SD=34.49).	Hispanic 1%, Identified as other 13%.	school 24%, Associate degrees 2%, college educated 77% and high school only 2%.	
8	Rholes, Simpson, & Orina (1999)	83 *Not reported*	Men's mean age = 19.5. Women's mean age = 18.9.	Mean relationship duration = 17.9 months. All couples dating >3 months.	Not reported.	All recruited from university undergraduate pool. Further breakdown not reported	All heterosexual.
9	Simpson, Rholes, Oriña, & Grich (2002)	90 *Not reported*	Men's mean age = 20.10. Women's mean age = 19.03.	Dating others as well as partner = 5, Dating exclusively = 77, Engaged = 5, Married = 2. Mean relationship duration = 17.03 months. All couples dating >3 months.	Not reported.	All recruited from university undergraduate pool. Further breakdown not reported.	Not reported.
10	Simpson, Rholes, & Nelligan (1992)	83 *Not reported*	Men's mean age = 19.5. Women's mean age = 18.9.	Dating others as well as partner = 15, Dating exclusively = 63, Engaged = 5.	Not reported.	All recruited from university undergraduate pool.	All heterosexual.

				Mean relationship duration = 17.9 months. All couples dating >3 months.		Further breakdown not reported	

Appendix 6

Table 5: Variables measured and interaction method.

Study	Attachment measure(s)	Caregiving measure(s)	Other variables measured	Videotaped interaction
Cobb et al (2001)	The Relationship Questionnaire (RQ) (Bartholomew & Horowitz, 1991).	Social Support Interaction Coding System (SSICS) (Bradbury & Pasch, 1992)	Marital Adjustment Test (MAT) (Locke & Wallace, 1959).	Two discussions regarding what each person would like to change in self (take turns as helper and helpee)
Collins & Feeney (2000)	Adult Attachment Scale (AAS) (version of) (Collins & Read, 1990). Bartholomew's four attachment prototypes (Bartholomew & Horowitz, 1991).	7-point Likert scales rating partner's behaviour (e.g. supportive, listening, emotional and descriptive disclosure, listening-attentive, understanding, blaming, overall support effort. Coding scheme (Barbee & Cunningham, 1995). Rated support behaviour - critical and blaming, controlling and invalidating, self-focused, expressed warmth and love, empathy and understanding.	Relationship quality (adapted from Collins & Read, 1990). 7-point Likert scales: -perceived 'stressfulness' of the problem. -pre and post-interaction mood.	'Care-seeker' disclosed a stressful problem to 'care-giver'.
Feeney & Collins (2001)	Experiences in close relationships scale (ECR; Brennan, Clarke and Shaver, 1998) Bartholomew's four attachment prototypes (Bartholomew & Horowitz, 1991).	The Empathic Concern and Perspective-Taking Subscales of the Interpersonal Reactivity Inventory (Davis, 1983). Likert scales. -Emotional empathy -Social support knowledge and efficacy beliefs -Altruistic/ Unselfish motivations for caregiving -Egoistic/ Selfish motivations for caregiving Caregiving Questionnaire (Kunce & Shaver, 1994).	Likert scales -chronic self-focus Communal and Exchange Orientation Scales (Clark et al, 1987) Commitment scale (Van Lange et al, 1997)	'Support recipient' told to prepare and give a videotaped speech (intended to stress) IV: high/low need condition – caregivers lead to believe support recipient was extremely nervous or not very nervous.

		Quality of Relationships Inventory (modified to reflect caregiving) (Pierce, Sarason & Sarason, 1991). Bespoke coding scheme - emotional, instrumental, and negative support.	Inclusion of Other in the Self Scale (Aron et al., 1992) Relationship Closeness Inventory's Strength Scale (modified) (Berscheid, Snyder, & Omoto, 1989) Trust Scale (Rempel, Holmes & Zanna, 1985).	'Care giver' wrote a note to partner (supportiveness was coded).
Jayamaha et al (2016)	The Adult Attachment Questionnaire (AAQ; Simpson et al, 1996).	Coding scheme (Barbee & Cunningham, 1995).	Short form Perceived Relationship Quality Component inventory (PRQC) (Fletcher, Simpson & Thomas, 2000) Likert scales -support recipients distress -support providers felt valued and appreciated.	'Support recipient' discussed a personal goal with the 'support provider'
Mikulincer et al (2014)	ECR scale (Brennan et al, 1998)	Study 1 = Caregiver's provision of safe haven support and care seekers behaviours rated by a coding scheme developed by Collins and Feeney (2000) Study 2 = Caregivers' secure base provision and care seeker's behaviours rated by a modified version of the coding scheme developed by Feeney and Thrush (2010).	Relationship Assessment Scale (Hendrick, 1988). WHOTO Questionnaire to elicit names of attachment figures (Fraley & Davis, 1997). Stroop colour naming task (for cognitive depletion).	Study 1 – 'Care seeker' discloses personal problem to the 'caregiver'. IV1: neutral/security priming. IV2: self-worth threat/ control condition. Study 2 – 'Care seeker' disclosed personal goals for the future to the 'caregiver'.

				IV1: neutral/security priming. IV2: mental/no-depletion condition.
Mikulincer et al (2013)	ECR scale (Brennan et al, 1998).	Collins and Feeney's version of Barbee and Cunningham (1995) coding scheme.	WHOTO questionnaire to elicit names of attachment figures (Fraley & Davis, 1997) Relationship Assessment Scale (Hendrick, 1988) Stroop colour naming task (for cognitive depletion).	The 'care-seeker' disclosed a personal problem to the 'care-giver' IV1: cognitive/no depletion condition. IV2: neutral/security priming. Couple reunited and discussion of care seekers issue recorded.
Monin et al (2012)	ECR scale (Brennan et al, 1998).	Likert scales: -caregiver's perceptions of support seekers expressed anxiety. -caregiver's negative interpretations of support seekers anxiety expression Bespoke coding scheme, similar to Simpson, Rholes and Orina (2002).	Likert scales: -baseline felt-anxiety -relationship satisfaction. -support seekers felt and expressed anxiety. -caregivers personal distress, compassion and anger.	'Support seeker' told to prepare and give a videotaped speech rated by judges (intended to stress). 'Caregivers' told s/he will be participating in a fun puzzle activity. Spontaneous interaction observed.
Rholes et al (1999)	AAQ (Simpson et al, 1996).	Likert scales coded women (care seekers) on: - 'Distress-Anxiety' - 'Comfort-Support' seeking behaviours Likert scales coded men (caregivers) on: 'Reassurance-Emotional Support' provision behaviours	Love scale (Rubin, 1970) Relationship Closeness Inventory (Berscheid, Snyder, & Omoto, 1989)	Stress manipulation applied to 'care-seeker' (blood pressure taken, lead to believe she will be involved in something anxiety arousing). Spontaneous interaction of the couple observed.
Simpson et al (2002)	Adult Attachment Interview (AAI; Main & Goldwyn, 1994).	Coded men (care-seekers) on distress and support seeking behaviours.	Big Five personality traits (Goldberg, 1990)	Stress manipulation applied to 'care-seeker' (blood pressure taken, lead to

		Coded women (caregivers) on emotional support/reassurance giving behaviours.	Relationship Satisfaction Scale (Hendrick, 1988).	believe he will be involved in something anxiety arousing). Spontaneous interaction of the couple observed.
	AAQ (Simpson et al, 1996).			
Simpson et al (1992)	Likert-type version of the Hazan and Shavers (1987) measure of three attachment styles.	Likert scales coded women (care-seekers) on: 'Distress-Anxiety' 'Comfort-Support' seeking behaviours Likert scales coded men (caregivers) on: 'Reassurance-Emotional Support' provision behaviours. Physical behaviour.	Love scale (Rubin, 1970) Relationship Closeness Inventory (Berscheid et al, 1989	Stress manipulation applied to 'care-seeker' (blood pressure taken, lead to believe she will be involved in something anxiety arousing). Spontaneous interaction of the couple observed.

Appendix 7

Table 6: Details of coding schemes used in studies to analyse caregiving behaviour.

Study	Coding scheme	Elements	Intraclass correlations/ Interrater reliabilities
Collins and Feeney (2000)	Variation of Barbee and Cunningham (1995)	Rated 4 types of caregiving strategy behaviours; solve, solace, dismiss and escape	ICCs = Ranged from 0.79-0.90
Mikulincer et al (2013)	Variation of Collins and Feeney (2000)	As above plus rated caregivers listening attentively, communicated understanding, and blaming behaviours, and the overall support effort.	ICCs = Ranged from 0.81-0.89
Mikulincer et al (2014)	Study 1 = modified version of Collins and Feeney (2000 Study 2 = modified version of Feeney & Trush (2010).	Study 1 = as above plus rated instrumental support (physical, tangible forms of support), emotional support (understanding, encouraging, reassuring). Study 2 = for caregiver's secure base provision (the rate at which availability, encouragement of partners exploration and lack of interference behaviours occurred).	Study 1 ICCs= Ranged from 0.84-0.89. Study 2 ICCs = Ranged from 0.89-0.94
Jayamaha et al (2016)	Variation of Barbee and Cunningham (1995)	Rated critical and blaming, controlling and invalidating, self-focused, expressed warmth, love, empathy and understanding.	ICCs = Ranged from 0.87-0.97.
Cobb et al (2001)	SSICS	Coded behaviours that were 'positive' (e.g. helpful questions, validation) and 'negative' (being inattentive or disengaged, criticizing).	IRRs = ranged from 0.75 to 0.86.
Simpson et al (1992)	Bespoke coding scheme	Coded caregivers on global adjectives (e.g. warm, self-confident, responsive to partner's needs), conversation ratings (whether the caregiver tried to avoid or downplay the care-seekers comments) and physical behaviour ratings (number of times there were approach behaviours, e.g. touching partner, smiles and resistance/avoidance behaviours e.g. moving away, resisting contact). 5 items were excluded from analyses due to low IRRs.	IRRs = ranged from 0.41-0.83
Rholes et al (1999)	Simpson et al's (1992)	As above, coded during both the 'recovery period' and the stress manipulation. Also coded overt anger.	IRR = 0.77

In Simpson et al (2002).	Modified version of Simpson et al's (1992)	Rated global adjectives (e.g. helpful, responsive, emotionally avoidant)	IRRs = ranging from 0.55-0.73
Feeney and Collins (2001)	Bespoke coding scheme	Rated emotional support, instrumental support and negative support.	ICC's= 0.88, 0.89 and 0.90, respectively

Appendix 8

<ins>Mental Health and Prevention Author Guidelines</ins>

Retrieved from **https://www.elsevier.com/journals/mental-health-and-prevention/2212-6570/guide-for-authors#3700**

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- Protocols for trials
- Research on risk or protection factors that has implications for prevention
- Psychometrics of prevention measures
- Economics of prevention
- Workforce development
- Prevention policy
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Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Referees

Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our Support site. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

Preparation

Peer review

This journal operates a double blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision.

Appendix 9

Service specification

Agencies And Services

Professional Networks and Familes

Front Line Workers And Carers For The Child

Child

Organisations (such as schools, local authority services) are all important parts of a child/family's wider system. The culture and ethos of an organisation, and how it understands its part in a child's life all determine how able it is to provide containment to those who work within it.

It is important multi-disciplinary & multi-agency Services share a common language and understanding of children, young people and their relationships with carers and professionals. Networks that share a common understanding can better support their frontline workers and carers.

Within a culture of understanding, containment and support, frontline workers are more able to support young people and less likely to experience burn-out and 'blocked care'.

Appendix 10

Tool: Professional Quality of Life Scale (ProQOL)

Compassion Satisfaction and Compassion Fatigue (ProQOL) Version 5 (2009)

When you 'help' people you have direct contact with their lives. As you may have found, your compassion for those you 'help' can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a 'helper'. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days. Note: The terms Helper/Help is used as it is a generic questionnaire and can be taken to mean SHS worker/those you work with etc.

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Very Often (5)
1. I am happy.					
2. I am preoccupied with more than one person I [help].					
3. I get satisfaction from being able to [help] people.					
4. I feel connected to others.					
5. I jump or am startled by unexpected sounds.					
6. I feel invigorated after working with those I [help].					
7. I find it difficult to separate my personal life from my life as a [helper].					
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help].					
9. I think that I might have been affected by the traumatic stress of those I [help].					
10. I feel trapped by my job as a [helper].					

11. Because of my [helping], I have felt "on edge" about various things.					
12. I like my work as a [helper].					
13. I feel depressed because of the traumatic experiences of the people I [help].					

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Very Often (5)
14. I feel as though I am experiencing the trauma of someone I have [helped].					
15. I have beliefs that sustain me.					
16. I am pleased with how I am able to keep up with [helping] techniques and protocols.					
17. I am the person I always wanted to be.					
18. My work makes me feel satisfied.					
19. I feel worn out because of my work as a [helper].					
20. I have happy thoughts and feelings about those I [help] and how I could help them.					
21. I feel overwhelmed because my case [work] load seems endless.					
22. I believe I can make a difference through my work.					

23. I avoid certain activities or situations because they remind me of frightening experiences of the people I [help].					
24. I am proud of what I can do to [help].					
25. As a result of my [helping], I have intrusive, frightening thoughts.					
26. I feel "bogged down" by the system.					
27. I have thoughts that I am a "success" as a [helper].					
28. I can't recall important parts of my work with trauma victims.					
29. I am a very caring person.					
30. I am happy that I chose to do this work					

Appendix 11

Knowledge, Confidence, Worries Questionnaire

Thank you for agreeing to participate in this training session exploring links between disrupted attachment, developmental trauma and children's behaviour.

The training has been developed in response to the existing evidence base and feedback but it is designed to be an evolving process. That is, we hope that part of this training will involve an opportunity to work collaboratively with you in order to tailor the training to meet your needs as a staff group and the young people you support. To assess base-line perceptions of this area and support evaluation and development of the training, please could you take the time to read and complete the following questions.

Please answer as honestly as possible to provide thorough evaluation

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I know about links between trauma and challenging behaviours. (K)	○	○	○	○	○
2. I know about the functions of attachment behaviours and healthy development (K)	○	○	○	○	○
3. I have an understanding of the influences on attachment style (K)	○	○	○	○	○
4. I have an understanding about the impact of developmental trauma on a child's neurological development (K)	○	○	○	○	○
5. I have an awareness of the impact of developmental trauma and attachment difficulties on a child's long term outcomes (K)	○	○	○	○	○
6. I would know how to recognise signs of trauma in a child. (K)	○	○	○	○	○
7. If I suspected trauma may be linked to presenting behaviours I would know how to ask about it. (K)	○	○	○	○	○
8. If a child's referral indicated trauma I would feel confident to explore this with them. (C)	○	○	○	○	○

9. I often feel anxious to ask about trauma in case I upset the child. (W)	○	○	○	○	○
10. I am worried about asking about trauma in case I can't deal with it. (W)	○	○	○	○	○
11. The impact on me of hearing about traumatic experiences worries me about working with trauma (vicarious traumatisation) (W)	○	○	○	○	○
12. I worry about opening up a 'can of worms' and not knowing how to contain it. (W)	○	○	○	○	○
13. If a child disclosed a traumatic experience I would feel confident of how to respond and proceed (C)	○	○	○	○	○
14. I have a thorough understanding of the different sorts of approaches that could support a child to heal and thrive following the experience of early trauma (K)	○	○	○	○	○
15. I feel confident that I could implement some of these approaches (C)	○	○	○	○	○
16. I worry that I would not know when was a good time to refer to another service (W)	○	○	○	○	○
17. I'm unsure whether my service would support me to do attachment informed work with children with attachment difficulties (C)	○	○	○	○	○
18. I worry that I would not have enough support or supervision to work with trauma (W)	○	○	○	○	○
19. I recognise the importance of having an awareness of my own attachment style and trigger points when working in the context of attachment and developmental trauma (K)	○	○	○	○	○
20. I recognise the importance of considering how to provide containment and support within my team when working with young	○	○	○	○	○

people with disrupted attachment and developmental trauma (K)					

21. Overall how confident do you feel to consider trauma experiences and attachment difficulties to inform your work? (C)

Extremely	Very	Neutral	Not Very	Not at all
○	○	○	○	○

Appendix 12

<u>Skills development session model flowchart</u>

Skills Development Session Model

PRE-SESSION

- The facilitators and support person brings along: consultation toolkit, pens, flipchart, evaluation measures, sticky notes, projector and laptop and FACE

SET-UP
- **Group agreement** discussed: note that we will be pausing a number of times to comment on process and engagement
- Using the "Your Reflections" document, collect **hopes and expectations** and capture on flipchart
- Initial SDS, consider reviewing the **main training concepts** using laptop (and projector)

DESCRIPTION, CLARIFICATION, EXPLORATION AND REFLECTION
- Person(s) presenting talks about their situation/case
- Facilitar ensures overall structure of discussion and captures: main concerns, strengths and genogram and timeline. Whilst also considering child presentation in different settings.
- Staff members not involved in case takes on a role in the presented case whilst listening (carer, social worker, family member, child, etc).
- The consultants facilitate discussion leading to increased understanding and joint problem solving- exploring relationships in development and in current placement (parent-infant dance)
- Time for brief reflection from each member who took on a role including personal theory generating, then consultees are invited to contribute to the discussion from their own perspective including clarification and personal theory generating.

FORMULATION

- **Personal reflections:** What does this person elicit in you? How do you feel when you leave? What do you end up thinking about? Consider parallel processes, mirror neurons, supervision, containment
- Draw on understanding of attachment and impact of developmental trauma (upstairs/downstairs brain)
- Together develop formulation using IWM or Circles of Understanding and Pyramid of Need

STRATEGY GENERATING (MODELLING OF TECHNIQUES) and PLANNING

- Planning for further support internal and external to the team - either do as a whole group or split into smaller groups to gain further ideas (brainstorm outside the box possibilities e.g. PACE sample scripts, what the two hands might looks like, shield of shame).
- **Drawing on PACE**, ask the group to generate ideas on sticky notes and place them on each of the laminated PACE cards in relation to the case discussed. Reflect on the suggestions with the person bringing the case around their perception/impact of trying these. Is this something that would feel possible/realistic?
- **Using the pyramid of need/Containment/ IWM**, generate ideas from the team about what will child need, what will carer need, what will worker need and what will team need with feedback to senior managers if needed to generate further support or highlight barriers. Emphasis on therapeutic multi-agency network to support planned interventions, care planning.
- **Drawing on PACE/ Connection before correction**, ask the group to generate ideas on sticky notes and place them on each of the laminated PACE cards in relation to the case discussed. Reflect on the suggestions with the person bringing the case around their perception/impact of trying these. Is this something that would feel possible/realistic?
- Aim to focus on the consultees management of the client (no expert position of consultant).

POST-SESSION
- Hopes for consultation revisited
- Evaluation measure completed

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Appendix 13

Consent Form

Aneurin Bevan Health Board complies with the protection and use of Patient Information guidance issued by the DOH by informing you that all patient information must be used for legally

We are measuring the impact of this attachment informed training and skills development sessions programme so as to be able to understand what is most effective and to adapt our programme to fully meet your needs. This information will be extremely valuable in determining how to create positive changes for children and young people across settings.

This data will be immediately anonymised and your name will not be associated with it in any reports we produce. We are asking for your name on this occasion so that we can pair it with an ID number so that all your future data will be identifiable by this number only.

Please note, the data will be collated and overall themes will be discussed with managers to help them understand the needs of their teams and shape services accordingly. At no point will any individual response be identified or fed back to managers in order to protect your confidentiality when completing these forms.

☐	I understand that I am giving consent voluntarily and that I can chose to withdraw my consent at any time, without giving a reason, and without this impacting upon the service I receive
☐	I am aware that if I do not provide consent or withdraw consent, the information I provide will not be analysed or used in any form of feedback
☐	I understand that the information I provide will be completely anonymised and I am happy for it to be statistically analysed and overarching themes to be included in the report that will be given to our team and managers to inform practice
☐	I understand that the information I provide is incredibly useful to inform training and I am happy for the anonymised content to be reviewed by the Gwent attachment team to influence changes to the content of the training materials and/or guide the direction of the skills development sessions.

☐	I am happy for anonymised quotes of my feedback to be shared with other professionals when reports or presentations of progress of the the Welsh CAMHS service must be delivered
☐	I am happy for my anonymised data to be used in research projects and for findings of the impact of training to be disseminated through research outlets such as conferences or academic research articles.

Print Name(s) …………………………………………………………………

Signed by Clinical Psychologist /Researcher
……………………………………………………

Date …………………………………………………………………………

Appendix 14

Research and Development study approval letter

Research and Development Department
Research Risk Review Panel
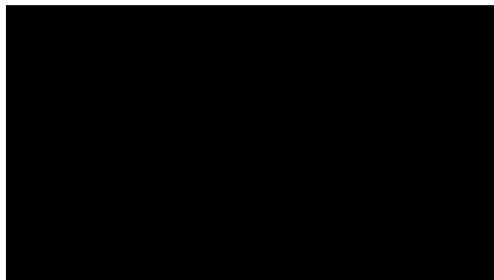
25 January 2018

Dear █████████

Title: Evaluation of Impact of Training and Follow-up Skills Development Sessions provided by ████████████ Service to Professionals working in Health, Education and Social Care.
Chief Investigator: ████████████████
Principal Investigator: ████████████████
████████████ **Reference Number:** SA/845/18

The Health Board's Research and Development Department reviewed your service evaluation on the **24th January 2018**.

The Department decided that your study did not appear to pose any risk to the Health Board and agreed that your service evaluation be given a favourable opinion.

If you require a Research Honorary Contract or Letter of Access please contact the R&D Department at the above email address.

If you require any further assistance please do not hesitate to contact the Research and Development Department.

Yours sincerely,

Acting Deputy Research and Development Director
Acting Research Risk Review Panel Chairman

Advancing Knowledge, Enhancing Care

Appendix 15

Ethics Committee Study Approval Confirmation

Ethics Feedback - EC.18.04.10.5281

psychethics
Mon 16/04/2018, 15:05
Laura Coote; Alice Reid-Williams; Marc Williams ⌄

↰ ↩ Reply all | ⌄

Inbox

Dear Laura & Alice,

The Ethics Committee has considered your PG project proposal: 1. Attachment informed working: does attachment training have an impact on compassion in frontline staff? 2. Attachment and trauma informed training for frontline staff: an evaluation of a new service. (EC.18.04.10.5281).

The project has been approved.

Please note that if any changes are made to the above project then you must notify the Ethics Committee.

Best wishes,
Mark Jones

School of Psychology Research Ethics Committee

Cardiff University	Prifysgol Caerdydd
Tower Building	Adeilad y Tŵr
70 Park Place	70 Plas y Parc
Cardiff	Caerdydd
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Tel: +44(0)29 208 70360	Ffôn: +44(0)29 208 70360
Email: psychethics@cardiff.ac.uk	E-bost: psychethics@caerdydd.ac.uk
http://psych.cf.ac.uk/aboutus/ethics.html	

Appendix 16

Confirmatory factor analysis model: unstandardized estimates (covariances)
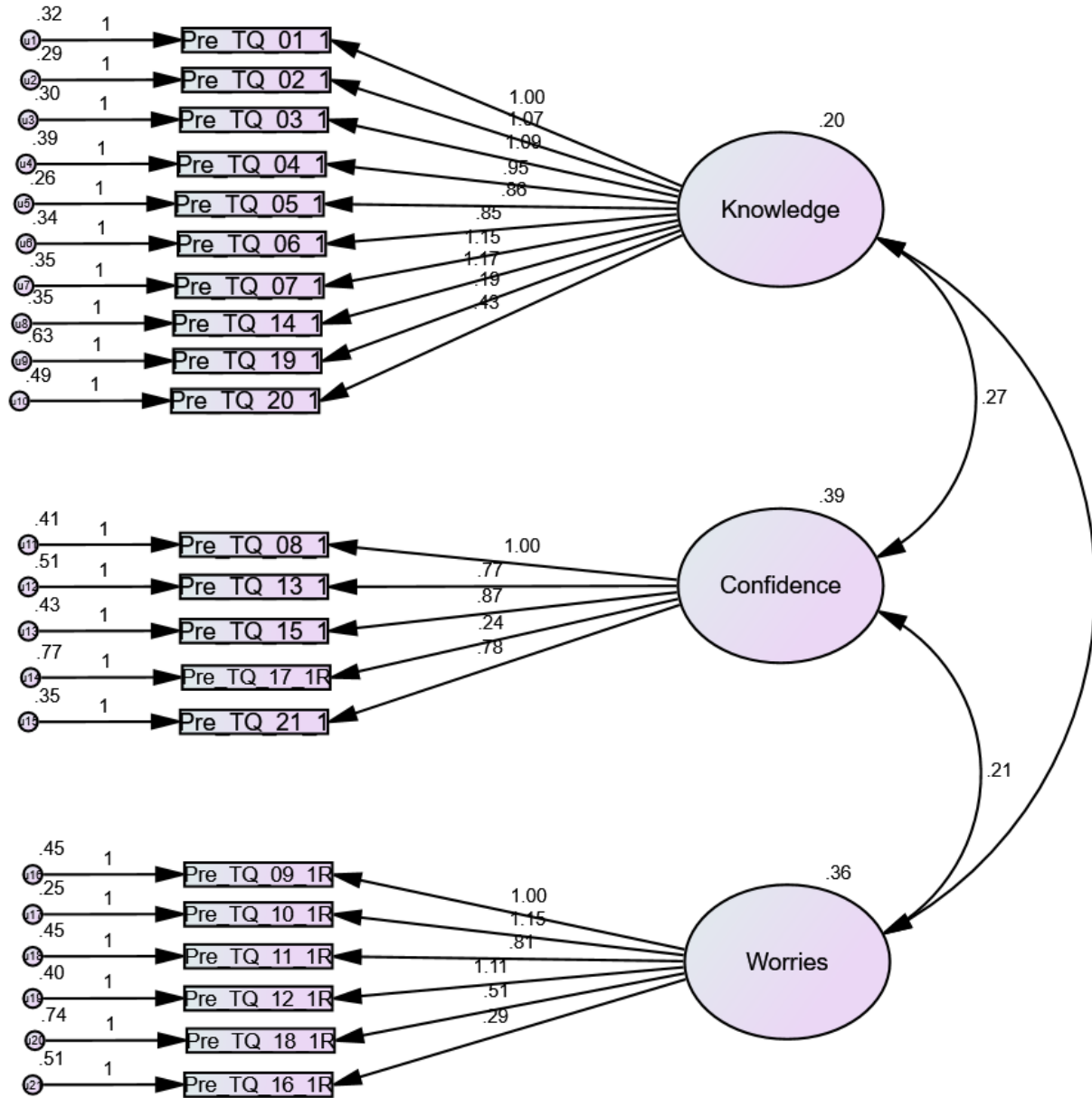
Confirmatory factor analysis model: standardized estimates (correlations)
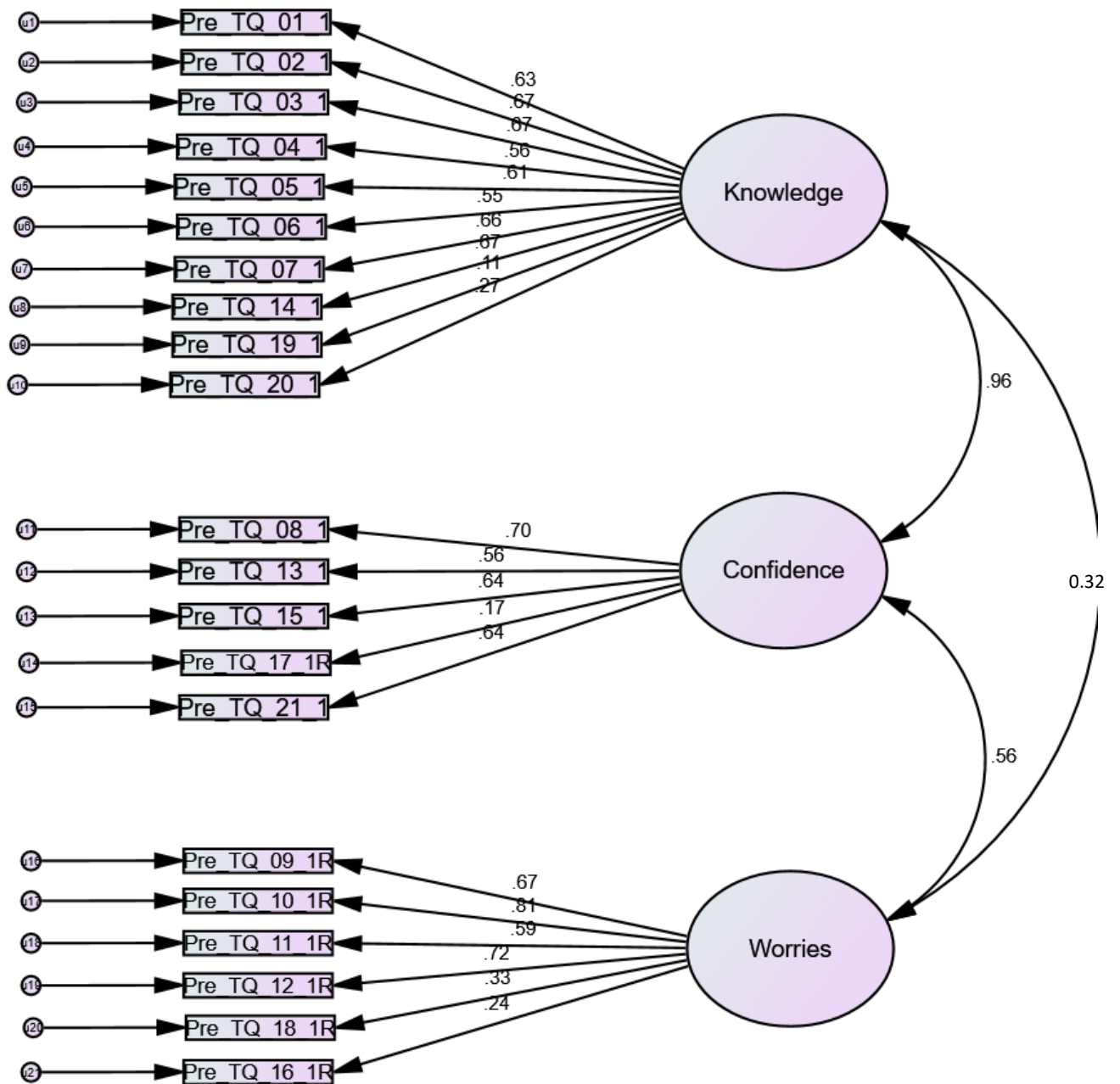
Appendix 18

Face validity questionnaire for KCW

Key

- Definition of knowledge: Facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject.
- Definition of confidence: A feeling of self-assurance arising from an appreciation of one's own abilities or qualities
- Definition of worry: feel or cause to feel anxious or troubled about actual or potential problems.

Questions

Do you think this item best measures 'knowledge', 'confidence' or 'worries' *when working within a trauma-attachment framework? Or do you think it measures something else? If so, what?*

1. I know about links between trauma and challenging behaviours. (please tick)

   'Knowledge'   'Confidence'   'Worries'   Or other, what does it measure?
       ●   ●   ●   _____

2. I know about the functions of attachment behaviours and healthy development.

   'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?
       ●   ●   ●   _____

3. I have an understanding of the influences on attachment style.

'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

●   ●   ●   _____

4. I have an understanding about the impact of developmental trauma on a
   child's neurological development.

   'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

   ●   ●   ●   _____

5. I have an awareness of the impact of developmental trauma and attachment
   difficulties on a child's long term outcomes.

'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

●   ●   ●   _____

6. I would know how to recognise signs of trauma in a child.

   'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

   ●   ●   ●   _____

7. If I suspected trauma may be linked to presenting behaviours I would know
   how to ask about them.

   'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

   ●   ●   ●   _____

8. If a child's referral indicated trauma I would feel confident to explore this with
   the adults in their lives.

   'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

   ●   ●   ●   _____

9. I often feel anxious to ask about trauma in case I upset the child/carer.

   'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

   ●   ●   ●   _____

10. I am worried about asking about trauma in case I can't deal with it.

    'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

      ●   ●   ●   _____

11. The impact on me of hearing about traumatic experiences worries me about working with trauma (vicarious traumatisation)

    'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

      ●   ●   ●   _____

12. I worry about opening up a 'can of worms' and not knowing how to contain it.

    'Knowledge'   'Confidence'   'Worries'

      ●   ●   ●   Or 'other', what does it measure?

                                          _____

13. If a child disclosed a traumatic experience I would feel confident of how to respond and proceed.

    'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

      ●   ●   ●   _____

14. I have a thorough understanding of the different sorts of approaches that could support a child to heal and thrive following the experience of early trauma.

                                    Or 'other', what does it measure?

    'Knowledge'   'Confidence'   'Worries'

      ●   ●   ●   _____

15. I feel confident that I could implement some of these approaches.

    'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?

      ●   ●   ●   _____

16. I worry that I would not know when was a good time to refer to another service

                                    Or 'other', what does it measure?

    'Knowledge'   'Confidence'   'Worries'

      ●   ●   ●   _____

17. I'm unsure whether my service would support me to do attachment informed work with children with attachment difficulties.

'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?
    ●   ●   ●   _____

18. I worry that I would not have enough support or supervision to work with trauma

'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?
    ●   ●   ●   _____

19. I recognise the importance of having an awareness of my own attachment style and trigger points when working in the context of attachment and developmental trauma.

Or 'other', what does it measure?

'Knowledge'   'Confidence'   'Worries'   _____
    ●   ●   ●

20. I recognise the importance of considering how to provide containment and support within my team when working within the context of attachment and developmental trauma.

'Knowledge'   'Confidence'   'Worries'   Or 'other', what does it measure?
    ●   ●   ●   _____

21. Overall how confident do you feel to consider trauma experiences and attachment difficulties to inform your work?

Or 'other', what does it measure?
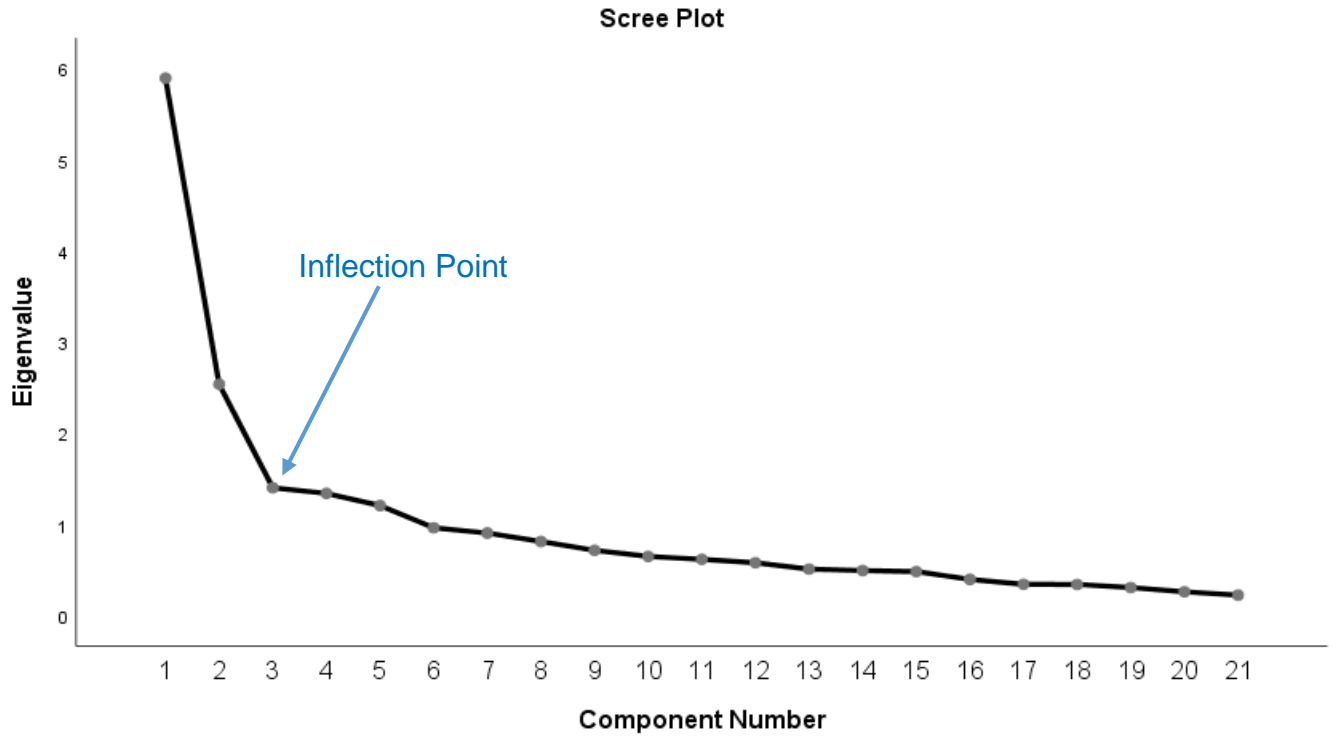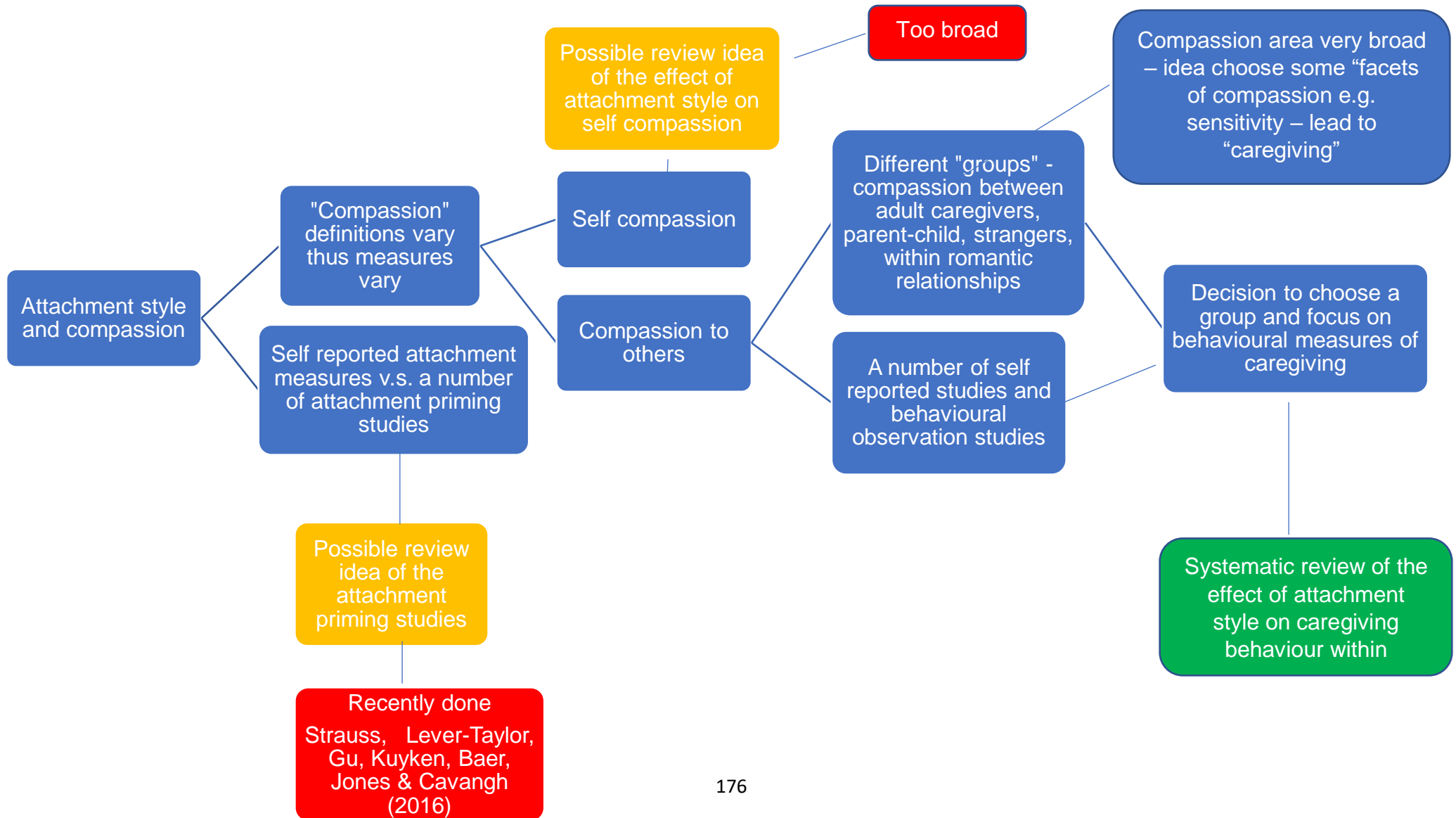
'Knowledge'   'Confidence'   'Worries'   _____
    ●   ●   ●

Appendix 19

Principal component analysis eigenvalue scree plot

Appendix 20

Map of designing systematic review question

- Attachment style and compassion
- "Compassion" definitions vary thus measures vary
- Self reported attachment measures v.s. a number of attachment priming studies
- Possible review idea of the attachment priming studies
- Recently done Strauss, Lever-Taylor, Gu, Kuyken, Baer, Jones & Cavangh (2016)
- Self compassion
- Possible review idea of the effect of attachment style on self compassion
- Too broad
- Compassion to others
- Different "groups" - compassion between adult caregivers, parent-child, strangers, within romantic relationships
- Compassion area very broad – idea choose some "facets of compassion e.g. sensitivity – lead to "caregiving"
- A number of self reported studies and behavioural observation studies
- Decision to choose a group and focus on behavioural measures of caregiving
- Systematic review of the effect of attachment style on caregiving behaviour within

Appendix 21

PICOSS table for systematic review

Review Question	What are the effects of attachment style on caregiving in romantic relationships?
Population	Adults in romantic relationships, couples
Intervention	Measure of attachment style, caregiving measured either by observational videotaped interaction.
Comparator	Between the different attachment styles
Outcomes	Behavioural caregiving measure (videotaped interaction), compared by attachment style.
Study design	Observational
Setting	All applicable