THE UNIVERSITY OF HULL

Exploring the Psychological Processes Underlying Touch: Lessons from Infant Massage and the Alexander Technique

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Part Two: **Exploring the Psychological Processes Underlying Touch: Lessons from the Alexander Technique**

Overview

This portfolio thesis comprises of three parts: a systematic literature review, an empirical report and the appendices.

Part one is a systematic review looking at the relationship between infant massage and subsequent parent-infant interactions. The review brings together literature that looks at dyads with and without health problems, and explores whether outcomes differ between dyad types. The review attempts to use the findings to discuss the role of touch in dyadic processes.

Part two is an empirical paper that attempts to explore the psychological processes underlying touch through studying the Alexander Technique. Both qualitative interviews and quantitative surveys are used to address how pupils of the technique experience touch, how it changes their psychological wellbeing and how it influences the pupil-teacher relationship. Findings are discussed in terms of implications for the use of touch within psychological therapies.

Part three is made up of the appendices, including a reflective statement which discusses the researcher's experiences of all aspects of the research process.

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Part One

Systematic Literature Review

The role of touch in dyadic processes: Exploring the relationship between infant massage and subsequent parent-infant interactions

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This paper is written in the format ready for submission to the Infant Mental Health Journal. Please see Appendix 2 for the guidelines for authors.

Abstract

Touch is reported to impact positively on our vital early relationships (Jones, 1994) and infant massage is a technique that can further understanding around these processes. In order to explore the influence of touch on dyadic relationships, the review aimed to investigate the effects of infant massage on subsequent parent-infant interactions. Systematic searches identified 12 relevant papers, and findings were analysed qualitatively. The majority of studies found positive effects of infant massage on parent-infant interactions, concerning the parent's contribution, the infant's contribution and the overall dyadic contribution. The body of research varied with some articles researching parents or infants with mental or physical health problems. Three of the 5 studies looking at "healthy" dyads showed no significant outcomes, so infant massage may benefit interactions more when one of the dyad has health difficulties. These dyads can foster less physical contact, they may have more interactional challenges to address, and infant massage may alleviate health difficulties which then allow interactions to improve. The findings in the context of previous research link infant massage to positive long-term parent-infant interactions, child and adult wellbeing, and the potential promotion of the infants' mental health in later life. Despite not being able to untangle the components of infant massage (e.g. touch, talking, eye contact) this suggests a varied and significant role of touch in dyadic processes.

Key words: infant, massage, dyads, interactions

The role of touch in dyadic processes: Exploring the relationship between infant massage and subsequent parent-infant interactions

Introduction

Early relationships are key to healthy development (Bowlby, 1969) and literature suggests that touch improves the bond between infant and caregiver (Jones, 1994). The current research aims to investigate the role of touch in dyadic processes, looking at the relationship between infant massage and subsequent parent-infant interactions.

Infant massage

Infants growing up with minimal touch show an array of cognitive and neurological delays (MacLean, 2003; Nelson, 2007) suggesting the importance of touch in early life.

> We are aware of the existence of the basic physical needs that must be satisfied if we are to survive: oxygen, food, liquid, activity, rest, sleep, bowel and bladder elimination, and the avoidance of noxious stimuli. We cannot ignore the need for love and touching. (Montagu, 1995, p. 7)

Indeed, touch has been described to engage the infant's attention, to modulate their affect and to begin the process of social interaction (Kisilevksy, Stack & Muir, 1991).

Infant massage builds on the idea that touch is a powerful process in infancy. For this reason, it has been used to promote development in infants with health problems. A review of the effects of infant massage for preterm/low-birth-weight infants found that infants receiving massage interventions had shorter hospital stays, better developmental test scores and fewer postnatal complications (Vickers, Ohlsson, Lacy & Horsley, 2004).

Infant massage has also been endorsed for use with healthy infants. A review of infant massage for infants under 6 months found positive effects on sleep, relaxation, the number of hormones controlling stress and parent-infant interactions (Underdown, Barlow, Chung & Stuart-Brown, 2005).

Infant massage has also been shown to have a positive impact on mothers' wellbeing, for example reducing depression and anxiety (Feijó et al. 2006). Field (1998) suggested that participating in infant massage may help parents feel like they are making a positive contribution to their infant's care.

Parent-infant interactions

Attachment theory proposes that an infant's cognitive, emotional and social development is crucially linked to early relationships and positive experiences of responsive, sensitive and consistent care giving (Bowlby, 1969). These early relational experiences form long-lasting templates that guide an individual's thoughts, emotions and expectations of others (Bretherton & Munholland, 1999). Therefore, secure attachment between infant and caregiver can be seen as laying the foundation for later mental health. Positive, long-lasting parent-infant interactions are important ingredients of secure attachment (Blehar, Lieberman & Ainsworth, 1977) and parent-infant interactions are also strong indicators of attachment style, e.g. the Strange Situation Procedure[1] measures attachment style through observing parent-infant interactions (Ainsworth, Blehar, Waters & Wall, 1978). Therefore, the two are inextricably linked and mutually influential ingredients of healthy development.

[1] The Strange Situation involves observing seven scenarios: the parent and child alone together, a stranger joining the parent and child, the parent leaving the stranger and child alone together, the parent returning and the stranger leaving, the child being left alone, the stranger then returning, and finally the parent returning and the stranger leaving. Four categories of behaviour are focused on in order to determine attachment style: the child's anxiety on separation, their willingness to explore, their response to the stranger, and the way the caregiver is greeted on their return.

Massage and parent-infant interactions

Touch has been described as vital for a secure attachment between infant and caregiver to develop (Jones, 1994). Tronick, Ricks and Cohn (1982) outline how infants given gentle touch, eye-contact and infant-directed speech are more likely to form secure attachments. Unsurprisingly, considering their mutual influence, touch has also been suggested to improve parent-infant interactions. In their literature review, Underdown et al. (2005) concluded that parent-infant interactions could be positively enhanced by infant massage, however, due to their specific criteria (healthy infants under 6 months) they only supported this with one study (Onozawa, Glover, Adams, Modi & Kumar, 2001).

Such promotion of positive long-term parent-infant interactions can be especially important in certain types of parent-infant dyads. Infant health problems, such as premature birth, can lead to early parental separation which can negatively affect the parent-infant relationship (Haut, Peddircord & O'Brien, 1994). Parent mental health problems, such as Post-Natal Depression (PND) can also influence early relationships. Tronick and Weinburg (1997) found that mothers with PND could be overly intrusive, offering unwanted and inappropriate care giving, and have more withdrawn children. Alternatively, these mothers could be more withdrawn with overly distressed children. As a result, infant massage has been used with various populations aiming to promote long-term parent-infant interactions.

Two Cochrane reviews (Underdown et al., 2005; Vickers et al., 2004) explore outcomes of infant massage on healthy infants and on pre-term infants respectively. Given the evidence that suggests touch, and consequently massage, may be an ideal way to improve interactions, bringing together different populations provides a wider opportunity to look at this. Reviewing the whole body of literature could invite

comparisons across different populations, exploring whether benefits for "healthy" dyads differ to those where one member has a mental or physical health problem. This could help better understand the role of touch in early relationships. Consequently, a systematic literature review was undertaken. Rather than purely looking at outcomes of infant massage as in previous reviews, it aimed to explore the *relationship* between infant massage and longer-term parent-infant interactions. Three questions were addressed; firstly, what types of interactions are affected by infant massage? Secondly, do these effects vary with the characteristics of the dyads? Thirdly, what does this tell us about the role of touch in dyadic processes?

Method

Search strategy

The search strategy included advanced searches within the databases Psychinfo, Medline, Cinahl, Web of Science, Cochrane CENTRAL and ASP. These were selected in order to cover a broad range of psychological, nursing, medical and more general scientific literature. The terms *"massag*" or "touch*" or "tactile w3 stimulat*",* and *"parent*" or "mother*" or "father*" or "carer*",* and *"bab*" or "infan*"* were searched for in the abstracts of articles that also contained *"interact*" or "coop*" or "co-op*" or "interchang*" or "reciproc*" or "synerg*" or "comm*" or "mutual*"* anywhere in the text of the article. These were selected to cover the various terms that may be used when defining the area of interest, in order to maximise the number of studies reviewed. The search took place between October and December 2011. To reduce publication bias, the references of the studies found were hand-searched for relevant papers. Experts in the field were contacted for help and advice around

additional articles that could be relevant to the review. However, as only peer-reviewed journal articles were included, some publication bias was unavoidable. Hand searching references yielded three further relevant articles. (See Figure 1 for full process).

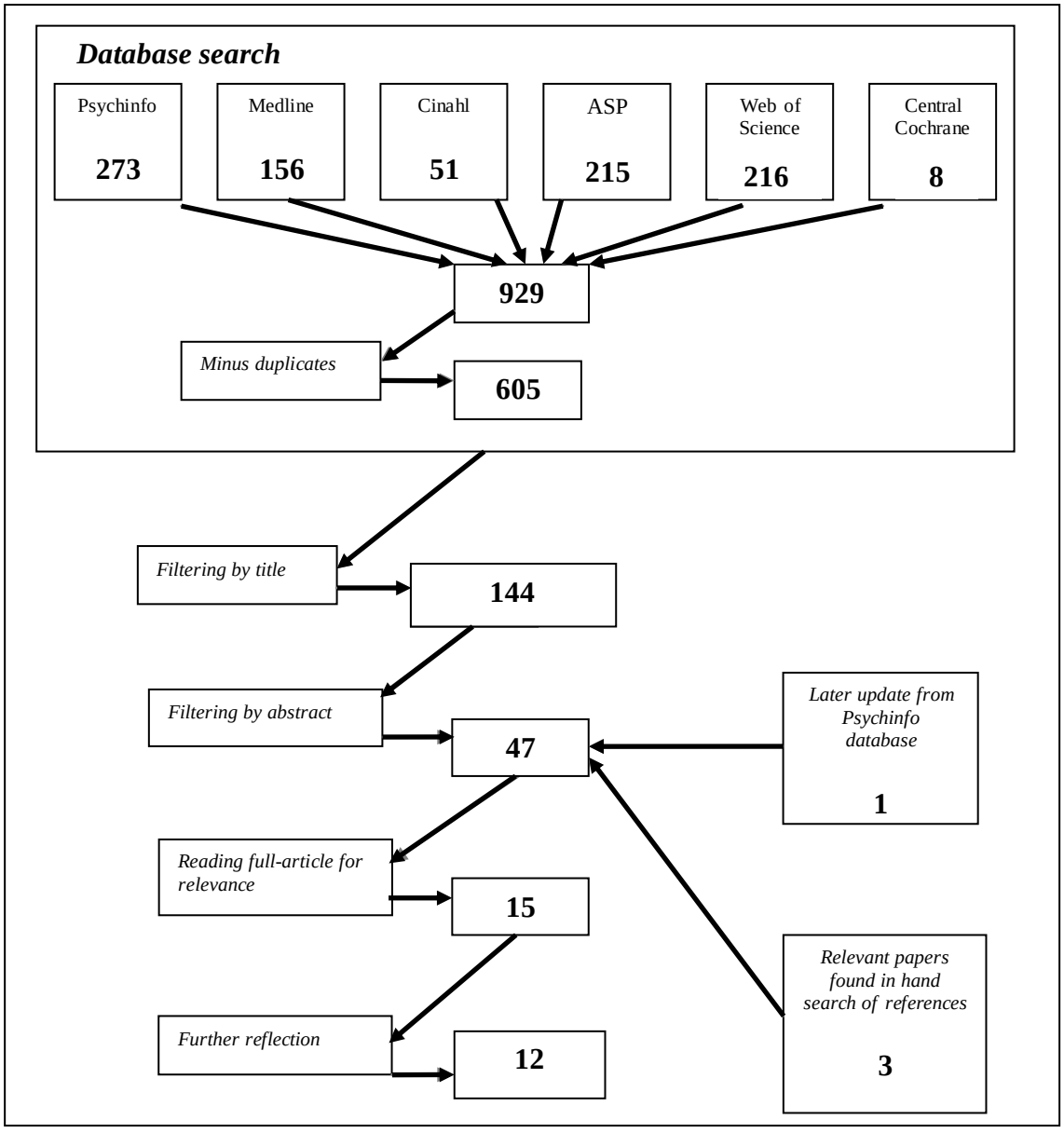

Figure 1. Study selection process

Definitions

As Stack and Muir (1992) outline, the term "interaction" is difficult to describe and measure. Barnard's Child Health Assessment Interactional Model (1995) defines "interaction" as a two-way process looking at the infant's ability to display behavioural cues, the caregiver's ability to interpret and respond to these cues, and the infant's reactions to the caregiver's response. Therefore, what the parent does (e.g. their sensitivity, intrusiveness and provision) *and* what the infant does (e.g. their behavioural cues and responses to parent) define interactions. The review looked at papers that studied both parent and infant behaviours in an interactive way. Attachment style and relationship quality were considered closely linked but not synonymous with interactions, as these are broader constructs often dependent on other factors beyond the parent and infants' behaviour, for example parental absence, and/or the infant's temperament.

"Infant massage" was defined as systematic tactile stimulation of the infant as in the Cochrane review by Underdown et al. (2006). Papers were not included if they used multiple interventions, e.g. bathing and massage, and they did not separate out the individual effects of these. However, it was noted that infant massage has traditionally been made up of multiple components including touch, eye contact, talking to, rocking, and exercising the infant, and learning about infant cues e.g. as outlined in Field, Grizzle, Scafidi, Abrams and Richardson (1996). Papers including parts of the commonly recognised massage protocol were included.

In the review, the "parent" could be the infant's natural or adoptive/foster mother or father, however the majority of research looks at mother-infant dyads.

Study selection

To be included in the review, papers had to meet the following inclusion criteria. Articles had to look at the parent-infant interaction following, not during, a structured massage intervention in which the parent not a professional massaged the infant. This was due to the review's focus on longer-term and specifically *parent*-infant interactions. The intervention had to include a systematic tactile stimulation by human hands, not just holding of the infant or skin-to-skin contact, as this was seen as a qualitatively different experience. As discussed, papers were selected that looked at interaction as being both the parents' and the infants' contribution to the process. For a consistent concept of "infants", articles were included that looked at children under the age of 2 years at the beginning of the intervention. Both quantitative and qualitative papers, and single and multiple cases were considered as it was felt the depth of information from qualitative research and single case studies could be valuable. Papers were only included if the relevant data were available within the paper. Papers had to be published in peer reviewed journals in English and be locatable in English databases as the primary researcher was English-speaking.

Excluded studies: Three papers that were originally included were excluded after further reflection (Cheng, Volk & Marini, 2011; Lappin, 2006; Oswalt, Biasini, Wilson & Mrug, 2009). Lappin (2006) published the same case study as Lappin and Kretschmer (2005) in less detail so this article was excluded to avoid replicated data. Oswalt et al. (2009) and Cheng et al. (2011) used the Parenting Stress Index Long-Form (Abidin, 1995), which has a Child domain, a Parent domain and a Situational/Demographic life stress domain. A Short-Form which has a construct measuring dysfunctional interactions was developed through factor analysis of the Long-Form. These two papers only included overall scores for the Parent and Child domains, so the data were not available to determine whether interactions had changed.

Quality Assessment

Study quality was not an exclusion criteria, however, a quality assessment was undertaken to help the author consider additional factors such as the nature of the participants and the validity of the studies. Downs and Black's quality checklist (1998) was used to assess the quality of the articles with a quantitative design. The author adapted the checklist to fit more appropriately to the studies under review (see Appendix 4). One rater scored the articles according to the adapted checklist, and a second rater re-marked a number of the studies. Cohen's kappa indicated that inter-rater reliability was 0.921. The quality assessment ratings for each study can be seen in Table 1. The highest rating available was 26 and all studies ranged between 15 and 23. The lowest quality paper was by Booth, Johnson-Crowley and Barnard (1985). Papers most commonly lost marks for the representativeness of their samples. (See Appendix 5 for quality scores).

To assess the qualitative and mixed methods papers a checklist from Spencer, Ritchie, Lewis and Dixon (2003) was used. This looked at aspects such as the clarity of the basis of evaluative appraisal and whether the article showed links between data, interpretation and conclusions. Lappin and Kretchsmer (2005) showed quality indicators in 15 out of the 18 appraisal questions and Beyer and Strauss (2002) showed indicators in 11 out of the 18 questions. A second rater re-marked one of the studies and Cohen's kappa indicated an inter-rater reliability of 0.922. (See Appendix 6 for quality scores).

Data synthesis

The diversity of measures and methodologies used in the studies led to data being gathered and reported qualitatively. This allowed findings to be outlined and discussed in detail.

Results

Twelve studies met the inclusion criteria (Beyer & Strauss, 2002; Booth et al., 1985; Elliot, Reilly, Drummond, & Letourneau, 2002; Ferber et al., 2005; Hansen, & Ulrey, 1988; Koniak Griffin, Ludington-Hoe, & Verzemnicks, 1995; Lappin & Kretchsmer, 2005; Lee, 2006; O'Higgins, Roberts & Glover, 2008; Onozawa et al., 2001; Oswalt & Biasini, 2011; White-Traut & Nelson, 1988).

Description of studies

The sample size ranged from one dyad (Lappin & Kretschmer, 2005) to 94 dyads (Elliot et al., 2002). The nature of these dyads, the type of massage, and the measures used will be discussed to help address the research questions and further elements are outlined in Table 1.

Parent-infant dyad type

Studies varied as to the nature of the parent-infant dyads they recruited. Five papers researched healthy, full-term, typically developing infants and their parents (Beyer & Strauss, 2002; Booth et al., 1985; Elliot et al, 2002; Koniak-Griffin et al, 1995; Lee, 2006). These articles all looked specifically at mothers except for Beyer and Strauss (2002) and Elliot et al. (2002) who did not indicate the parents' gender.

Table 1.
Sample characteristics, measures, interventions, relevant findings and quality review scores of papers included within the review.

Authors & Quality Score	Sample characteristics	Main measures	Interventions	Length of massage intervention	Relevant findings
Beyer & Strauss (2002) 11/18*	Four parents (gender not indicated) and their full-term infants (1-3 months).	PSI-SF [a] Infant massage journal for additional thoughts/comments	Massage group	Following massage training Mothers were asked to massage their infant in the home a minimum of five times a week for 15-30mins a day for 4 weeks.	Subject four indicated an increased ability to understand their infant's needs and wants. They reported that their infant was difficult to calm pre-intervention and easy to calm post-intervention
Booth et al. (1985) 15/26**	34 mothers & their full-term, infants. Intervention began when infants were 4 weeks.	BSID [b] NCAT [c] Post-intervention observation of mother-infant interaction using the IBC rating system [d]	Massage group / Massage group & powder / Control group (no massage training)	Mothers were taught massage techniques and were asked to use them twice a day for 15 minutes over a 12 week period. The average amount was 4-6 times a week.	The experimental and control group did not differ on any of the pre-treatment or post-treatment outcomes. One significant positive correlation was found between the amount of infant massage and the amount of infant watching mother during dyadic interaction (post-hoc analysis).
Elliot et al. (2002) 20/26**	94 full-term, infants and their parents (gender not indicated). Intervention began 7-10 days post-partum.	NCASA [e] PSOC [f] NCAT[c] & NCAF [g] EITQ [h]	Massage group/ Carrying group/ Massage &Carrying group/ Control group (no massage)	After being taught the massage technique, parents were required to massage their infants for a minimum of 10 minutes daily for 16 weeks.	None of the treatment groups differed significantly on parent-infant interaction scores. All four groups had higher overall NCAF and NCAT scores in Week 16. Infants in the Carrying and Massage Group showed the least crying.
Ferber et al. (2005) 20/26**	51 full-term, infants & their mothers. Intervention when new-born. Measures taken at 3 months.	Play session recorded and interactions coded with the CIBM[i]	Mother massage group / Female staff-member massage group/ Control group (no massage)	Mothers were individually taught the technique then asked to massage their infants for 15 minutes, three times daily for 10 days (one no-treatment day for compliance).	Mother-infant interactions were more optimal in treatment groups than the control groups. Mother-infant dyads in the massage groups had more dyadic reciprocity and infants were more socially involved. Maternal intrusiveness was higher in the control group. No differences were found between mother-massage and staff-member massage.

a.Parenting Stress Index-Short Form (Abidin, 1995)
b. Bayley Scales of Infant Development (Bayley, 1969)
c.Nursing Child Assessment Teaching Scale (Barnard, 1978)
d. Interpersonal Behaviour Constructs (Kogan et al. 1975).
e. Nursing Child Assessment Sleeping Record (Barnard, 1979))
f.Parental Sense of Competence Record (Gibaud-Wallston, 1977)
g.Nursing Child Assessment Feeding Scale (Barnard, 1995)
h. Early Infant Temperament Questionnaire (Medoff-Cooper, Carey & McDevitt, 1993
i. Coding Interactive Behaviour Manual (Feldman, 1998)
* Qualitative Quality Assessment Framework score (Spencer et al. 2003)
**Quantitative Quality Assessment Checklist Score (Downs & Black, 1998)

Authors & Quality Score	Sample characteristics	Main measures	Interventions	Length of massage intervention	Relevant findings
Hansen, & Ulrey (1988) 17/26**	19 neuro-motor handicapped infants and their mothers (1 foster mother). Infants were between 3-19 months at the beginning of intervention.	BSID [b] Observation of infant-caregiver interactions with an observation protocol from the ASI profile [j]	Massage group / Control group (sensory stimulation, no massage)	Dyads attended a biweekly 3 hour sensory stimulation programme that additionally taught infant massage for 6-7 months.	Both control and experimental groups progressed in infant and parent cueing, contact and behavioural organisation behaviours. The experimental group showed significantly greater improvements than the control group when total infant and parent behaviours were combined. Discrepancy/synchrony scores for experimental group changed from negative to positive whereas the control group's did not. These were parents' changed expectations and response to infant behaviours.
Koniak Griffin et al.(1995) 19/26**	Full-term, 24 month old infants and their mothers. 49 of 81 dyads from the original study were available.	BSID [b] ECBI [k] HOME [l] NCAT [c]	Unimodal group (massage) / Multimodal group (multi-sensory hammock)/ Uni & multimodal group/ Control (no massage or hammock)	The intervention was initiated on the 3rd or 4th day post-birth and continued until the baby reached 3 months. Mothers were told to use the 5-7 minute protocol once daily. Outcomes were measured when the infant was 24 months.	No significant differences were found between groups for any of the dependent measures.
Lappin & Kretchsmer (2005) 14/18*	One 11 month old visually impaired premature infant and his Mexican mother.	Observational data was transcribed into text. Recurring patterns of action or emotion were analysed.	Single case study	The mother was taught infant massage for 3 hours at a time on 3 days over the course of a week.	Before the intervention 13 frames labelling negative interactions were recorded (e.g. intrusive, unresponsive, inappropriate responsiveness). In the post-intervention period 11 of the 14 frames observed were of positive interactions (e.g.correct interpretation of cues, appropriate responsiveness).

j. Attachment-Separation Individuation profile (Foley & Hagan, 1982)
k. Eyberg's Child Behaviour Inventory (Robinson, Eyberg & Ross, 1980)
l. Home Observation for Measurement of the Environment (Bradley & Caldwell, 1977)

* Qualitative Quality Assessment Framework score (Spencer et al. 2003)
**Quantitative Quality Assessment Checklist Score (Downs & Black, 1998)

Authors & Quality Score	Sample characteristics	Main measures	Interventions	Length of massage intervention	Relevant findings
Lee (2006) 20/26**	32 full-term infants aged 2-7 months old and their mothers.	Height and weight measurements 10 minute mother-infant interactions were recorded then rated using the MIPIS [m]	Massage group / Control group (attended baby clinic but no massage)	Dyads attended four 1 hour weekly massage classes and were required to provide massage to their infant at home on more than 4 days a week for a 4 week period.	Both groups' interactions improved, with significantly greater improvements for the massage group. Significant differences were for maternal response, infant response and dyadic response between groups. Significant differences were on the eight items of the mother's response except holding style and caregiving style, and all items in infant responses such as predominant response level, predominant mood/affect and visual interaction. There were significant differences for all items for dyadic response. Over-all dyadic quality interaction and scores for synchrony of affect were significantly higher than the control group.
O'Higgins et al. (2008) 18/26**	34 full-term infants aged 9-12 weeks and mothers with post-natal depression Follow-up after 1 year.	EPDS [n] SSAI [o] ICQ [p] Videotaped interactions measured by the GRMII [q]	Infant massage group/ Support class group / Non-depressed mothers group	The study required the dyad to attend six 1 hour massage classes.	Following the intervention, mother-infant interactions for all groups remained at the same level. Significantly more of the massage group had achieved a clinically significantly reduction in EPDS score over study period and infant ICQ ratings had normalised to those for non-depressed mothers. At 1 year follow-up the massage and non-depressed group were equivalent in scores for maternal sensitivity, while the support group had dropped to significantly less than the non-depressed group. The massage group were below cut-off for possible depression at 1 year, and the support group was not.

m. Mother-Infant Play Interaction Scale (Walker & Thompson, 1982)
n. Edinburgh Postnatal Depression Scale (Cox, Holden & Sagovsky (1987)
o. Spielberger State Anxiety Inventory (Spielberger, 1983)
p. Infant Characteristics Questionnaire (Bates, Freeland & Lounsbury, 1979)
q. Global Ratings for Mother-Infant interactions (Murray, Fiori-Crowley, Hooper & Cooper (1996)
** Quantitative Quality Assessment Checklist score (Downs & Black, 1998)

Authors & Quality Score	Sample characteristics	Main measures	Interventions	Length of massage intervention	Relevant findings
Onozawa et al. (2001) 23/26**	59 mothers with postnatal depression and their infants, median 9 weeks postpartum.	EPDS [m] Observations of parent-child interactions measured by the GRMII [q]	Massage group/ Support class Group	The study required the dyads' attendance at five 1 hour weekly massage classes.	The massage group showed significant improvements compared to the control group in the warm to cold, non-intrusive to intrusive scales (mother), attentive to non-attentive, lively to inert, happy to distressed scales (Infant) and in ratings for the overall interaction The reduction in depression scores from recruitment to final session was significantly greater for the massage group than for the control group.
Oswalt & Biasini (2011) 21/26**	17 HIV-infected mothers and their infants.	BDI-II [r] MCQ [s] Questionnaire about Physical Contact [t] Infant growth measurements PSI-SF [a]	Massage group / Control group (no massage)	Mothers took part in a 15-20 minute training session and were asked to administer massage once a day for 10 weeks .The average was three to five times a week for those mothers who engaged in the study.	The control group had significantly more dysfunctional interactions than the experimental group after the intervention. (The control group had significantly higher levels before the intervention. The authors comment that the use of ANOVAs can help address these differences but advise to interpret findings with caution.) Following intervention mothers in the massage group reported lower depression, lower parental distress and a more positive and comfortable attitude about physical contact.
White-Traut & Nelson, (1988) 19/26**	33 prematurely born infants and their mothers. Dyads were approached 12-24 hours after delivery.	NCAF [g] post-intervention	Massage group/ Talking group (mother to infant) / Control group (routine care & infant clothing discussion)	Mothers were taught a 15 minute technique then were required to administer it during the following post birth periods: 24 to 36, 37 to 48, 49 to 60 and 61 to 72 hours.	Significant differences in maternal sensitivity to infant (better than routine) and cognitive growth fostering behaviours (better than routine and talking groups). Massage and talking groups scored higher on the NCAF than the routine care group but not significantly different to eachother. For infant behaviour, there were no differences between massage and talking groups. No significant differences were found for clarity of infant cues or infants' responsiveness to parents' subscales.

r. Beck Depression Inventory II (Beck, Steer & Brown, 1996)
s. Maternal Confidence Questionnaire (Parker & Zahr, 1985)
t. Questionnaire about Physical Contact (personal communication to Oswalt and Biasini, November 16, 2005)
** Quantitative Quality Assessment Checklist score (Downs & Black, 1998)

Other papers looked at infants with a range of difficulties. Two papers looked at pre-term infants and their mothers (Ferber et al. 2005; White-Traut & Nelson, 1988). One paper studied an infant with visual impairments and his mother (Lappin & Kretchsmer, 2005), and one looked at "neuromotor handicapped" infants and their mothers, which included four infants with cerebral palsy, six described as "hypotonic/delayed" and nine with delayed motor skills (Hansen & Ulrey, 1988).

Other papers focussed on parents with difficulties. Two papers researched mothers with PND and their healthy infants (O'Higgins et al, 2008; Onozawa et al., 2002) and one looked at mothers with Human Immunodeficiency Virus (HIV) and their healthy infants (Oswalt & Biasini, 2011).

The papers will be grouped into "healthy dyads", "infants with difficulties" and "mothers with difficulties" as above. This is due to the small-scale of the review, however the significant differences between the difficulties grouped are acknowledged.

The majority of the research was UK or US based (Beyer & Strauss, 2002; Booth et al., 1985; Elliot et al. 2002; Hansen, & Ulrey, 1988; Koniak Griffin et al., 1995; Lappin & Kretchsmer, 2005; O'Higgins et al., 2008; Onozawa et al., 2001; Oswalt & Biasini, 2011; White-Traut & Nelson, 1988). These studies identified their participants as predominantly Causcasian, except for Oswalt and Biasini (2011) and White-Traut and Nelson (1988) whose samples were predominantly African-American, and Lappin and Kretschmer (2005) who recruited a dyad of Mexican origin. Research by Lee (2006) was based in Korea and research by Ferber et al. (2005) was based in Israel.

Type of massage

The type of massage varied across studies. The massage taught to the mother in the article by Lappin and Kretschmer (2005) was created by McClure (1998) and was

sanctioned by the International Association of Infant Massage (IAIM). It was described to incorporate Swedish and Indian massage.

The protocol used by Ferber et al. (2005) adapted the Field (1986) method, cutting out the kinaesthetic[2] portion. It involved slowly stroking, with minimum direction change and medium pressure all over the baby who lay in an incubator with portholes. Booth et al. (1985) taught mothers various stroking and wringing motions on the infant's body and face. The intervention also involved exercise which consisted of bicycling the infant's legs and crossing over of the infants' arms and legs.

White Traut and Nelson (1988) used a technique developed by Rice (1977) which involved sequential massaging of the infant's body and head followed by rocking, alongside auditory stimulation and eye contact. Mothers were given verbal and pictorial illustrations and demonstrations on a doll. The protocol used by Elliot et al. (2002) was adapted from Auckett (1979) with parents receiving a videotape demonstrating the massage technique. Parents were told to use massage when their infant was least fussy. The direct teaching of behavioural cues was an accepted part of the following massage programs. The massage intervention used by Koniak-Griffin et al. (1995) used a modified version of the Rice (1979) technique which involved six sequential steps of stroking and gentle massage. The parents were told to use this when the infant was active and alert, and to discontinue if they were distressed, therefore massage was contingency based, relying on effective cues and responses.

The protocol used by Onozawa et al. (2001) was based on those used by the IAIM and consisted of slow rhythmic strokes with the speed and timing guided by infant's body signals. Mothers were taught to read and respond to their infant's body cues and accordingly adjust their touch. They were taught specific engagement and

[2] The kinaesthetic phase of the Field (1986) massage method involves placing the infant in the supine position and making bicycling-like movements of each of the infant's limbs

disengagement cues. O'Higgins et al. (2008) also taught IAIM-based techniques with significance placed on discussing infant cues and the appropriate types and amounts of massage strokes in response to these.

The massage training procedure in Beyer and Strauss' (2002) study involved discussions around infant cues for readiness for massage, and around times massage can be inappropriate. Baby's First Massage curriculum (Ramsey, 2001) used by Oswalt and Biasini (2011) included a description of how to interpret infant cries, and Hansen and Ulrey (1988) taught parents procedures which focussed on how the parent can detect behavioural and movement cues to help them judge appropriate times to use massage.

The protocol used by Lee (2006) was based on procedures developed by Field et al. (1996). Mothers were told to keep eye contact and speak to their infants as they made stroking massage movements and as they kinaesthetically stimulated their infants with passive extensions/flexion movements. Instructors encouraged mothers to observe and respond to their infant's body cues and, if necessary, adjust their touch.

Measures used

A variety of measures were used (see Table 1 for full list), but these were primarily observational. Ferber et al. (2005) video-recorded the dyad post-intervention in "normal" play, and coded the recordings for maternal sensitivity and maternal intrusiveness; the infant's behaviour, including their social involvement; and dyad factors such as reciprocity.

Elliot et al. (2002) used the Nursing Child Assessment Feeding (NCAF) and Teaching Scales (NCAT) (Barnard, 1995) as observational measures of parent-infant dyad interaction at baseline then after the intervention. They respectively assess the characteristics of parent-infant feeding and teaching interactions, and include subscales

for maternal and infant behaviour. White-Traut and Nelson (1988) also used the NCAF, and Koniak-Griffin et al. (1995) and Booth et al. (1985) also used the NCAT. After the intervention, Booth et al. (1985) also asked mothers to engage in 30-minutes of free play with their infants and to administer the massage protocol behind a two-way mirror. Researchers scored the frequency and duration of various behaviours including mutual involvement, verbal interaction, lead taking, acts of non-acceptance, compliance and control.

O'Higgins et al. (2008) filmed parents interacting with their infant for five minutes and rated these for maternal contribution to the interaction, the infant's contribution and the interaction itself. Onozawa et al. (2001) also used the same rating scale on video-recordings of parent-infant interactions. Both used these measures at baseline and then after the intervention.

Lee (2006) video-recorded mother-infant interactions pre and post-intervention, and rated maternal behaviours (e.g. holding style, expression of affect, caregiving style, visual interaction, style of play interaction and attempts at smile elicitation), infant behaviours (e.g. expressed affect, response and visual interaction) and dyadic behaviours (e.g. dyadic quality of interaction and synchrony of affect).

Hansen & Ulrey (1988) used an observation protocol which measured sensory cueing (the child emitting signals to make their needs known and the parent's response), the parent and infant's role in contact (the infant's response to handling or being approached and the parent's facilitative response to this) and behaviour organisation (the infant's predictable behaviour and the parent's response to facilitate synchrony).

Lappin & Kretschmer (2006) used a qualitative approach, and transcribed observational data into text. They observed interactions in the home in routine and naturally occurring

situations. They analysed "frames", or self-contained recurring patterns of action or emotion (Pantoja, 2001), which involved both the mother and infant.

Oswalt and Biasini (2010) measured interactions using the dysfunctional interactions subscale from the Parenting Stress Index Short Form (PSI-SF, Abidin, 1995) which also measures parenting distress and perceptions of child temperament. Beyer and Strauss (2002) used an adapted version of the scale pre and post intervention. These two papers should be considered with caution within the context of the review. Rather than objective views, the PSI-SF measures *parent's opinions* of interactions with their infants. Aspland and Gardner (2003) argue that parent-report is inferior to observational measures as it is more influenced by certain biases, such as mood (e.g. Richters, 1992). As mentioned, this scale was derived using factor analysis from a Long-Form which does not have Dysfunctional Interactions as a construct. Furthermore, Haskett, Ahern, Ward and Allaire (2006) re-analysed the Short-Form as having two not three factors (Personal Distress & Childrearing Stress). However, as the PSI-SF measures the construct of two-way interactions, the papers are included.

Methodological factors

Lappin and Kretschmer (2006) used a single case, qualitative design, and Beyer and Strauss (2002) took qualitative and quantitative information from parental surveys and massage journals completed by four participants. The majority of studies that looked at larger samples randomly assigned participants to either the intervention or control groups (Elliot et al., 2002; Ferber et al., 2005; Hansen & Ulrey, 1988; Koniak-Griffin et al., 1995; O'Higgins et al., 2008; Onozawa et al. 2001; Oswalt & Biasini, 2011; White-Traut & Nelson, 1988). O'Higgins included a second control group made up of non-depressed mothers which was not involved in the random assignment process. In the majority of studies using observational measures the staff-members who rated

interactions were blind to group-assignment (Booth et al. 1985; Elliot et al., 2002; Ferber et al., 2005; Hansen & Ulrey, 1988; Koniak-Griffin et al., 1995; O'Higgins et al., 2008; Onozawa et al., 2001; Oswalt & Biasini, 2011; White-Traut & Nelson, 1988).

Additional factors measured

Some of the studies measured factors in addition to parent-infant interactions. Table 1 outlines the other measures that were used. These included measures of the infants' height, the infants' weight, duration of crying and infant development, and the parents' depression, self-confidence, distress, feelings of competence, feelings about physical contact and perception of their infant's temperament. Some studies also compared different techniques, including carrying the infant, talking to the infant and using a multi-sensory hammock for visual, tactile and auditory stimulation. One study (Ferber et al., 2005) also compared massage administered by mothers to administration by female staff-members.

Interaction effects

What type of interactions changed?

Nine studies suggested that infant massage positively influences subsequent parent-infant interactions. Some studies showed changes primarily to the parent's contributions to the interaction (e.g. Hansen & Ulrey, 1988; O'Higgins et al., 2002; White-Traut & Nelson, 1988). Other articles showed broader changes in both parent and infant contributions (e.g. Ferber et al., 2005; Lappin & Kretschmer, 2005; Lee, 2006; Onozawa et al., 2001).

As the studies varied with which measures they used, different constructs within the scope of "interactions" were assessed, making specific trends hard to isolate. However some similar themes emerged across the different findings. Beyer and Strauss (2002)

found that one parent felt they could understand their infant's needs and wants better (however, this was not objectively measured as discussed) and Lappin and Kretchmer (1985) similarly found that the mother could interpret her infant's cues better. Two studies found positive effects of infant massage on maternal sensitivity (O'Higgins et al., 2006; White-Traut & Nelson, 1988). Three studies found lower levels of maternal intrusiveness (Ferber et al., 2005; Lappin & Kretschmer, 2005; Onozawa et al., 2001). Both Onozawa et al. (2001) and Lappin and Kretchmer (1985) found that parents became warmer in their interactions following the massage intervention. Positive effects on the overall dyadic quality of interactions were also found (Ferber et al., 2005; Lee, 2006; Onozawa et al., 2001). Ferber et al. (2005) found infants were more socially involved, Onozawa et al. (2001) found infants were more lively and attentive, and Lee (2006) found that infants were more visually interactive following infant massage interventions.

Three of the 12 studies findings seemed to suggest that infant massage did not significantly improve subsequent parent-infant interactions. Elliot et al. (2002) found that all groups improved in the interaction measures over the study, but there were no differences between experimental or control groups. Koniak-Griffin et al. (1995) found no significant differences between experimental and control group on parent-infant interactions measured at a two-year follow-up. Booth et al. (1985) also found no significant differences between experimental and control groups following the massage intervention. However, when they performed correlational analyses (after finding no significant changes between pre and post-measurements) there was a significant positive correlation between time spent massaging infants and time spent by infants watching their mothers during interaction observations. However, only one correlation was found, and the paper was rated as comparatively low quality partly due to this unplanned analysis and a lack of randomised group assignment.

The influence of different types of dyad

Infants with difficulties (four studies)

One study looking at pre-term infants (White-Traut & Nelson, 1988) only found significant differences in the *parents'* contribution to interactions, specifically in the mothers' cognitive growth fostering behaviours[3] and sensitivity (the latter was only significantly different to a routine care group, not to a group where parents spoke to their infants). No significant differences were found for the infant's contribution – i.e. for the clarity of their cues or their responsiveness to their parents. Ferber et al. (2005) found lower maternal intrusiveness, more socially involved infants and greater dyadic reciprocity after mothers massaged their pre-term infants, suggesting a more two-way change.

Hansen and Ulrey (1988) looked at infants with neuromotor impairments and also found improved parental contribution to parent-infant interactions. The discrepancy/synchrony scores for the experimental group changed from negative to positive whereas the controls' did not. The significant factors were parents' changed expectations and responses to their infants' behaviours. However, the authors felt there was a clear trend towards changes in the infants' behaviour in cueing, contact and organisation behaviours, which reached statistical significance when both parent and infant scores were combined. No differences between groups were seen regarding developmental changes, so this factor may not have mediated these outcomes.

Lappin and Kretchsmer (1995) found more positive and fewer negative two-way interactions following the massage intervention. They described changes in both the visually impaired infants' and the mothers' contributions to these interactions. The

[3] Cognitive growth fostering behaviours are those that encourage the development of a child's cognitive abilities by providing stimulation that is marginally higher than their current developmental level (Barnard, 1978)

mother was observed bringing the infant to her chest and against her heart. The researchers described her as more aware of his cues and as responding more appropriately and according to his needs, for example she did not force him to take his bottle and she verbally cued him when it was feeding time. After the intervention the infant smiled and gurgled at his mother and was observed laughing when she played with him. The researchers described him as holding his body close to hers instead of curving away from her.

Parents with difficulties (three studies)

Onozawa et al. (2001) researched mothers with PND and found significant improvements in dyadic interactions following massage interventions. Ratings for maternal contributions (warm to cold and non-intrusive to intrusive), infant contributions (attentive to non-attentive, lively to inert, and happy to distressed) and ratings for the overall interaction all significantly improved after dyads attended the massage classes as compared with the control group.

O'Higgins et al. (2002) also looked at mothers with PND but initially found no difference between groups post-intervention. However, the depressed groups did not show impaired interactions compared with non-depressed mothers at baseline. At a one-year follow-up, only maternal contributions to the interactions had been affected, as maternal sensitivity scores for mothers with PND who had used infant massage were equivalent to control mothers without PND. Mothers with PND who were in the control (support) group were performing significantly less well than non-depressed mothers. Therefore, the massage intervention had not improved scores, but had possibly prevented maternal sensitivity from reducing. Mothers in the massage group no longer reached the cut-off for depression after a year. Both this article and Onozawa et al.

(2001) found reduced depression scores from pre-intervention to immediately post-intervention for the massage group but not the control group.

Oswalt et al. (2011) researched mothers with HIV and found that the control group had significantly more dysfunctional interactions than the experimental group after the intervention; however the data were restricted to this outcome. Importantly as mentioned, this is a measurement of parents' views of the interactions rather than the interaction itself. Following intervention, mothers in the massage group also reported lower depression, lower parental distress and a more positive and comfortable attitude about physical contact. These three studies suggest wider benefits of infant massage around maternal wellbeing.

"Healthy" dyads (five studies)

The three studies that showed no differences between a control group and those receiving a massage intervention looked at "healthy", full-term infants. However, other studies that looked at healthy dyads did find effects (Beyer & Strauss, 2002; Lee, 2006). Lee (2006) found that infant massage interventions improved maternal contributions (expression of affect, visual interaction, style of play interaction, vocalisation style, attempt at smile elicitation and kinaesthetic quality of interaction) and all infant contributions to interactions (expressed affect, response and visual interaction), as well as all dyadic response factors (quality of interaction and synchrony of affect). Beyer and Strauss (2002) looked at parents' opinions of their parent-infant interactions and reported that one participant felt they had an increased ability to understand their infant's needs and wants, and that their infant was easier to calm following the massage intervention. All participants also reported reductions in pre-existing low Total Stress. Importantly, this paper was rated as comparatively lower quality owing partly to its use of a quantitative measure with only four participants.

The influence of study design

As described, some massage training procedures and protocols focussed on infant behavioural cues. Four studies did not report that infant cues were taught within the infant massage training given (Booth et al., 1985; Ferber et al., 2005; Lappin & Kretchmer, 2002; White-Traut & Nelson, 1988). With the exception of Booth et al. (1985), these interventions still produced improvements in parent-infant interactions. Lappin and Kretchmer (2002) even reported that the mother was *more* aware of her infant's cues after the massage intervention. This suggests that teaching around infant cues is not necessarily the factor within infant massage interventions that improve interactions.

The length of intervention (see Table 1) may have had an effect on outcome. Three of the four longest interventions showed no differences between control and experimental groups (Booth et al., 1985; Elliot et al., 2002; Koniak-Griffin et al., 1995). Also, the studies that showed no difference between control and massage groups did not require participants to attend regular massage classes.

The studies that produced no significant effects all used the same measure; the NCAT, however White-Traut and Nelson (1988) used the NCAF and found some significant effects.

Discussion

Changes to parent-infant interactions

The majority of studies in this review suggest that infant massage interventions positively influence parent-infant interactions. In answer to the first research question, these changes included improved parental understanding and interpretation of infants'

communication, improved maternal sensitivity and intrusiveness, warmer maternal interactions, increased infant involvement in interactions and increased overall dyadic quality of interactions.

To address the second research question, findings did seem to vary with the dyads studied. Two of the four articles looking at infants with difficulties found changes primarily to parental contribution to interactions. Massage seemed to help parents interact less intrusively, more sensitively and more appropriately, and it seemed to increase their expectations and cognitive growth-fostering behaviours. These areas are perhaps more difficult to master with infants with health difficulties. Two papers also found more socially involved infants following massage. The articles looking at mothers with difficulties included one paper implying broad infant, mother and overall dyadic changes, whilst another suggested more specific effects on maternal sensitivity, and only after a year. Importantly, the three studies that showed no effects of infant massage looked at "healthy" dyads and O'Higgins et al. (2008) found the same for their non-depressed massage group. It may be that these mothers already offer their infants enough physical contact. It may also suggest that infant massage is more beneficial for dyads that face more interactional challenges, and thus have more room to improve. The results showed that when interactions were not impaired for a PND-mothers group at baseline, infant massage had no effect. In these circumstances, as Booth et al. (1985) describe, infant massage may be a very pleasurable experience but "merely icing on the cake" (p. 187) as far as parent-infant interactions are concerned.

Shorter interventions that required class attendance produced better outcomes regarding interactions. The small scale of this review restricts firm conclusions around this, however a more intensive approach may encourage adherence, whereas longer interventions may discourage parents from using massage regularly.

Parent or infant changes?

The majority of changes did seem to concern the parent's contributions to interactions. This could suggest that massage affects the parent more powerfully than the infant, supported by massage improving aspects of parental wellbeing. However, Ferber et al. (2005) found that when a female staff-member (not the mother) massaged the infant, this subsequently had a positive effect on the mother's intrusiveness and the reciprocity between the mother and infant. This supports Field et al. (1996) who found improved parent-infant interactions following infant massage by a trained nurse. This suggests that the infant received benefits from infant massage that they transferred to the mother. So massage does seem to affect the infant powerfully, but perhaps in a more subtle and less easily measurable way. It may be that a good experience of touch can be held by the baby and not significantly impact their interactions, or at least in a way that is captured by the measures used, but this remembered-experience can be transmitted and can positively influence the mother's contributions to interactions.

Does touch make the difference?

This review began by discussing the significance of touch in infancy, however the articles' massage protocols included encouraging eye contact, talking to and rocking the infant, and the teaching of behavioural cues. This begs the question: is it touch that makes the difference? Teaching a parent about their infants' cues could be the factor in improving interactions, yet studies that did not include this component still showed positive effects of infant massage. However, White Traut and Nelson (1988) found that parents simply talking to their infants produced similar effects to their massage intervention. This suggests that components other than touch may have caused the changes seen. Nevertheless, pure touch that does not engage the recipient in any other

way seems an artificial phenomenon, so perhaps infant massage is an ecologically valid way of looking at touch.

So what does touch do?

As infant massage is largely, though not purely touch-based, the findings invite us to address the third research question; what is the role of touch in dyadic processes?

Infant massage was linked to alleviation of parental depression and distress, and research suggests that touch can increase levels of oxitocyn and decrease levels of amylase, which reduce stress-levels and increase feelings of calm (e.g. Holt-Lunstad, Birmingham & Light, 2008). Therefore, adults may also benefit directly from their experience of touch within infant massage, which goes beyond Field's (1998) suggestion that parental benefit comes from making a positive contribution to their infant's care. Touch has also been suggested to modulate infants' affect (Kisilevksy, Stack & Muir, 1991) which may be why infants' contribution to interactions improved following infant massage. This implicates the tactile part of infant massage in improving parent and infant wellbeing which *then* may have allowed them to interact better. Certainly, in the O'Higgins et al. (2008) paper, wellbeing changes occurred immediately after the intervention, with interaction changes only occurring a year later. This may be why fewer healthy dyads showed interaction changes, because they have less need of such benefit. Additionally, infant massage may primarily improve parent-infant interactions which *then* benefit wellbeing. It is likely to be a "chicken and egg" scenario, with direction of causation impossible and perhaps not helpful to determine.

Despite not being measured in these studies, previous literature would suggest that improved parent-infant interactions would result in a better attachment style between the dyads (Blehar et al., 1977) which has far-reaching implications for the infants' later

mental health. The link between interaction and attachment is well-documented, so the review can tentatively suggest that massage can improve these areas, but it is unclear in which direction. It may be that infant massage first improved the dyads' attachment style, as previously shown by Jump (1998), which was *then* demonstrated within their more positive interactions. As parent-infant interactions and attachment style are mutually influential, direction of causation is again hard and perhaps not necessary to determine. Nevertheless, previous research that links touch with healthy attachment style would implicate the tactile part of infant massage in these processes (Jones, 1994).

Touch in infant massage is tangled up with other components, however the findings in the context of wider literature suggests a positive relationship between touch, positive parent-infant interactions, child and adult wellbeing, and attachment style.

Limitations and recommendations

A limitation of this review was the variety of measures used by the papers. This meant that specific patterns of interaction-changes could not be extracted from the data, and instead the reviewer subjectively grouped different constructs from different measures. Furthermore, studies used different massage protocols, and massage can vary from gentle strokes to the kneading of muscles. Therefore, one type of touch was not being reviewed, making conclusions about the effects of touch somewhat general.

The conditions that were grouped together in the "difficulties" categories vary greatly, and encouraging infant massage and improving parent-infant interactions has different meaning for each, however this seemed an appropriate starting point considering the small number of studies. The majority of articles looked at mothers; however two papers were not clear around the parents' gender. Therefore, the conclusions centre on

parent-infant interactions, but it may be that mothers and fathers should be looked at separately.

Lappin and Kretschmer (2005) outline that patterns of parent-infant communication exist within a wider cultural context which can reflect values "that may differ across cultures" (p. 356). The articles reviewed were mainly US and UK-based, which are often seen as "low-touch" cultures, however Korean, Mexican and Israeli contexts were also researched. It is important to recognise how influential cultural factors are likely to have been on these findings in terms of the impact of encouraging touch and improving parent-infant interactions. One example may be that encouraging tactile contact in a dyad whose cultural context places high value on touch may have a greater impact on parental well-being due to them being realigned with a cultural norm. Unfortunately, due to the small-scale of the review, an exploration of the cultural aspects of touch was not possible.

Another limitation of the review was the quality of the papers, with two in particular seeming a lower standard than the others (Beyer & Strauss, 2002; Booth et al. 1985). Both Underdown et al. (2005) and Vickers et al. (2004), who also reviewed infant massage, noted low quality papers so perhaps the nature of this research makes it harder to be stringent. A commonly missed criterion was around recruiting representative samples, with papers instead relying mainly on volunteers. This could be understood by relatively few new mothers, especially those facing health difficulties, being available for research.

Regarding recommendations for future studies, the review implied that interventions that require massage-class attendance are more beneficial. In order to attain detailed and objective information, observational measures rather than subjective accounts should be used, and these should consider parent, infant and overall dyadic contributions to

interactions, as all these spheres were highlighted as areas of change. If researchers could reduce the variability in how infant massage is delivered and measured this could strengthen conclusions that are made.

Study quality could be improved by recruiting participants when they are pregnant, in order to get a wider and more representative sample. To increase participant numbers a DVD of the massage course could be distributed or the intervention could be integrated into the services by having midwives teach infant massage.

In order to expand the body of literature, aspects such as father/mother differences and impact on specific health difficulties should be studied and reviewed. As touch is not an exclusive component of infant massage, further research around the separate components of infant massage could help understand the mechanisms of change. Alternatively, as discussed, perhaps there is no such thing as touch in a vacuum and infant massage does provide a way to research this phenomenon in an ecologically valid manner.

Conclusions

The majority of the studies in this review suggested that infant massage positively affects parent-infant interactions. Infant massage may benefit parent-infant interactions more if one of the dyad has health difficulties, possibly because these dyads can foster less physical contact, they have more interactional challenges, and/or because infant massage alleviates difficulties which then helps interactions to improve. Importantly, infant massage is more than a clinical intervention; it is a pleasurable activity shared by a parent and their baby, so the focus of the review should by no means discount the value of infant massage for healthy dyads. The review highlights a relationship between infant massage, positive long-term parent-infant interactions, child and adult wellbeing, and the potential promotion of the infants' mental health in later life. This not only

supports the benefits of infant massage, but it suggests a wide-ranging and important role of touch within dyadic processes.

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Part Two

Empirical Research

Exploring the Psychological Processes Underlying Touch: Lessons from the Alexander Technique

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Abstract

The experience of touch is significant; both in its positive implications, and in how it attracts caution and controversy. Accordingly, physical contact within psychological therapy has been shown to improve wellbeing and the therapeutic relationship (Horton, Clance & Sterk-Elifson, 1995), yet 90% of therapists never or rarely use touch (Stenzel & Rupert, 2000). The research aimed to explore psychological processes underlying touch through the Alexander Technique (AT), a psycho-physical technique, taught one-to-one, using touch. Six individuals who had received the AT were interviewed and 111 completed surveys. Interview data suggested an incompatibility between touch and the spoken word, which was understood through the way touch lacks verbal discourses in our society. The largely simplistic and dichotomous verbal understandings we have (either only very positive or very negative) could help understand some of the societal-level caution surrounding touch. Touch was seen also as a nurturing experience by interviewees, which influenced inter and intra-personal relational processes. Developmental models were used to frame the way touch strengthened the pupil-teacher relationship and the way pupils' intra-personal psychological change seemed linked to this relational experience. The surveys largely supported these findings, and discussion is made around the notable way pupils negatively interpreted the intention of the survey. Limitations, clinical implications and areas for future work are discussed.

Key words: Alexander Technique, touch, psychological

Exploring the Psychological Processes Underlying Touch: Lessons from the Alexander Technique

Introduction

Touch is a complex phenomenon. Often presented as essential for growth and wellbeing, it simultaneously attracts caution and controversy. Models of infant development are particular advocates for the positive implications of touch. Attachment theory suggests touch to be vital for the bond between infant and caregiver, which lays the foundations for later psychological development (Jones, 1994). Research also suggests that touch can induce positive hormonal changes. Holt-Lunstad, Birmingham and Light (2008) investigated married-couple groups taking part in a warm touch intervention program and found increased levels of oxitocyn and decrease levels of amylase, which they linked to participants' reduced stress-levels and increased feelings of calm. Theories of embodiment outline that we interact with the world through our physical being, and psychological ill-health occurs when we move our identity away from our body experience (Kepner, 1993). The theory suggests touch to be a vehicle for reducing feelings of separateness from one's physical presence, thus increasing psychological well-being.

Certain psychological theories support the benefits of positive touch. The humanistic tradition promotes openness and genuineness in the therapeutic relationship, with Carl Rogers (1970) supporting the holding and embracing of clients. Babette Rothschild (2000) argues in the "The Body Remembers" that psychological tensions may be held within the body, and Reichian psychotherapy understands anxiety in particular to be

held as muscular tension. The latter has influenced the growth of body psychotherapy which uses touch as a primary therapeutic tool (Totton, 2003). The Interactive Cognitive Subsystems (ICS) model proposes that information flows between physical and psychological subsystems so experiences impact individuals both physically and psychologically (Barnard & Teasdale, 1991). This would imply that positive physical contact can result in psychological benefits.

Research into touch in psychotherapy is limited but largely supports the positive influence of appropriate touch. Body-oriented psychotherapies are said to target awareness, breathing and the melting of "body armour" (Smith, 1985, p. 119) and touch in Gestalt therapy has been suggested to help address these areas (Imes, 1998). Horton et al. (1995) found that clients of non-body oriented psychotherapies felt the use of touch (physical contact more than a formal handshake, including a hug or hold) increased their self-esteem, made them feel more valued as a person and more positive towards the therapeutic process. Additionally, 69% of clients reported touch to facilitate a stronger bond, deeper trust and greater openness with their therapist. Touch was therefore shown to a) improve psychological wellbeing and b) strengthen the therapeutic relationship.

Touch seems to be a potentially powerful psychological tool yet 90% of psychological therapists never or rarely use touch (Stenzel & Rupert 2000). Theoretical reasons for this include the psycho-analytic assertion that touch interferes with a client's transference, that it may break therapeutic and professional boundaries, and/or it may re-traumatise those with histories of abuse (Bonitz, 2008). Other fears are that touch may be misunderstood as sexual (Phelan, 2009), it could lead to a "malignant regression" in which the client loses self-observation and becomes unhealthily

dependent upon the therapist (Balint, 1968), and that it could create or enhance power differentials between the client and therapist (Bonitz, 2008). An increasing number of legal claims have been brought against therapists in recent years, which may have guided touch into being a risk management issue rather than a clinical intervention (Zur, 2007). This aversion could be specific to the "low-touch" cultures of the US and the UK, supported by Clance and Petra's (1998) findings that in Latin American therapeutic contexts not using touch can be considered cold. However, despite cultural differences seeming likely, this issue has been scarcely researched with more ethnically diverse samples (Zur & Nordmarken, 2010).

Research on touch in psychotherapy is reported to be increasingly focused on ethical concerns rather than theory and technique (Bonitz, 2008). The more that research is preoccupied with ethics, the longer this culture of fear around the use of touch could perpetuate. This issue serves to hinder the development of understanding and knowledge about touch.

One way to explore this is to research a context where ethics are less intrusive due to touch being integral and expected, and where it takes places in a caring yet professional relationship. This can help move the focus away from ethics and back to theory and technique.

The Alexander Technique

The Alexander Technique (AT) is an alternative, holistic therapeutic approach that works with the mind and the body. It is a unique model in that it is neither a psychological therapy nor a pure physical therapy, but a psycho-physical approach that

aims to re-educate body-use (Gelb, 2004). The AT conceptualizes the mind and body as the "self", which is the technique's primary focus (Tarr, 2011). People seek the technique to address "stress, pain and underperformance" through gaining maximum use with minimum unnecessary tension (Society of the Teachers of the Alexander Technique [STAT], 2007). The AT aims to achieve "good use of self" through proper head, neck and back alignment. It does this through "means whereby" in which the *process* of movement, rather than the result, is the focus. Learning not to do is as important as learning to do in the AT, as pupils[4] learn to cognitively inhibit unhelpful physical habits.

The technique is taught one-to-one and usually offered in weekly sessions. The pupil works with a teacher to explore self-knowledge and achieve self-management leading comparisons to be drawn with the AT and Cognitive Behavioural Therapy, mindfulness and Gestalt therapies (Armitage, 2009).

Research suggests that the AT has psychological benefits, including reduced depression, improved attitudes to self (Stallibrass, Sissons & Chalmers, 2002), better coping with stress, increased confidence & control (Stallibrass, Frank & Wentworth, 2005), reduced performance anxiety (Valentine, Fitzgerald, Gorton, Hudson, & Symonds, 1995) and increased awareness and calm (Armitage, 2009).

Gentle, rather than manipulative touch is at the core of the AT, which is said to be for communication, reflection and to encourage self-acceptance (Farkas, 2010).

[4] The Alexander Technique is delivered in a pupil-teacher format, so the term "pupil" is used in this thesis to define an individual who is receiving or who has received the technique from a professionally AT qualified "teacher"

> Unlike in other therapies the teacher does not use their hands to manipulate, but to "feel" the effect of the student's thinking on the degree and patterns of muscle tension in the body, and to convey to the student the degree and distribution of muscle which would enhance posture and ease of movement (Stallibrass & Hampson, 2001, p. 15)

Considering how integral touch is to the AT, research in this area is limited. In a large-scale randomized controlled trial looking at back-pain reduction, pupils were found to value the hands-on aspect of the AT (Yardley et al., 2009). Armitage (2009) concluded that AT pupils felt there is something very important about touch; that it is relaxing and helps the learning process. Following interviews of AT teachers, Mowat (2006) proposed that touch helps bring about some of the psychophysical change to pupils' neuromuscular systems described above. She also argued that touch may bring up developmental, pre-verbal issues for pupils and it may change the pupil-teacher "relational dynamics" (2008, p.176). Further detailed explorations into the psychological processes underlying touch in the AT have not been made.

Rationale

Touch seems to be a powerful psychological tool, yet it is rarely used and little researched in a psycho-therapy context. In order to move focus away from ethics and back towards theory and technique, touch could usefully be explored in a therapeutic context where touch is more expected and more integral. The Alexander Technique is not a psychological therapy, but is a psycho-physical approach aimed at improving use of the self. It is made up of a dyadic pupil-teacher relationship, it produces psychological benefits and it shares methodological similarities with psychotherapies,

yet the use of touch is at its core. The touch is not mechanistic, but a way for the teacher to take in information and to reflect in an accepting and reassuring manner which demands nothing (Farkas, 2010), almost paralleling the role of words in therapy. This makes understanding the psychological processes underlying touch in the AT an interesting area of research.

What is learnt from touch in the Alexander Technique could help further understanding around the implications of touch in psychological therapies. Even though findings from a psycho-physical technique cannot be applied directly, the AT provides a good opportunity to expand knowledge of this relatively unexplored area. This is especially relevant as understanding increases around the way emotions are held within the body. Perhaps if we understood more about processes underlying touch and how touch influences psychological benefits and the therapeutic relationship, then we may be able to think differently about touch in psychotherapy.

The purpose of the research was twofold. It aimed to explore the psychological processes underlying touch in the AT and to further understand the implications of using touch in psychological therapies.

Research questions

The research aimed to address:

1. How is touch in the AT experienced by pupils?

   Within this:

   a. How does touch contribute to (or impair) any psychological change?
   b. What is the impact of touch within the pupil-teacher relationship?

2. How can the research extend our understanding of the implications of touch in psychological therapies?

Method

Design

This exploratory study employed a mixed methods design. Semi-structured interviews were used to generate qualitative data and Interpretative Phenomenological Analysis (IPA; Smith, Jarman & Osborne, 1999) was used to analyse the data (Study 1). A supportive questionnaire survey using a descriptive design was used to produce quantitative data to triangulate findings (Study 2). Therefore, experiences of touch in the AT were explored in-depth with a small number of participants, while a larger survey investigated whether other participants' experiences of touch were the same or whether they differed.

Participants

Participants for Study 1 and 2 were Alexander Technique pupils. They were recruited via STAT, who are in contact with AT teachers around the country. Participants were required to be over 16 years of age, English-speaking and they could be either current pupils or ex-pupils of the technique. These criteria were selected in order to maximize the potential number of respondents.

Measures

Demographic information: This was gathered from all participants in Study 1 and 2. This included age, gender, ethnicity, gender of teacher, number of AT lessons and the period of time pupils had been having lessons.

Study 1 - Semi-structured Interviews: The interviews explored participants' experiences of touch in the Alexander Technique. Subsections of questions were based around the research questions. Avenues to explore were drawn from relevant literature, including attachment theory, embodiment literature, the ICS model and biological theories of touch. Questions were formed around research on touch in psychotherapy and literature that suggests the negative impact of touch (see Introduction). Both positive and negative consequences of touch were addressed. Open-ended questions and prompts were devised to help draw out information from participants. In order to check the suitability of the rationale, research questions, and interview schedule, a pilot interview was conducted. The interviewee found it hard to put words to her answers so more prompts were made available. See Appendix 8 for the interview schedule used.

Study 2 – Surveys: The survey was made up of 28 Likert scale questions which asked pupils to rate their answers on a 1-7 scale from strongly disagree to agree. The final question asked for any further comments the pupils might have. As above, questions were based on the research questions and relevant literature in order to explore pupils' experiences of touch in the AT. Again, both positive and negative aspects of touch were addressed. In order to check the suitability of the rationale, research questions, and survey, a pilot survey was given to four pupils. As a result, changes were made to the wording of certain survey questions. See Appendix 9 for the survey that was distributed.

Procedure

Ethical approval was sought and gained from the relevant University's ethics committee (See Appendix 10).

Study 1 - Interviews

Interview participants were sourced from AT teachers who were members of STAT. Teachers were emailed to see whether their pupils would be interested in taking part. Teachers then passed on the contact details of those willing to take part to the researcher who sent these pupils further information about the study. If they then consented to take part, the researcher contacted them to arrange a time, place and date convenient to the participant. At the interview, the researcher obtained written informed consent which involved requesting permission to audio record the interview. (See Appendix 11 for interview documents). The semi-structured interviews lasted between 50 minutes to 2 hours and were audio recorded.

Study 2 – Surveys

In order to recruit for the survey, emails were sent by STAT to registered AT teachers explaining the purpose of the research. An example of the survey was attached to the email. They were asked to contact the researcher with an estimation of how many surveys they could feasibly pass on via paper copies or email. Survey packs were then posted or emailed to the AT teachers who responded. Each survey included a description letter and, if posted, a stamped addressed envelope for the pupil to send the

survey back. The description letter explained that by completing and posting or emailing the survey back, the pupils had consented to the information being used in the research. A contact email address was included for any pupils who wanted to give further information (see Appendix 12 for interview documents). Teachers were also sent a flyer to display in their clinics for additional pupils who may be interested in completing a survey (see Appendix 13).These pupils were asked to contact the researcher for a survey to be sent directly to them.

Data analysis

Study 1 – Interviews

The interview data were transcribed and then analysed using IPA based on the guidelines by Smith et al. (1999). IPA was chosen because the study aimed to learn something about the respondents' experiences, and meanings made, of touch in the Alexander Technique. Data analysis considered the content and complexity of those meanings. The researcher read one transcript at a time, on multiple occasions, and recorded significant and interesting points. Key words and themes that emerged from at least three of the six participants were recorded. Connections between these themes were then explored in order to structure what was extracted from the data. Interpretation was strengthened through the use of a peer IPA researcher, theme-based discussions with the secondary researcher, and through re-analysing transcripts. A research diary was kept by the researcher to reflect on the research process, which is discussed further in Appendix 7.

Study 2 – Surveys

The survey data were analysed using descriptive statistics: frequencies, means, standard deviations and ranges. The focus was on individual item response.

Results

Study 1- Interview data

Five females and one male who together had a mean age of 57 years (SD=10.35) were interviewed. They estimated having learnt the AT for an average of 4 years and 4 months. Four of the interviewees had only had one teacher each, one had been taught by two teachers, and one had been taught by four teachers. All interviewees indicated they were of British origin. The following quotes have been anonymised using false initials.

Four superordinate themes emerged from the data, which are described in Figure 1.

Theme 1. **An incompatibility between touch and the spoken word**

a) Can't put it to words

b) Words aren't good enough anyway

Theme 2. **Touch as a nurturing process**

Theme 3. **Touch as a relational experience**

a) The power of touch in the pupil-teacher relationship

b) Touch changes the relationship with the self

Theme 4. **But…**

a) I'm comfortable with touch, others might not be

b) Gender reservations

Figure 1. Interview themes

Theme 1. An incompatibility between touch and the spoken word

A superordinate theme the interview data produced was a sense of real discordance between touch and the spoken word.

a. Can't put it to words

Within this theme, pupils seemed to feel they could not put words to their experiences of touch. They spoke about touch being experienced on an imperceptible, unspoken and an altogether deeper level. One pupil explained "*I don't come away thinking oh you've been touched" (TH, 119).* Another pupil suggested that touch does not meet the

"cerebral" (OT, 402) level. In fact, the majority spoke about having *"never thought about" (FS, 725)* touch before the interview.

Pupils felt that there were no words with which to talk about touch. Pupils described trying to verbalise their experiences of touch as *"very very difficult" (FI, 40-41), "a challenge"(OT, 810),* and resulting in *"bizarre ramblings"(FI, 273-274).*

b. Words aren't good enough anyway

Pupils would use certain words, and then find them inappropriate; implying that putting words to touch can unintentionally make it seem a negative experience.

"I was going to say it's quite manipulative but that's the wrong word cos obviously manipulative isn't… It's very clever actually. Very subtle, but very effective" (FI, 315-316)

This dilemma could have led pupils to question the helpfulness of trying to put words to touch.

"It was quite nice not to think about it and just enjoy it" (OT, 402)

Further disharmony was highlighted by pupils feeling that words can be judgmental and clinical, whereas touch is free of this.

"I may almost feel, not as though I was being told off, because she wouldn't, that's not the way it's done, but I think instinctively that's how I might interpret it. Whereas

because it's just physical, it's just silent; there's no judgment attached to it" (FI, 121-123)

In fact, pupils voiced that words are an inferior substitute for touch as a teaching method. Two pupils described how being asked to drop your shoulders can lead to inappropriate movements that are habitually connected to the meaning of those words.

"Or my uh view of standing up straight I guess before I got to the AT was of a rather military y'know the shoulders thrown back and the head sort of at an odd angle and I think I'm standing wonderfully erect. But she'll come along and put her hands on your shoulders and cause them to sink a bit. And or just touch you on your head which causes your neck to stretch a bit. Um those are very powerful ways of you realising gosh that does feel better that's much more natural and there's no effort in it in the way that there was effort in y'know standing to attention" (SF, 287-292)

Touch seemed to help pupils *"apply Alexander Technique thinking to the situation" (FI, 326-327),* which can be complex and, without touch, could be *"very frustrating" (FI, 229).*

Theme 2. Touch as a nurturing process

A second superordinate theme to be extracted was of touch being a nurturing process. The interviewees described previous negative experiences of touch in comparison to the now gentle touch of the AT. Pupils described previous osteopathy as *"sometimes quite brutal" (FI, 50)* and previous massage that had been *"aggressive", "violent"* and

"*really digging" (TH, 303; 304; 305).* One pupil described the importance to her that in the AT *"you get to keep your clothes on and nothing that they do hurts you" (FI, 213).*

Pupils seemed to feel that touch can be a healing experience in the AT. A pupil described her teacher as having *"healing hands"(OT, 48)* and two pupils compared touch in the AT to the *"laying on of hands"(FI, 60; TH, 191)*. One pupil drew comparisons between the effect of touch and an advert that showed matted threads being lined up and repaired after the pouring on of a fabric conditioner.

A sense of a physical and emotional release came from the interview data.

"So if you imagine wax and um the heat of this hand makes it feel as though my um muscles just sort of melt and I'm very knotted up" (OT, 54)

This strong imagery was used to convey this pupil feeling physically *"unwound"* from touch which *"gave me carte blanche to kind of go bleuurgh and release a whole lot of that pent up emotion as well" (OT, 150-152).*

Pupils described that touch in the AT resulted in feeling looked after, safe and reassured. One pupil felt *"touch is important to human beings as a form of comfort" (TH, 286-287)* and that *"I quite like this feeling of being looked after" (FS, 239).*

This feeling of safety and reassurance seemed to develop into pupils feeling able to explore and expand independently.

"It takes you into regions perhaps you would have feared to move yourself. Um. But you realise oh that's ok that's possible. So uh that is reassuring. And it gives you confidence too" (SF, 132-133)

One pupil described the value of *"having the nurturing caring hands of someone encouraging my body to do something"* and that *"it's such a lovely feeling when, when somebody gives your body the opportunity to let go and expand" (OT, 741-742).* Pupils described the process as one that does not foster dependence.

"you can recreate that situation even when you're not with your instructor" (FI, 574-575)

The theme of nurture extended to pupils linking their touch experience to childhood. One pupil felt *"there's something kind of almost maternal"* about touch in the AT *(FI, 375)*. Talking about touch made another pupil reflect on the way children learn physically through their environment.

Theme 3. Touch as a relational experience

Another superordinate theme to emerge was that of touch being a relational experience.

a. The power of touch in the pupil-teacher relationship

A sub-theme that fell into this category was the power of touch in the pupil-teacher relationship. Pupils spoke about touch allowing a two-way feedback and communicative process with the teacher.

"My body responds to her touch, she presumably feels the reciprocity of that touch so she goes back to her, it feeds back to her and she knows what to do next" (OT, 71-73)

Another pupil described that *"for every action you're doing you're getting constant feedback" (TB, 446-447).*

Pupils felt that, through touch, the teacher's self *"imprints" (TH, 238)* onto the pupil's self. One pupil described that *"it helps you at the time to experience it deeply but then I think it does stay with you" (TH, 98-100).* The imagery of impressions on wax *(OT, 53)* also seemed to be an analogy for this process of imprinting.

Pupils seemed to feel that touch signals being alongside someone, that someone is sharing the load. Pupils explained how the teacher can *"take the strain" (OT, 418)* and that the pupil can *"give her the weight" (TB, 34).* This draws some parallels with the previous theme of touch being a nurturing experience.

Touch also seemed to be experienced as unique to the teacher and that she is *"giving a part of herself" (FS, 175).* This seemed to result in sense of respect and gratitude towards the teacher.

"they are prepared to bring or give this much of themselves which is transmitted through their touch which helps to build the rapport and the relationship" (OT, 556-567)

Another pupil described the touch as *"so uniquely related to y'know your instructor"* and as *"so clearly part of (Teacher's name)-time" (FI, 615).*

Pupils seemed to suggest that touch is able to work because of the intimate yet boundaried relationship between the pupil and the teacher**.** One pupil interestingly said that touch *"is part of the professional relationship" (SF, 368)* and not the personal relationship unlike, perhaps, other relationships. The quality of the touch was described as fittingly *"reassuring but in a non-personal kind of way" (TH, 297*).

b. Touch changes the relationship with the self

A further sub-theme extracted from the data was that pupils felt touch changes the relationship they have with themselves. Primarily, it emerged that touch helps pupils learn about themselves and increase their awareness of themselves.

"I think I'm relaxed but I'm not and I can immediately feel that as soon as, as she starts to touch me really" (TH, 23-24)

Furthermore, pupils described how touch improves communication with the self. One pupil explained *"if (Teacher's name) touched my shoulder it almost just helped the message get from there through my arm down to my hand" (FI, 66-67I).* Another pupil said *"all the time I'm talking to my body… how would I know that if she didn't show me, there's no point in just saying go up from there unless she's touching me at the same time" (FS, 457-463).*

Pupil also spoke about touch improving their view of themselves. One pupil explained *"I regard my body with a bit more respect now"* whereas before she had viewed it as "*a troublesome object that dragged me back" (SF, 328-329).* One pupil explained *"she has*

taught me through all this it's okay, it's okay to receive she's taught me to find space for myself umm without feeling selfish" (FS, 134-136).

Theme 4. But…

Pupils largely saw touch as a positive experience; however a few exceptions to this were voiced, which formed another superordinate theme to be extracted from the data.

a. I'm comfortable with touch, others might not be

A sub-theme in this category was pupils describing how they feel comfortable and *"never bothered" (TH, 319)* by touch in the AT but that *"some people might be a bit more freaked out" (FI, 218).*

"I can see (sigh) there are people for whom touch is difficult isn't there but um that isn't the case for me. I am someone who'll put my hand on someone else's arm" (SF, 165-167)

b. Gender reservations

Another reservation pupils seemed to have was around the gender of their teacher. The pupils who commented on this seemed to suggest they would not like a teacher whose gender differed to their own teacher.

"But I wouldn't feel happy with a man touching me here and here and here. I just wouldn't feel happy with that. That's too too close thank you" (FS, 711-713)

The male interviewee felt he would not like a male teacher, but a female interviewee felt her husband would feel *more* comfortable with a male teacher.

"Maybe it is a gender thing…I think he'll be more comfortable going to Alexander with a man, um I think rather than a woman" (TH, 333-335)

Notably, pupils who had had more than one teacher had fewer reservations. The pupil who had been taught by two teachers and the pupil who had been taught by four teachers had no gender reservations. The pupil with four teachers also had no reservations over others feeling comfortable with touch. This pupil felt there was a danger of becoming *"stuck in a fur-lined rut" (OT, 520)* only having one teacher.

Study 2 - Survey data

Quantitative data

One hundred and twenty six surveys were posted out to be passed onto pupils. Six teachers were emailed copies of the survey to pass on electronically; however the exact number of pupils to receive these was not recorded.

Table 1.

Demographic information of the 111 survey participants including their gender, the gender of their AT teachers and their ethnicity

Gender of pupil	Gender of teacher	Ethnicity
Male – 23.9%	Male – 0.9%	White British\English – 74.3%
Female – 72.4%	Female – 91.8%	European – 0.9%
No response– 3.7%	No response– 7.3%	Asian – 2.8%
		Mixed race – 0.9%
		No response – 21.1%

Note. % OF 111 PUPILS

One hundred and eleven pupils, 26 males, 79 females and six pupils of unknown gender returned surveys. Four surveys were emailed to the researcher and the others were posted. One pupil reported having a male teacher, 101 reported having a female teacher, and the others did not indicate the gender of their teacher. The most frequently indicated age category of respondents was 56-65 years and the most frequently indicated timesince first lesson was 1-3 years. The most frequently indicated category for number of AT lessons was 11-20. The majority of pupils indicated they were White British/English. See Table 1 and Figure 2 for the full demographic information.

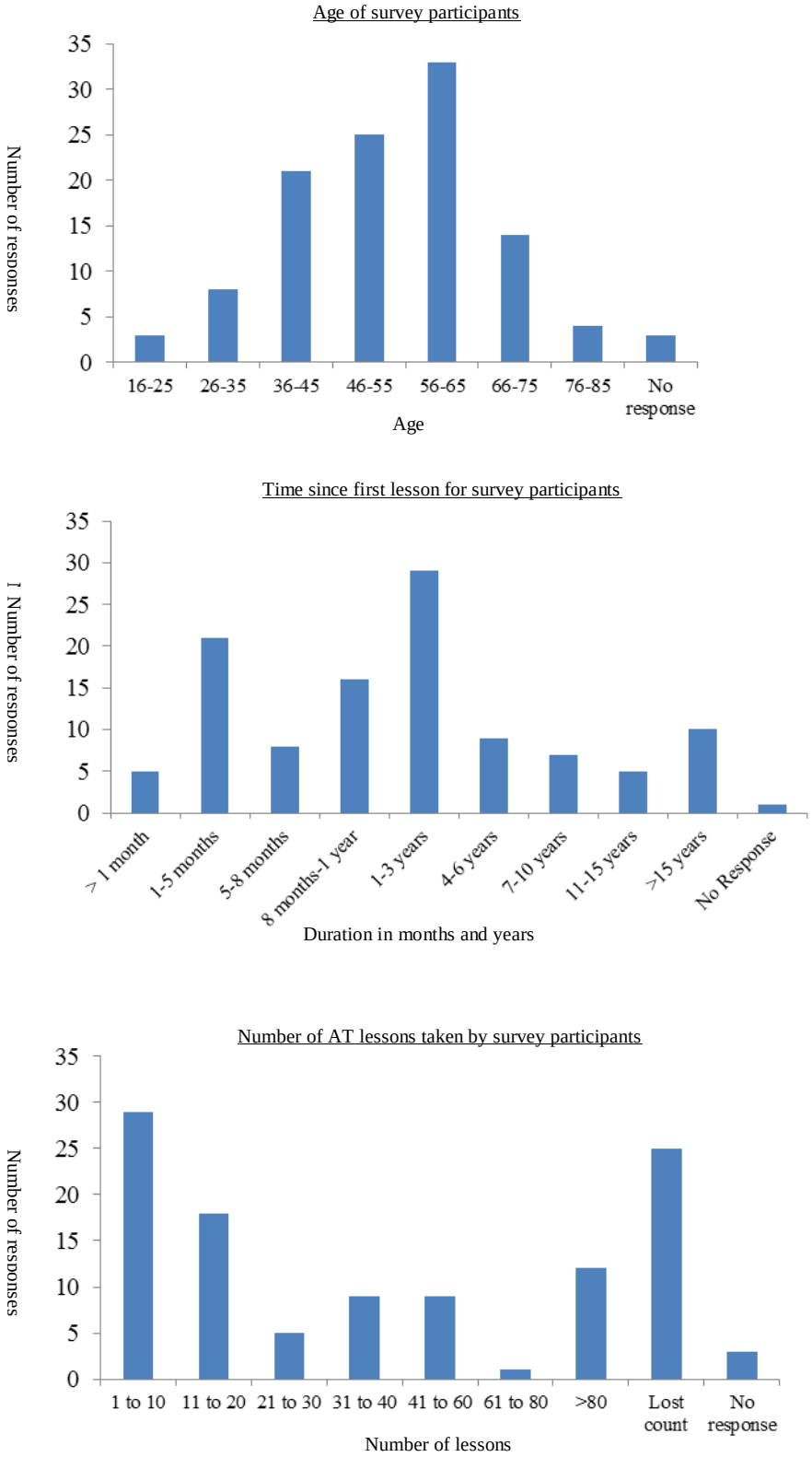

Figure 2. Demographic information of the 111 survey participants including their age in years, time since first AT lesson, and total number of AT lessons

Pupils rated their answers on a scale of 1 (strongly disagree) to 7 (strongly agree). Table 2 outlines the findings from the survey data. Points of interest are discussed with mean scores and the corresponding standard deviations (SD) in parentheses. Mean scores were relatively high for comfort with touch *(6.62, SD .66),* for touch helping pupils understand the technique *(6.19, SD 1.12),* for touch being for pupils' benefit not their teacher's *(6.12, SD 1.46)* and for touch helping pupils feel relaxed *(6.08, SD 1.20).* Mean scores were also high for touch increasing feelings of body connectedness *(6.06, SD 1.26)* and for touch increasing self-awareness *(6.00, SD 1.23)*. Pupils agreed that touch helped them trust their teacher *(5.89, SD 1.46),* that they felt in control when touch was used *(5.70, SD 1.38),* that it helped them communicate with their teacher *(5.55, SD 1.56)* and that it made them feel cared for *(5.32, SD 1.65)*.

Pupils felt there were rarely times touch should not be used *(1.40, SD .92)* and that they had not wanted to know their teacher for longer before it was used *(1.62, SD 1.11).* Pupils did not agree that touch made them feel vulnerable *(2.05, SD 1.49),* that it opened up negative emotions *(2.07, SD 1.46)* or that it opened up emotions that could not be dealt with *(1.75, SD 1.29).* Agreement was also low for touch making pupils feel in a position of less power than their teacher *(2.17, SD 1.48)* and for boundaries feeling broken *(2.66, SD 1.96),* however 14.4% of pupils (16) agreed (scores of 6 or 7) that touch sometimes broke boundaries, with 45.9% (51) strongly disagreeing (scores of 1).

Mean scores regarding awareness that touch would be used and that touch had been discussed with pupils showed agreement *(5.62, SD 1.74; 5.26, SD 1.57),* however less than half of pupils strongly agreed (scored 7) that this was the case (48.6%; 30.9%).

Scores were in the middle range (>3 - <5) for touch fitting with the reason pupils sought the technique *(3.22, SD 1.96)* and for touch making pupils feel safe *(4.44, SD 1.61),*

suggesting less strong agreement either way. Scores were also in the middle range for touch opening up positive emotions in pupils *(4.49, SD 1.76),* increasing feelings of personal control *(4.59, SD 1.67)*, increasing feelings of closeness to the teacher *(4.64, SD 1.74)* and for making pupils feel better about themselves *(4.92, SD 1.64).* Scores were also in the middle range for touch making pupils feel valued *(4.91, SD 1.87)* and for it improving their mood *(5.06, SD 1.63),* however 42.3% of pupils agreed (scores of 6 or 7) that this was the case.

Overall the range for most questions was broad suggesting that feelings were not unanimous and that some pupils had more varied experiences.

Table 2

Survey data listed in descending order of mean score

Survey Question	Mean (1-7 strongly disagree-strongly agree)	Standard deviation	Minimum score (Min = 1)	Maximum score (Max = 7)	Range
I am comfortable with the use of touch in the AT	6.62	.66	4	7	3
Touch helps me understand the technique	6.19	1.12	2	7	5
The AT improves my psychological wellbeing	6.17	1.08	2	7	5
I feel physical contact in the AT is for my benefit rather than my teacher's	6.12	1.40	1	7	6
Touch helps me to feel relaxed	6.08	1.20	2	7	5
Touch in the AT makes me feel more connected with my own body	6.06	1.26	1	7	6
Touch in the AT increases my self-awareness	6.00	1.23	1	7	6
Touch helps me trust my teacher	5.89	1.46	1	7	6
I feel in control when touch is used in my lessons	5.70	1.38	1	7	6

I was aware before my first lesson that touch would be used	5.62	1.74	1	7	6
Touch helps me to communicate with my teacher	5.55	1.56	1	7	6
Touch helps me feel cared for	5.32	1.65	1	7	6
The use of touch has been discussed clearly with me by my teacher	5.26	1.57	1	7	6
Touch in the AT improves my mood	5.06	1.63	1	7	6
Touch in the AT makes me feel better about myself	4.92	1.64	1	7	6
Touch helps me feel valued	4.91	1.87	1	7	6
Being touched makes me feel closer to my teacher	4.64	1.74	1	7	6
Touch in the AT increases my feeling of being in control of myself	4.59	1.67	1	7	6
The use of touch opens up positive emotions within me	4.49	1.76	1	7	6
Touch in the AT makes me feel safe	4.44	1.61	1	7	6
Being touched in lessons fitted with the reason I sought the AT	3.22	1.96	1	7	6
Sometimes being touched can feel as if a boundary has been broken [a]	2.66	1.96	1	7	6
Being touched makes me feel in a position of less power than my teacher [a]	2.17	1.48	1	7	6
The use of touch opens up negative emotions within me [a]	2.07	1.46	1	7	6
Touch in the AT makes me feel vulnerable [a]	2.05	1.49	1	7	6
It opens up emotions within me that I cannot always deal with [a]	1.75	1.29	1	7	6
I would have liked to have known my teacher for longer before touch was used [a]	1.62	1.11	1	7	6
There are times when I feel touch should not be used in my lessons [a]	1.44	.92	1	7	6

[a] Questions targeting negative experiences of touch

Qualitative data

The survey asked pupils to add further comments should they wish. As the data was simple comments rather than rich interview data, a thematic analysis was carried out (Braun & Clarke, 2006).

A primary theme to emerge from this additional data was ***negative interpretations of the intention of the survey***, with pupils responding to it as a threat or challenge, and jumping to the defense of their teachers.

"Your survey appears to seek to draw out the issues that pupils with control issues or difficulties with physical contact might have"

"this survey annoys the hell out of me because it suggests that touch is inappropriate"

Pupils also spoke about ***touch's incompatibility with words***, with comments suggesting that touch is hard to talk about, and that putting words to touch can make it seem negative. One pupil felt the survey asked the *"wrong questions"* and others felt the survey was *"dangerous"* and *"worrying"*.

The other data also seemed to map onto themes from the interviews, and so is presented in this way. In particular, touch was spoken about ***as a nurturing process***, as healing, *"comforting amelioration"* that fosters independence.

"Alexander Technique has played a large role in my recovery from serious skeletal malfunctions. I have complete confidence in my brilliant teacher. From only being able to crawl around on all fours I can now walk and enjoy life"

The idea of ***relationships*** was also strong in this data. Two-way feedback featured in the survey comments with one pupil explaining that *"feedback from touch is very important to see how neutral you are and to trace changes"*.

Within this additional data pupils also commented that touch helped pupils learn about themselves, communicate with themselves and that it improved their relationship with themselves.

"Touch seems an essential part of the process and is useful in changing/heightening awareness of how you perceive your body"

There were also some elements of exceptions or ***buts*** from the survey comments with one pupil feeling *"I think that some of my answers could have been different if I had had a different teacher."*

Discussion

The research set out as a phenomenological study where participants are invited to put words to their experiences, thus assuming this is possible. The degree to which pupils struggled with this process was striking; however they did find the words. A great deal can be learnt not only from what they did say, but from the difficulty they experienced saying it.

A theme emerging in both the interviews and surveys was the incompatibility of touch with the spoken word. Despite being a major form of communication from an early developmental stage, touch is a non-verbal process, and therefore rarely spoken about. Social constructionist theory outlines how social interactions, verbal and non-verbal,

shape our perceived reality (Burr, 1995). The cultural discourses that develop through these interactions shape meaning for all aspects of life. The "low touch" cultures of the US and the UK may have a limited number of *verbal* discourses and commonly used metaphors for touch (as they lack a cultural utility), which could be why interviewees struggled to find words to describe their experiences. The discourses that do exist and are shared within the context of mass media, appear simplistic and dichotomous, that is, either only very positive ("healing hands") or very negative (unwanted sexual touch). These concepts were all visited during the interviews, highlighting how we can only call up culturally available discourses to explain the as yet undefined. However, if this already-held meaning is largely negative, then attempts to impose new neutral words in order to add depth of meaning cannot move the narrative away from the predominantly negative. This process was arguably occurring during interviews. This may also help understand the survey comments, which showed pupils negatively interpreting the meaning of the neutrally intended questions, viewing them as a threat or challenge. Without readily available and wide-ranging language for touch, the survey might have had the most readily available verbal meanings super-imposed onto them. This might offer one explanation of why touch can be viewed with fear and uncertainty on a wider societal level, and why discourses don't develop, as unless there is a wider societal need to do so, it currently feels better not to put words to touch.

Alternatively, it may not be necessary to put words to touch, as it may be viewed as standing alone as a form of communication. The interviewees experienced touch as superior to words when learning and understanding the technique, for example they felt words can be judgmental and critical but that touch is free of this. Again taking a social constructionist stance, we have many more verbal discourses and meanings associated

with the spoken word, whereas touch has more limited discourses which might not involve criticism/judgment.

In-line with a lack of shared verbal meanings for touch, a range of psychological frameworks are needed to conceptualise the results. Another prominent theme to emerge from the interview data was of touch as a nurturing experience. Interviewees described touch as making them feel safe, looked after, able to explore and expand independently, and they even made links to childhood experiences. Triangulating this finding, survey pupils seemed to agree that touch made them feel cared for. In this there seemed to be something reminiscent of early parent-infant attachment experiences, which are seen as integral to psychological development and wellbeing. Healthy attachment processes allow infants to feel safe and secure in order to explore and develop, and are largely non-verbal (Bowlby, 1969). Indeed, pupils seek the AT to develop, often because of physical or psychological "set-backs", and they do so in the context of a dyadic relationship. Touch, a pre-verbal experience, is vital to attachment processes, and is at the core of the AT. One survey participant powerfully described: "*from only being able to crawl around on all fours I can now walk and enjoy life."* These findings support accounts from AT teachers that touch in the technique can mirror developmental processes (Mowat, 2006).

Notably, survey participants did not seem to feel strongly either way that touch made them feel safe or that it increased their personal control. It may be that those who felt more positively about touch were given information from their teachers about the interview. It may be that words are limiting when talking about touch and the interviewees were given more space to reflect on their experiences. Furthermore,

interviewees had on average been learning the technique for longer than survey respondents, so perhaps it takes a certain length of time for touch to have this benefit.

There seemed to be something significant about touch being a relational experience. The role of the relationship in models of development is paramount. Object relations theory is a psychological framework, largely linked to Melanie Klein (eg. 2002) that focuses on the importance of dyadic relationships in early infant development. It seems well-placed to understand some of these processes because, as discussed, pupils often seek the AT to develop both physically and psychologically, and this takes place in the context of a dyad, often using non-verbal techniques. Object relations theory outlines the process of introjection, in which interpersonal relationships are internalized and qualities from external Others (usually the parent) are transposed from outside to inside the infant. This is largely through somatic experiences such as touch (Ivey, 1990). The themes around the importance of the pupil-teacher relationship, especially regarding imprinting and the teacher giving something of themself, draw parallels with this process. Re-introjection is another object relations process in which the Other processes and "detoxifies" information projected from the infant, and feeds it back for the infant to re-internalise (Ivey, 1990). Pupils in both the interviews and the survey spoke about two-way feedback, with the teacher communicating back what they had learned from the pupils through touch. Therefore, touch may be experienced so powerfully in the AT pupil-teacher relationship because of its reminiscence with these early developmental processes, possibly supported by the interviewees' apparent preference for female teachers.

The special nature of this relationship may explain why interviewees could not imagine lessons with another teacher, or others replicating this relationship, unless they had had

multiple teachers themselves. Indeed, one pupil compared only having one teacher with being *"stuck in a fur-lined rut" (OT, 520).*

Object relations theory denotes that a child experientially derives an image of the self through these early relationships. It describes how positive self-representations are internalized if there is good and healthy contact with the Other. In object relations therapy the therapist is containing and facilitating with the aim that the client internalizes this mode of relating with themselves. It is hoped that through this, the client will become their own object of nurture, thus improving their relationship with the self and their image of the self (Ivey, 1990). Reflecting this process, AT pupils in both studies spoke about their teacher's gentle touch improving how they communicate and relate with themselves. One pupil previously viewed her body as *"troublesome"* but now treated it with *"more respect".* This mirrors a psychoanalyst's experience of AT lessons, cited by Mowat (2008), who felt they accessed "self-states" through the hands-on work of the AT, which aided a process of "integration and self-healing" (Anderson, 2006, p. 5). However, survey pupils did not strongly agree that touch made them feel better about themselves, which may be understood in the same way as the contrasting data discussed earlier.

Extending from this, the AT may help pupils discover that they *can* have a relationship with themselves. Survey participants explained how touch helped them feel more connected to their bodies, which links with Armitage's (2009) findings that the AT increases body-awareness. Touch may reduce feelings of separateness from one's body, and through feeling embodied pupils may feel more relatable; both to others and to themselves. In support of this, Waskul and van der Riet (2002) outline how experiences of embodiment are central to "who we think we are" (p.487). The links between touch,

body awareness and the ability to relate positively with the self may help explain findings that women with body image problems report fewer nurturing tactile experiences during childhood (Gupta, Schork & Watteel, 1995).

Less than half of pupils strongly agreed that they were aware touch would be used (which countered the researcher's assumptions), yet despite this, the majority felt they had not wanted to know their teacher longer before touch was used. Tarr (2011) suggests that the AT's focus on the "self" (the mind and body united) reduces emphasis on the individual's body, which perhaps minimises any fears related to hands-on work to the body. As highlighted by one interviewee, being fully-clothed during AT lessons may also make it an easier experience.

At the outset of the study, the primary research question concerned the way touch in the AT is experienced by pupils. As discussed, touch appeared to be experienced at a largely non-verbal level that seemed superior to words, by being judgment-free and more appropriate to understanding the technique. Pupils described feeling nurtured by touch and that it helped them relate more positively with themselves, drawing parallels with early developmental experiences. These findings suggest that touch contributed to pupils' psychological change which was another area questioned at the outset of the study. Further to this, survey pupils felt that touch made them feel relaxed and the interviewees described feelings of *"release".* These experiences may be due to pupils letting go of unnecessary muscle tension, but in addition to this, touch within the technique may induce hormonal changes that reduce stress and increase feelings of calm (e.g. Holt-Lunstad et al., 2008).

The results suggest that touch is experienced as a powerful part of the pupil-teacher relationship, which addresses another of the initial research questions. Survey pupils largely agreed that touch helped them trust their teacher, and many felt valued by their teacher through touch. Interviewees spoke about touch helping two-way communication, and that it made them feel alongside their teacher and that the teacher was giving a part of themselves. However, the survey pupils neither agreed nor disagreed that touch made them feel closer to their teacher. Nevertheless, the findings support and expand on Mowat's (2008) view that touch changes the dynamics in the AT pupil-teacher relationship. Not only does it seem to strengthen the pupil-teacher relationship, but touch being *part* of this relationship seems powerfully reminiscent of early developmental experiences, which may have contributed to the psychological changes described above.

Hall (1990) argues that to move "towards a psychology of caring" and away from often unhelpful preoccupations with "curing" (p. 129), psychologists need to pay specific attention to areas such as touch. In line with this, the second research question addressed how the research can help understand the implications of touch in psychological therapies. As described in the Introduction, the gentle touch of the AT serves a communicative, accepting and reflective function (Farkas, 2010), and as the findings suggest, helps pupils learn about themselves, relate better with themselves and improve psychologically in a number of ways. This seems highly relevant to psychological therapies. One prime example being the similarities between these processes and Compassionate Mind psychotherapy, within which psychological change centres around clients treating themselves with greater acceptance and compassion (Gilbert, 2009). Additionally, the self-awareness that comes from feeling embodied is similar to the awareness in the present moment that mindfulness approaches emphasise

(e.g. Linehan, 1993). Touch also seemed to strengthen the pupil-teacher relationship, and research suggests that a strong therapeutic relationship plays a powerful part in psychotherapy outcomes (Norcross, 2011). The psychological benefits could be understood through early developmental experiences, which may sit uneasily with psychoanalytic assumptions that childhood issues cannot be resolved through later therapy-based re-parenting. However, object relations literature (Glickhauf-Hughes & Chance, 1998) suggests that touch in a trusting therapeutic relationship with a client who has sufficient ego development can create a "benign" rather than "malignant regression" (Balint, 1968) which can increase awareness, overcome defenses and master the developmental phases of trust, attachment and dependence. This seemed to reflect the experience of many of the pupils in this study. Mowat (2008) argues that such deep change can only come about from bodywork, and as a result argues for greater integration of AT and psychotherapy . She interestingly argues for the flip-side; that AT teachers would benefit from training in psychotherapy skills. The ICS model would further support the idea that working only in one system limits outcomes, as experiences impact individually physically and psychologically (Barnard & Teasdale, 1991). Consequently, it seems touch, and certainly holistic working, has a lot to offer within psychological therapies.

However, the extent to which findings can be specifically applied to psychological therapies is limited. Psychotherapy clients may be more sensitive to negative emotional reactions, power differentials and boundary breaks in response to touch than the AT pupils who participated in this study. Taking an object relations stance, psychotherapy clients are more likely to have less developed egos, in which case these individuals may not benefit as positively from touch (Glickhauf-Hughes & Chance, 1998). Also, as highlighted by interviewees, those who feel uncomfortable with touch are unlikely to

have AT lessons, so the opinions discussed may not be widely generalisable. The process of touch in the AT draws parallels with words in psychological therapies; however the *type* of touch used may not be the same as that considered in the majority of psychological therapies. The latter may involve a therapist deciding whether or not to shake their clients' hand, or to hold their hand when they are crying. Perhaps as understanding develops around how emotions are held within the body, psychological interventions may become more body-focused, emphasising awareness and tension release in a more similar way to the AT. However, touch has not been broken down enough in this study to account for the different intentions touch in the majority of psychotherapies might have. This research serves the function of demonstrating how touch can be experienced, in what ways it can be beneficial, and perhaps why it is sometimes a fearful concept, so that more informed choices can be made around its use.

When evaluating this study, one particular strength was the rich data collected from the interviews. The exploratory design allowed for an open investigation that suited this relatively "untouched" area of research. The interview participants were reflective and articulate, often using metaphors and analogies to help them access, understand and communicate their experiences, making this an effective population when studying an area that struggles for words. The surveys allowed the research to highlight the difficulty of trying to define an experience of one modality within the confines of another.

One limitation of the study was that AT teachers gave pupils the surveys, and they also put forward interview participants. As discussed, in some instances the survey data did not reflect what the interview data stated. Therefore, it is possible that teachers provided

interview participants who felt more favourable towards touch, and as suggested in the demographic information, those who had had more experience of it.

Interviewees and survey respondents primarily identified with being White and British. It is important to acknowledge that experiences of touch are likely to differ in cultures with different values and where touch has developed different meanings. Cultures that use touch more may have developed a greater number of discourses around it, due to greater cultural utility, so experiences may be spoken about differently in these contexts. Therefore, the findings cannot be generalised beyond relatively "low-touch" cultures such as the UK.

Despite revealing useful information, the survey data was less fruitful than the interview data, perhaps because the pre-defined questions restricted answers. In future, a different approach could be taken, such as focus groups, where shared experiences encourage greater response (Butler, 1996) and which allow for meanings to be shared in a social environment (Krueger & Casey, 2000). As touch is non-verbal, measuring it non-verbally may be an appropriate alternative route. Onewuegbuzie, Leech and Collins (2010) propose a template with which to collect the invaluable non-verbal data within interviews, explaining that many culturally-shared gestures are used symbolically instead of speech (Ricci Bitti & Poggi, 1991).

Touch may not have many verbal definitions, but it is a complex and multifaceted experience. There are countless types of touch even within the AT itself, however this study discusses touch in a very general manner. This limits how far it can be applied to psychological therapies as discussed. However, it was felt that as touch is so poorly understood, the first steps in this exploration would naturally be more general. Future

research should focus on specific aspects of touch in the AT, such as the accepting and reassuring touch, the quieting touch, and the energizing touch, all of which are said to be part of the teacher's "accepting hand" (Farkas, 2010).

The research opened up interesting questions regarding the links between touch, body awareness and the ability to relate more positively with the self. This could be researched more specifically in future, either within the AT or within other body-focused therapies, which could give further information regarding implications of touch in psychotherapies.

Summary

The research highlighted some interesting and complex psychological processes that underlie touch, including how we communicate about it, its role in individual change and its powerful influence on relationships. The apparent psychological benefit of touch delivered through a one-to-one, professionally boundaried relationship supported the relevance of touch within psychological therapies, and despite not being able to make specific clinical applications, the significance of holistic working was highlighted. The study yielded interesting and rich data, largely due to the willingness and eloquence of the interviewees and what the process of collecting survey data revealed. Further encouragement of discussion and creative data collection techniques could help expand the verbal meanings we have for touch, and harness the power of this important process.

If we only talk and refuse to touch, we may miss, and clients may miss, an opportunity to find an inroad to the unexpressed feelings that are blocking their ability to live and love fully. Touch is an infant's first and most intimate human contact. Touch may sometimes reach all the way to a soul that is deaf to words alone.

(Imes, 1998, p.198 – on touch in psychotherapy)

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Part Three

Appendices

Appendix 1

Journal Choice

I chose to submit *The role of touch in dyadic processes: Exploring the relationship between infant massage and later parent-infant interactions* to the Infant Mental Health Journal. I felt the paper is clinically relevant to all those working with families and I hoped this journal would be a good way of communicating the clinical applications of the review across disciplines. The journal welcomes papers that deal with infant social-emotional development and caregiver-infant interactions which seemed directly relevant to my paper. At completion of this portfolio the journal had an impact factor of 1.12

I chose to submit *Exploring the Psychological Processes Underlying Touch: Lessons from the Alexander Technique* to the British Journal of Psychology. This journal welcomes work in novel areas and topics which may be of interest to researchers from more than one specialism, which seemed to fit with my paper. The research findings seem to have interesting and wide-ranging theoretical implications which I wanted to make accessible to a wide audience, not just clinicians. At completion of this portfolio the journal had an impact factor of 2.172.

Appendix 2

Guidelines for authors for the Systematic Literature Review

Infant Mental Health Journal Author Guidelines

The Infant Mental Health Journal (IMHJ) is the official publication of the World Association for Infant Mental Health (WAIMH) and is copyrighted by the Michigan Association for Infant Mental Health.

Information for Contributors

Reflecting the interdisciplinary nature of the field and the international focus of the Journal and WAIMH, the IMHJ publishes research articles, literature reviews, program descriptions/evaluations, clinical studies, and book reviews on infant social–emotional development, caregiver–infant interactions, and contextual and cultural influences on infant and family development. There is particular interest in those conditions that place infants and/or families at risk for less than optimal development. The Journal is organized into three sections: Research and Prevention/Intervention Studies, Clinical Perspectives, and Book Reviews. The first section on Research and Intervention Studies involves peer reviews based on more traditional research journal models. However, the Clinical Perspectives section allows for more diversity both in types of submissions and through the review process. This increased flexibility provides the opportunity to expand both the interdisciplinary and international scope of the Journal. The Book Review Editor screens books that are received by the Journal and requests a review from an appropriate person. The book reviews are then reviewed by the Book Review

Editor and the Journal Editor. The Journal welcomes a broad perspective and scope of inquiry into infant mental health issues and has an interdisciplinary and international group of consulting editors and reviewers who participate in the peer review process. In addition to regular submissions to the Journal, the intent is to publish two special issues or sections each year that may be guest edited and which provide an in-depth exploration through a series of papers of an issue that may be of particular interest to the readers of the Journal. Please submit requests for special issues directly to the Editor. MANUSCRIPTS for submission to the *Infant Mental Health Journal* should be forwarded to the Editor as follows:

1. Go to your Internet browser (e.g., Netscape, Internet Explorer).
2. Go to the URL http://mc.manuscriptcentral.com/imhj
3. Register (if you have not done so already).
4. Go to the Author Center and follow the instructions to submit your paper.
5. Please upload the following as separate documents: the title page (with identifying information), the body of your manuscript (containing no identifying information), each table, and each figure.
6. Please note that this journal's workflow is double-blinded. Authors must prepare and submit files for the body of the manuscript that are anonymous for review (containing no name or institutional information that may reveal author identity).
7. All related files will be concatenated automatically into a single .PDF file by the system during upload. This is the file that will be used for review. Please scan your files for viruses before you send them, and keep a copy of what you send in a safe place in case any of the files need to be replaced.

Style must conform to that described by the American Psychological Association *Publication Manual* , Fifth Edition, 2001 revision (American Psychological

Association, 750 First Street, N.E., Washington, D.C. 20002-4242). Authors are responsible for final preparation of manuscripts to conform to the APA style.

Manuscripts are assigned for peer review by the Editor or Associate Editor(s) and are reviewed by members of the Editorial Board and invited reviewers with special knowledge of the topic addressed in the manuscript. The Editor retains the right to reject articles that do not conform to conventional clinical or scientific ethical standards. Normally, the review process is completed in 3 months. Nearly all manuscripts accepted for publication require some degree of revision. There is no charge for publication of papers in the *Infant Mental Health Journal*. The publisher may levy additional charges for changes in proofs other than correction of printer's errors. Proofs will be sent to the corresponding author and must be read carefully because final responsibility for accuracy rests with the author(s). Author(s) must return corrected proofs to the publisher in a timely manner. If the publisher does not receive corrected proofs from the author(s), publication will still proceed as scheduled.

Additional questions with regard to style and submission of manuscripts should be directed to the Editor: Hiram E. Fitzgerald, PhD, at IMHJ@msu.edu.

Further email correspondence with the Editor Hiram E. Fitzgerald confirmed that the article should have a 30 page limit including tables and references.

Appendix 3

Guidelines for authors for the Empirical Paper

British Journal of Psychology Author Guidelines

The Editorial Board of the British Journal of Psychology is prepared to consider for publication:

(a) reports of empirical studies likely to further our understanding of psychology

(b) critical reviews of the literature

(c) theoretical contributions Papers will be evaluated by the Editorial Board and referees in terms of scientific merit, readability, and interest to a general readership.

1. Circulation

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

2. Length

Papers should normally be no more than 8000 words (excluding the abstract, reference list, tables and figures), although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Submission and reviewing

All manuscripts must be submitted via http://www.editorialmanager.com/bjp/. The Journal operates a policy of anonymous peer review. Before submitting, please read the terms and conditions of submission and the declaration of competing interests.

4. Manuscript requirements

• Contributions must be typed in double spacing with wide margins. All sheets must be numbered.

• Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. A template can be downloaded from here.

• Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.

• Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi.

• All articles should be preceded by an Abstract of between 100 and 200 words, giving a concise statement of the intention, results or conclusions of the article.

• For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.

• SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.

• In normal circumstances, effect size should be incorporated.

• Authors are requested to avoid the use of sexist language.

• Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright. For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

5. Supporting Information

BJOP is happy to accept articles with supporting information supplied for online only publication. This may include appendices, supplementary figures, sound files, videoclips etc. These will be posted on Wiley Online Library with the article. The print version will have a note indicating that extra material is available online. Please indicate clearly on submission which material is for online only publication. Please note that extra online only material is published as supplied by the author in the same file format and is not copyedited or typeset. Further information about this service can be found at http://authorservices.wiley.com/bauthor/suppmat.asp

6. Copyright

Authors will be required to assign copyright to The British Psychological Society. Copyright assignment is a condition of publication and papers will not be passed to the publisher for production unless copyright has been assigned. To assist authors an appropriate copyright assignment form will be supplied by the editorial office and is also available on the journal's website at

http://www.blackwellpublishing.com/pdf/CTA_BPS.pdf. Government employees in both the US and the UK need to complete the Author Warranty sections, although copyright in such cases does not need to be assigned.

7. Colour illustrations

Colour illustrations can be accepted for publication online. These would be reproduced in greyscale in the print version. If authors would like these figures to be reproduced in colour in print at their expense they should request this by completing a Colour Work Agreement form upon acceptance of the paper. A copy of the Colour Work Agreement form can be downloaded **here**.

8. Pre-submission English-language editing

Authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. A list of independent suppliers of editing services can be found at http://authorservices.wiley.com/bauthor/english_language.asp. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

9. OnlineOpen

OnlineOpen is available to authors of primary research articles who wish to make their article available to non-subscribers on publication, or whose funding agency requires grantees to archive the final version of their article. With OnlineOpen, the author, the author's funding agency, or the author's institution pays a fee to ensure that the article is made available to non-subscribers upon publication via Wiley Online Library, as well as deposited in the funding agency's preferred archive. For the full list of terms and conditions, see http://wileyonlinelibrary.com/onlineopen#OnlineOpen_Terms

Any authors wishing to send their paper OnlineOpen will be required to complete the payment form available from our website at:

https://onlinelibrary.wiley.com/onlineOpenOrder

Prior to acceptance there is no requirement to inform an Editorial Office that you intend to publish your paper OnlineOpen if you do not wish to. All OnlineOpen articles are treated in the same way as any other article. They go through the journal's standard peer-review process and will be accepted or rejected based on their own merit.

10. Author Services

Author Services enables authors to track their article – once it has been accepted – through the production process to publication online and in print. Authors can check the status of their articles online and choose to receive automated e-mails at key stages of production. The author will receive an e-mail with a unique link that enables them to register and have their article automatically added to the system. Please ensure that a complete e-mail address is provided when submitting the manuscript. Visit http://authorservices.wiley.com/bauthor/ for more details on online production tracking and for a wealth of resources including FAQs and tips on article preparation, submission and more.

11. The Later Stages

The corresponding author will receive an email alert containing a link to a web site. A working e-mail address must therefore be provided for the corresponding author. The proof can be downloaded as a PDF (portable document format) file from this site. Acrobat Reader will be required in order to read this file. This software can be downloaded (free of charge) from the following web site: http://www.adobe.com/products/acrobat/readstep2.html. This will enable the file to be

opened, read on screen and annotated direct in the PDF. Corrections can also be supplied by hard copy if preferred. Further instructions will be sent with the proof. Hard copy proofs will be posted if no e-mail address is available. Excessive changes made by the author in the proofs, excluding typesetting errors, will be charged separately.

12. Early View

The British Journal of Psychology is covered by the Early View service on Wiley Online Library. Early View articles are complete full-text articles published online in advance of their publication in a printed issue. Articles are therefore available as soon as they are ready, rather than having to wait for the next scheduled print issue. Early View articles are complete and final. They have been fully reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after online publication. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so they cannot be cited in the traditional way. They are cited using their Digital Object Identifier (DOI) with no volume and issue or pagination information. E.g., Jones, A.B. (2010). Human rights Issues. *Human Rights Journal*. Advance online publication. doi:10.1111/j.1467-9299.2010.00300.x

Appendix 4

Extra information regarding the quality review

Downs and Black's quality checklist (1998) was used to rate the quality of the quantitative studies. It was edited to fit more appropriately to the body of literature by cutting out two questions. Firstly, the question was cut that regarded whether the treatment, facilities and setting were representative of the treatment the majority of patients receive. Infant massage varies across these aspects as it is traditionally offered in many different ways and settings, so this question did not seem relevant. The second question to be cut out was around power, and whether the studies could detect a clinically important effect. The purpose of the review was to explore the relationship between infant massage and parent-infant interactions, not to investigate clinical effectiveness, so this question was also cut. Appendix 5 details the questions that were included and the ratings given.

References

Downs, S. H., & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomized and non-randomized studies of health care interventions. *Journal of Epidemiological Community Health, 6*, 377-84.

Appendix 5

Quality review of quantitative studies

Quality Assessment Questions	Studies									
	Booth, Johnson-Crowley & Barnard (1985)	Elliot, Reilly, Drummond, & Letourneau, (2002)	Ferber et al. (2005)	Hansen, & Ulrey (1988)	Koniak Griffin, Ludington-Hoe, & Verzemnicks (1995)	Lee (2006)	O'Higgins, Roberts & Glover (2008)	Onozawa, Glover, Adams, Modi & Kumar (2001)	stenze & Biasini (2011)	White-Traut & Nelson, (1988)
	Author (Independent rater) scores (1 = Yes, present & 0= No, not present or Not clear)									
Clearly described aims/hypotheses	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Main outcomes to be measured are in the Introduction/Method	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Participant characteristics clearly described	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Clearly described interventions of interest	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Confounders in each group clearly described (1 for partially, 2 for fully)	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	2 (2)	1	2
Main findings of the study clearly described	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Estimates of random variability for main outcomes included	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	0
Adverse effects of interventions reported	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1

Quality Assessment Questions	Studies									
	Booth, Johnson-Crowley & Barnard (1985)	Elliot, Reilly, Drummond, & Letourneau, (2002)	Ferber et al. (2005)	Hansen, & Ulrey (1988)	Koniak Griffin, Ludington-Hoe, & Verzemnicks (1995)	Lee (2006)	O'Higgins, Roberts & Glover (2008)	Onozawa, Glover, Adams, Modi & Kumar (2001)	Oswalt & Biasini (2011)	White-Traut & Nelson, (1988)
	Author (Independent rater) scores (1 = Yes, present & 0= No, not present or Not clear)									
Characteristics of participants lost to follow-up are described	1	1 (1)	1 (1)	0	1 (0)	1	0 (0)	1 (1)	1	1
Actual probability values are reported for main outcomes (except <0.001)	0	0 (0)	1 (1)	0	0 (0)	1	0 (1)	1 (1)	1	1
Participants asked were representative of entire population from which they were recruited	0	1 (0)	0 (1)	0	0 (0)	0	0 (0)	1 (1)	0	0
Those who took part were representative of entire population from which they were recruited	0	0 (0)	1 (1)	0	0 (0)	1	0 (0)	0 (0)	0	0
An attempt to blind participants to their intervention group	0	0 (0)	1 (1)	0	0 (0)	0	1 (1)	1 (1)	1	1
An attempt to blind those measuring the main outcomes	0	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Any findings from "data dredging" were made clear	0	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1

Quality Assessment Questions	Studies									
	Booth, Johnson-Crowley & Barnard (1985)	Elliot, Reilly, Drummond, & Letourneau, (2002)	Ferber et al. (2005)	Hansen, & Ulrey (1988)	Koniak Griffin, Ludington-Hoe, & Verzemnicks (1995)	Lee (2006)	O'Higgins, Roberts & Glover (2008)	Onozawa, Glover, Adams, Modi & Kumar (2001)	Oswalt & Biasini (2011)	White-Traut & Nelson, (1988)
	Author (Independent rater) Scores (1 = Yes, present & 0= No, not present or Not clear)									
Time period between intervention & outcome were the same for all groups	1	1 (1)	0 (0)	1	1 (1)	1	1 (1)	1 (1)	1	0
Appropriate statistical tests were used for main outcomes	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Compliance with interventions was reliable	0	1 (1)	1 (1)	0	1 (1)	1	1 (0)	1 (1)	0	0
Accurate main outcomes measures (valid/reliable)	1	1 (1)	1 (1)	1	1 (1)	1	1 (1)	1 (1)	1	1
Participants in different groups were recruited from the same population	1	0 (0)	0 (0)	1	0 (1)	1	0 (0)	1 (1)	1	1
Participants across groups were recruited over the same time period	0	1 (1)	0 (0)	1	1 (1)	0	1 (1)	1 (1)	1	0

Quality Assessment Questions	Studies									
	Booth, Johnson-Crowley & Barnard (1985)	Elliot, Reilly, Drummond, & Letourneau, (2002)	Ferber et al. (2005)	Hansen, & Ulrey (1988)	Koniak Griffin, Ludington-Hoe, & Verzemnicks (1995)	Lee (2006)	O'Higgins, Roberts & Glover (2008)	Onozawa, Glover, Adams, Modi & Kumar (2001)	Oswalt & Biasini (2011)	White-Traut & Nelson, (1988)
	Author (Independent rater) Scores (1 = Yes, present & 0= No, not present or Not clear)									
Participants were randomised into groups	0	1 (1)	1 (0)	1	1 (1)	0	1 (1)	1 (1)	1	1
Randomised assignment was concealed to participants and staff until recruitment was complete	0	0 (0)	0 (0)	0	0 (0)	0	0 (0)	0 (0)	1	0
Adequate adjustment was made for confounding in the analyses for the main findings	1	1 (1)	1 (1)	0	1 (1)	1	1 (1)	1 (1)	1	1
Losses of patients to follow-up was taken into account	0	1 (1)	1 (1)	0	1 (1)	1	0 (0)	0 (0)	0	1
Total Scores	15	20 (19)	20 (20)	17	19 (19)	20	18 (18)	23 (23)	21	19

Appendix 6

Quality Assessment of the Qualitative Studies

Quality Assessment Areas	Studies	
	Beyer & Strauss (2002)	Lappin & Kretchsmer (2005)
	Author (Independent rater) Scores (1 = Indicators of this, 0= No indicators of this)	
Are the findings credible?	1 (1)	1 (1)
Has the research extended knowledge/understanding?	1 (1)	1 (1)
Does the evaluation address the original aims and purposes?	1 (1)	1 (1)
Is there scope for drawing wider inference and is this explained well?	1 (1)	1 (1)
Is the basis of evaluative process clear?	0 (0)	1 (1)
Is the research design defensible?	0 (0)	1 (1)
Is the sample design/target selection of cases well defended?	0 (1)	1 (1)
Is the eventual coverage of sample composition/case inclusion described?	1 (1)	1 (1)
Was the data collection carried out well?	0 (0)	1 (1)
Has the approach to and formulation of analysis been conveyed?	0 (0)	1 (1)

Quality Assessment Areas	Studies	
	Beyer & Strauss (2002)	Lappin & Kretchsmer (2005)
	Author(Independent rater) Scores (1 = Indicators of this, 0= No indicators of this)	
Are the contents of data sources retained and portrayed well?	0 (0)	1 (1)
Has the diversity of perspective and content been explored?	1 (1)	0 (0)
Has the detail, depth and complexity of data been conveyed well?	1 (1)	1 (1)
Are the links between data, interpretation and conclusions clear?	1 (1)	0 (0)
Is the reporting clear and coherent?	1 (1)	1 (1)
Are the assumptions/theoretical perspectives/values that have shaped the form and output of evaluation clear?	0 (0)	0 (0)
Is there evidence of attention to ethical issues?	1 (1)	1 (1)
Has the research process been documented well?	1 (1)	1 (0)
Total Scores	11 (12)	15 (14)

Appendix 7

Epistemological statement

Qualitative research as outlined by Smith (2008) attempts to understand experiences rather than predict outcomes. In this way it is more a relativist ontology as it understands meaning to be subjective and dependent on a frame of reference, rather than there being absolute truths. The opposite, realist ontology, suggests there is a fixed reality which can be objectively measured. In-line with this, positivist quantitative methodologies collect measurable data which is applied to predetermined theories or hypotheses.

The empirical research within this portfolio used a mixed method design, utilising both quantitative and qualitative methods. Yardley and Bishop (2008) outline how such designs can be contentious due to the different paradigms the two approaches are based upon. Taking a pragmatic perspective they argue that these differences have been exaggerated and can be overcome, and that using mixed methods valuably offers multiple perspectives of the area being researched. Rather than being preoccupied with paradigms etc., pragmatic perspectives simply select approaches that best address the researcher's questions. Yardley and Bishop (2008) outline how mixed method designs can offer detailed experiences of a small number of participants as well as the opportunity to test the relative significance of seemingly influential factors on a wider scale, which was the aim of the current research. Effectively integrated mixed method research is suggested to happen when understanding has been enhanced by studying and discussing the phenomenon from different perspectives (Jick, 1979) rather than discussing findings separately. The current research endeavoured to do this.

An Interpretative Phenomenological Approach was taken with the qualitative part of the research as it hoped to explore how AT pupils make sense of their experiences of touch.

Crotty (2003) outlines that the way we experience the world impacts on the way we research it, and this is especially important in phenomenological research. Therefore, it is an important role of the researcher to consider how our actions and decisions can have an impact.

The researcher chose to take two lessons of the Alexander Technique to help them further understand what lessons entail. It was acknowledged that these lessons may have affected the researcher's views of touch and therefore the data analysis procedure. However, the researcher would have had preconceptions of touch without having had these lessons. Furthermore, IPA hopes to get as close to the participants' experience as possible (Smith, 2008) which may have been helped by the researcher having experienced lessons. After lessons, the researcher wrote in a research diary and reflected on their experiences during the data analysis process, to help reduce the influence of these previous experiences.

The researcher themselves can recall having had predominantly positive experiences of touch, and certainly no overwhelmingly negative experiences of touch. They have experienced touch in a number of ways; maternal touch, loving, encouraging, caring, intimate and friendly touch, and everyday touch such as handshakes or hugs, and they would say that touch is something they are comfortable with and value as an experience. This may mean they could interpret others' experiences in a more positive way. From the researcher's experience and knowledge they also hold the belief that touch could be a potentially powerful therapeutic tool. Again, this could have influenced how the researcher interpreted others' experiences. By acknowledging these beliefs, keeping a research diary, and having a secondary researcher and supervisor to reflect on these with, the researcher hoped to minimise the influence of these on the interpretations of the pupils' experiences.

References

Crotty, M. (2003). *The Foundations of Social Research: Meaning and perspective in the research process*. London: Sage Publications.

Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly, 24,* 602-611.

Smith, J. A. (2008). *Qualitative Psychology. A practical Guide to Research Methods* (2nd ed.). London: Sage Publications.

Yardley, L., & Bishop, L. (2008). Mixing qualitative and quantitative methods: A pragmatic approach. In C. Willig & W. Stainton-Rogers (Eds.). *The SAGE Handbook of Qualitative Research in Psychology* (pp. 352-367). London: Sage.

Appendix 8

Interview Questions

Thank you for agreeing to take part in this study. It should last no longer than 2 hours. I'm going to ask you some questions around the use of touch in the Alexander Technique.

Before we start do you have any questions? Let's begin.

Experiences

Tell me a bit about your experiences of the Alexander Technique.

Tell me a bit about your experiences of being touched in the Alexander Technique.

- Could describe how it feels? What is it like?
- Where are you touched? How are you touched?
- How comfortable is it for you? Have you ever felt differently to this? Why do you think this was?
- Tell me a bit about any feelings or emotions that come up when you are touched. How can you explain why these feelings come about? How are these feelings dealt with when they come up in your lessons?

Expectations

What were your expectations of the use of touch in the Alexander Technique?

- How was the use of touch discussed with you before it was used in your lessons? How important was it to you that it was discussed? What continued communication around the use of touch is there with your teacher? How important is this to you? How might people's expectations influence their experience?

How comfortable did you feel with the timing of the first use of touch?

- How did you feel it fitted with your relationship with your teacher? How do you feel the use of touch fitted with the reason you sought the technique?

The purpose of touch

Tell me a bit about your thoughts on the purpose of touch in the Alexander Technique. Personally what is the significance of the use of touch for you?

- Are these direct effects of being touched, or because touch helps you learn the technique, which you then benefit from? Tell me about the role of touch in learning the technique.

- How would the Alexander Technique be different if touch was not used? How would this change your experience during lessons? How would the outcomes be different?

Tell me about any times you feel touch should not be used.

Touch and the pupil-teacher relationship

Can you tell me about your relationship with your teacher?

- What are the benefits of having a good relationship with your teacher? How important do you feel this is?

How do you feel the use of touch influences this relationship?

- What type of touch plays a role in this? How would your relationship be different if touch was not used? How in control do you feel when touch is used in lessons? How would you feel about asking your teacher to change or stop the touch that was being used?
- Has the issue of boundaries in relation to touch in your lessons ever come to mind? If so, in what way? If not, why do you think this is?
- What does your teacher gain from using touch in lessons? How do you feel about this?

Touch and psychological change in the AT

Can you tell me about how your psychological wellbeing has changed as a result of your Alexander Technique lessons?

- How, if at all, has your mood been affected?

How, if at all, do you feel that the use of touch plays a role in these changes?

- What type of touch influences/influenced these changes? How much is this a direct result of touch and how much is it because touch helps you learn the technique? How, if at all, would these changes be affected if touch was not part of the technique? What would be different?
- How, if at all, do you think touch in the Alexander Technique could negatively affect someone's psychological wellbeing?

Body-mind

Tell me about how you view the relationship between your mind and your body? Has the Alexander Technique changed this in anyway, and if so, how?

- How has the use of touch influenced how you see you view the relationship between your mind and your body? What type of touch has played a role in this? How much is this a direct result of touch and how much of it is because touch helps you learn the technique?

How has the Alexander Technique changed how you feel within your body?

- Has it made you feel more connected with your body, and if so, how has touch played a part in this? What type of touch has influenced this? How much is this a direct result of being touched and how much of it is because touch helps you learn the technique?

Is there anything you'd like to add?

Are there any questions you would like to ask about the study before we finish?

Appendix 9

Survey

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Touch in the Alexander Technique

By completing the survey and posting it back you will be consenting for the data to be analysed and written up in the researcher's doctoral thesis as outlined in the information sheet

Gender - *Male Female* **Gender of teacher -** *Male Female*

Age - *16-25 26-35 36-45 46-55 56-65 66-75 76-85 >8*

How long have you been having lessons?

Under 1 month 1-3 months 3-5 months 5-8 months 8-12 months 1-3 years 4-6 years 7-10 years 11-15 years >15 years

How many lessons have you had?

Under 5 6-10 11-20 21-30 31-40 41-60 61-80 >80 Lost count!

Ethnicity -

1) I was aware before my first lesson that touch would be used in the Alexander Technique

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

2) I feel that the use of touch has been discussed clearly with me by my teacher

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

UNIVERSITY OF Hull

3) I am comfortable with the use of touch in the Alexander Technique

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

4) There are times when I feel touch should not be used in my lessons

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

When is this?

5) I feel in control when touch is used in my lessons

Strongly disagree

Strongly agree
1 2 3 4 5 6 7

Touch in the Alexander Technique helps me to…

6) Understand the technique

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

7) Communicate with my teacher

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

8) Feel relaxed

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

9) Feel cared for

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

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10) Feel valued

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

11) Trust my teacher

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

12) Being touched makes me feel closer to my teacher

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

13) Sometimes being touched can feel as if a boundary has been broken

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

14) Being touched makes me feel in a position of less power than my teacher

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

15) The use of touch opens up positive emotions within me

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

16) The use of touch opens up negative emotions within me

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

17) Touch in the Alexander Technique opens up emotions within me that I cannot always deal with

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

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18) I would have liked to have known my teacher for longer before touch was used

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

19) Being touched in lessons fitted with the reason I sought the Alexander Technique

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

20) I feel that physical contact in the Alexander Technique is for my benefit rather than my teacher's

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

21) Touch in the Alexander Technique makes me feel more connected with my own body

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

Touch in the Alexander Technique…

22) Makes me feel better about myself

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

23) Makes me feel vulnerable

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

24) Makes me feel safe

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

25) Increases my feeling of being in control of myself

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

26) Improves my mood

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

27) Increases my self-awareness

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

28) I feel that the Alexander Technique improves my psychological well-being

Strongly disagree *Strongly agree*
1 2 3 4 5 6 7

Are there any comments you would like to add?

If you would like to send this back via email please send it to T.E.Jones@2009.hull.ac.uk

If you think of any questions about this study, or you would like to add anything to what you have told me today you can contact me in any of the ways shown on the Contact Details page of the information form.

Appendix 10

Ethical approval letter

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SRK/JBK

7 February 2011

Ms T Jones
Department of Clinical Psychology
Hertford Building
The University of Hull

Dear Theresa

Re: Touch in the Alexander Technique

Thank you for your recent correspondence confirming that you will follow the guidelines set down in the course handbook and outlining the process for dealing with any participants who become distressed during the interview. I can confirm that the information you have provided is to the satisfaction of the Ethics Committee and I am now able to fully approve your research proposal.

May I once again take this opportunity of wishing you every success with your research.

Yours sincerely,

STEPHEN R KILLICK
Chair – PGMI Ethics Committee

Professor Nicholas D Stafford MB FRCS
Director - Postgraduate Medical Institute
Postgraduate Medical Institute, Hertford Building (Room 203)
The University of Hull
Hull, HU6 7RX, UK
T: +44 (0) 1482 465348/464213
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N.D.Stafford@hull.ac.uk

Appendix 11

Interview documents

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Participant Information Sheet

Interview

Title: Touch in the Alexander Technique

To help you decide whether you want to take part in this research study, this sheet will outline the purpose of the research and what it involves. If you agree to take part the researcher will go through this with you and answer any questions you may have. Please let the researcher know if you find anything unclear.

What is the purpose of the study?

This study aims to find out more about the use of touch within the Alexander Technique.

Why have I been invited?

You have been invited to take part because you have been having Alexander Technique lessons and because the researcher has been in contact with your teacher. Around fifteen people in total are estimated to take part in this research.

Do I have to take part?

Participation in the study is completely voluntary. If you decide to take part you will sign a consent form. You can withdraw from the study at any point.

What will happen if I choose to take part?

You will be interviewed by the researcher. The researcher can arrange a time and place convenient to you.

You will be asked for certain demographic information. You will then be asked questions around your experiences of touch in the Alexander Technique. You will only need to be seen once. The interview should last around 1-2 hours and will be audio-taped. The tape will then be transcribed and analysed. Sections of your interview may be quoted verbatim in the final write-up however this will be kept anonymous.

Following your interview if you feel there was other information you would have liked to have given, you can contact the researcher (see contact details below). If you would like to comment on the results of the research you can let the researcher know. You will then be contacted at a later date and a time and place can be arranged for you to read through the results and discuss them with the researcher.

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What are the possible disadvantages of taking part?
The content of the interview was not considered upsetting or emotive when it was designed; however it is possible the questions could bring up difficult emotions.

What are the possible advantages?
You may find the chance to talk about your experiences interesting and you may think of things that have not come to mind before. Research into the Alexander Technique is a currently limited but growing field. By taking part in this study you could be contributing to an exciting area of research.

What will happen if I do not want to continue with the study?
If you choose to withdraw from the study, all of the data we have collected about you will be destroyed.

Confidentiality
Your participation in this research and the data collected will be kept strictly confidential. The audio recording will be kept in a locked filing cabinet and it will be destroyed after it has been transcribed. It will be transcribed within 2 months of collection. When it is transcribed any identifiable information will be removed and you will be given a pseudonym to keep your information confidential. This data will be kept for 5 years. You have the right to access this data. If you wish to do this you can contact the researcher using the information provided (see contact details below).

What will happen to the results of the research study?
The results of the study will be written up as a doctoral thesis and maybe published in a peer reviewed journal or presented at a conference. As outlined this may involve verbatim quotes from your interview data, but your information will remain completely anonymous. A final copy of the report can be sent to you if you wish. Please inform the researcher if you would like to be sent a copy of the final report.

Who is funding/organising the study?
The research is funded by the University of Hull Department of Clinical Psychology and Psychological Therapies. The study is organised by Theresa Jones and a supervisor within the Clinical Psychology and Psychological Therapies Department.

Who has reviewed the study?
The study has been reviewed by University of Hull Postgraduate Medical Institute who have given it a favourable opinion.

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Contact details

If you would like further information

Theresa Jones
Department of Clinical Psychology and Psychological Therapies
University of Hull
Hull, HU6 7RX

Mobile:
Email: T.E.Jones@2009.hull.ac.uk

UNIVERSITY OF Hull

CONSENT FORM

Please initial the box

Title of project: Touch in the Alexander Technique
Name of Researcher: Theresa Jones

1. I confirm that I have read and understand the information sheet dated…….. for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	☐
3. I am aware of the potential risks and benefits of taking part.	☐
4. I consent to the use of audio-taping in the interview, with possible use of verbatim quotations.	☐
5. I agree to take part in the above study	☐

Name of participant Date Signature

Name of person Taking consent Date Signature

Appendix 12

Survey documents

Letter to pupils in survey pack

Theresa Jones
Department of Clinical Psychology and Psychological Therapies
University of Hull
Hull, HU6 7RX

Mobile: 07717763592

Email: T.E.Jones@2009.hull.ac.uk

Dear Alexander Technique Pupil,

Thank you for agreeing to complete this short survey. I have included an information form with further details about the study. Please complete the survey and post or email this back to me.

Do not hesitate to contact me by telephone or email if you have any questions. If you know anyone else who may be interested in completing this survey you can contact me in the same way.

Yours faithfully,

Theresa Jones

UNIVERSITY OF Hull

Participant Information Sheet

Survey

Title: Touch in the Alexander Technique

You are invited to take part in this research study. To help you decide whether you want to take part, this sheet will outline the purpose of the research and what it involves.

What is the purpose of the study?

This study aims to find out more about the use of touch within the Alexander Technique.

Why have I been invited?

You have been invited to take part because you have been having Alexander Technique lessons and because I have been in contact with your teacher. Around 150 pupils are estimated to complete this survey.

Do I have to take part?

Participation in the study is completely voluntary.

What will happen if I choose to take part?

You will complete a short survey and either post or email it back to the researcher. Following this, if you feel there was other information you would like to know, or you would have liked to have given, you can contact the researcher (see contact details below).

What are the possible disadvantages of taking part?

The content of the survey was not considered upsetting or emotive when it was designed; however it is possible the questions could bring up difficult emotions.

What are the possible advantages?

You may find the chance to reflect on your experiences interesting and you may think of things that have not come to mind before. Research into the Alexander Technique is a currently limited but growing field. By taking part in this study you could be contributing to an exciting area of research.

Confidentiality

Your participation in this research and the data collected will be kept strictly confidential. Any identifiable information will be removed from your survey. This data will be kept for 5 years. You have the right to access this data. If you wish to do this you can contact the researcher using the information provided (see Contact Details).

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What will happen to the results of the research study?
The results of the study will be written up as a doctoral thesis and maybe published in a peer reviewed journal or presented at a conference. Your information will remain completely anonymous.

Who is funding/organising the study?
The research is funded by the University of Hull Department of Clinical Psychology and Psychological Therapies. The study is organised by Theresa Jones and a supervisor within the Clinical Psychology and Psychological Therapies Department.

Who has reviewed the study?
The study has been reviewed by the University of Hull Postgraduate Medical Institute who have given it a favourable opinion.

By completing the survey and posting it back you will be consenting for the data to be analysed and written up in the researcher's doctoral thesis.

Contact details

If you would like further information

Address:
Theresa Jones
Department of Clinical Psychology and Psychological Therapies
University of Hull
Hull, HU6 7RX

Mobile:

Email: T.E.Jones@2009.hull.ac.uk

Appendix 13

Survey recruitment flyer

YOUR HELP IS NEEDED!!

FOR EXCITING RESEARCH INTO TOUCH & THE ALEXANDER TECHNIQUE

If you want to be involved by filling in a short survey (return postage paid!) please contact me in any of the following ways:

Theresa Jones
Department of Clinical Psychology and Psychological Therapies
University of Hull
Hull, HU6 7RX

Mobile: 07717763592
Email: T.E.Jones@2009.hull.ac.uk

Appendix 14

Reflective statement

Researching and writing this thesis portfolio has been a significant part of my life during the past two and a half years. It seems very important to reflect on this time as I hope to keep researching throughout my career. In the following reflective statement I will consider additional thoughts I have around the findings, what I have learnt about my own research approach, advice I would pass on to others, as well as the strengths and the challenges I have experienced. The process of both papers feels quite different, so I will first discuss them separately.

Literature review

Regarding the systematic literature review, my first challenge was pinpointing a question to address. I wanted to produce a review that would help me think about the results of my empirical paper, however this was difficult, due to the fact I was looking at a little-researched topic (touch) and a little-researched therapeutic approach (the Alexander Technique). I had initially wanted to look at Therapeutic Touch and its psychological outcomes however this area had already been reviewed. This idea of looking at outcomes of touch in a therapeutic environment led me to infant massage.

I was initially surprised that this area has not already been reviewed. When infant massage is advocated or advertised, the benefits on parent-infant interactions always seem to be mentioned; therefore I expected a wealth of research and reviews to validate this claim. As my research progressed I recognised that this gap maybe because it is quite a "messy" area to research, as interactions are a hard thing to define (as outlined by Stack & Muir,1982). Nevertheless, I found that with clear definitions, and lots of

literature reading, this was possible. If I felt confused around definitions at any point it was helpful to keep coming back to the reasons why I chose the definition I did. I would also give this advice to other researchers embarking on projects that involve difficult and complex concepts.

I had set out to look at the role of touch specifically, however as I progressed I found that infant massage protocols are made of more than tactile stimulation, often including eye contact and kinaesthetic stimulation. This meant I had to be clear in my analysis that the effects could not be separated. This could have been avoided by choosing a technique that was more uniquely touch-based, however there are few of these known to the researcher. On further reflection with my supervisor, it became clear that day-to-day touch without any other form of engagement is rare, which led to think perhaps the infant massage protocol is valid to real-life touch.

I felt that a strength of my literature review was that I was willing to think a little wider for potential ideas and I believe the amount of research I did in order to find the topic allowed me to locate an interesting gap in the literature. I also believe I extracted a wide range of information from the studies selected, allowing for a range of results and interesting discussions. This required time, motivation and interest, of which I tried to devote as much of possible.

Further advice I would give to potential researchers would be that reviews on therapeutic approaches do not have to be focussed on judging the success of the approach. They can instead look at the *relationships* between factors within the research to produce findings which go beyond answering whether a technique should be used or not.

Empirical paper

Regarding my empirical paper, from the outset I felt some anxiety as well as excitement about exploring such a little-researched area, and one outside of a mental health context. I was unsure how a paper focussed on an alternative therapy would be accepted in the field of Clinical Psychology.

I decided to have two AT lessons myself to help me understand the technique. Many struggle to describe the technique, and explain that it is such an experiential process that "you just need to try it". I knew that this would influence my interpretation of the qualitative data as it is a subjective analysis method, however I knew I would have preconceptions even if I did not have lessons, so the benefits seemed to outweigh this factor. I wanted the experience to be authentic so during lessons I tried to put my research out of my mind. I found the lessons very interesting and a pleasant, relaxing experience. Even from only attending twice I learnt a lot about the way I use my body and some of the habits I have developed. I found myself thinking that it could take a long time to understand the technique and see positive change, so pupils must have a great deal of faith in the approach to attend regular lessons.

An aspect of the process of research that I found interesting was my own emotional reaction. When interviewees were struggling to find words, and were giving negative meanings to experiences which they said were not appropriate, I almost felt guilty for having asked them to put their experiences to words. I felt as though I was tainting something *"sacred" (OT, 488),* as one pupil put it. I wondered whether this is why shared verbal discourses around touch do not develop, because it feels more comfortable to *not* to have put these experiences to words. Additionally, it was difficult at times when I received surveys that told me my questions were "wrong" or not considered. When I was able to look deeper at *why* they might be saying these things it

become a less “wounding” experience! I would advise researchers that if they have negative feedback on a part of their project, not to assume that this means it is rubbish! It is important to look deeper at why this response has been generated, as this can produce fascinating data in itself.

Just like the pupils, I struggled to explain the topic and my findings to others. As part of our course requirements we present what we have done at a poster presentation at the beginning of third year. As I had not yet fully structured and understood my findings, I really struggled to put words to the questions I was asked.

Something that I found particularly interesting and exciting about this research was the way that psychological frameworks fitted with findings that had not been considered at the outset. Object relations theory had not been an area that had come to mind before, neither had Social Constructionism. In fact, during the writing up stage I felt I had so much to say in the discussion it became overwhelming at times. The broadness of the frameworks used to understand the results seemed to signify the complexity of the experience of touch.

I have learnt a great deal about my approach to research through researching and writing my empirical paper. The other piece of major research I have carried out was purely quantitative, however I have learnt that the way I work and think is perhaps more suited to qualitative research. I really enjoyed interviewing pupils, and felt comfortable asking open questions, prompting and probing. I wanted to capitalise on the skills I have learnt through Clinical Psychology training during the interview process including reflective listening and empathy (Dryden, 2007).The process of analysing the qualitative data and finding themes was also interesting and enjoyable. I studied English Literature for A Level which I believe was very useful, as it meant I have had lots of practice at finding and linking underlying themes. A specific strength of my empirical paper was the rich

data that was produced. This was largely due to the interviewees' ability to access their own experiences so well. However, my own interviewing style may have allowed interviewees to use metaphors and analogies and access their non-verbal experiences verbally. I would advise other researchers to allow lots of time for analysing the qualitative data. It was really helpful to read manuscripts again and again, finding themes, then reorganising them and discussing them with another researcher. It allowed for maximum meaning and understanding to be extracted.

Various challenges arose during the empirical research. I found the survey questions in my empirical research difficult to write, in particular, a question around embodiment. I wanted to know whether pupils felt less separate and more connected with their bodies following touch but this was a concept that was hard to put across verbally. This was most probably due to the lack of verbal definitions for touch, and because embodiment itself is a body-based idea, for which words are difficult to find. To help overcome this I asked four pupils to read through the survey questions and to feedback their thoughts. One had psychological training so I asked her whether the particular question captured the essence of embodiment for her. This difficulty would have been hard to avoid unless I had not included the survey component in my research which would have meant missing out on some valuable data.

Through the process I have learnt the impact of researching one modality in the confines of another. I feel that other researchers looking at touch could find it really interesting to look at what non-verbal data collection could bring. In my empirical paper I mentioned a checklist that has been developed by Onewuegbuzie, Leech and Collins (2010) for measuring non-verbal aspects of interviews which could be fascinating to use.

General reflections

One thing that I learnt about my general approach to research is that I can be very organised during planning, data collecting and the initial stages of writing up, however I found improving drafts the most difficult stage to motivate myself. I learnt that when researching and writing two papers simultaneously it is important to be structured and well-organised so that both has their own devoted time, allowing full emersion in each.

I felt that it was so helpful to be really interested in my research topic as it kept me motivated, and truly excited to glean as much as possible from the findings. It was a real benefit to research a topic that is very different to what I do in my clinical work as it kept it fresh, but also allowed me to think from a wider knowledge base. My object relations knowledge grew in my clinical placement, in which I worked with fostered and adopted children, and this informed my research project. Additionally, my knowledge of body-held emotions and the important of childhood touch was developed in my research but has been incredibly important within my clinical placement.

An overarching difficulty was that my own hand-in deadline was 2 months before my colleagues'. This meant I had more time pressure, and felt I could not share as much with my peers. Fortunately, I stayed organised, and ethical approval and data collection went smoothly, so it felt okay to keep relatively to myself about my research progress. Perhaps talking more to my peers, rather than assuming they would not want to listen could have made some of the times it was difficult a little easier!

I have found reflecting on the research process an interesting and worthwhile experience, as I feel I have learnt a great deal from developing this portfolio. There have been various challenges; however I have really enjoyed the time I have spent working on this research, and I am truly excited about my future research endeavours.

References

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