

THE UNIVERSITY OF HULL

Knowing Your Body and Being Compassionate With
Yourself

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

in the University of Hull

by

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Lastly, thank you, Joe, for being so wonderfully you.

Overview

This portfolio thesis consists of four parts, a systematic literature review; a mixed methods empirical paper; a qualitative empirical paper; and supporting appendices.

Part One is a systematic review of the literature regarding how body awareness can affect well-being. This review stems from ideas of embodiment and reciprocal influences and connections between mind and body.

The concept of embodiment also informed the development of an empirical investigation into the impact of compassionate imagery on affect and self-compassion in a non-clinical sample. This empirical study is divided into two papers, presented in Parts Two and Three. Part Two uses mixed methods to quantify the extent to which psychoeducation and meditative exercises can alter affect and self-compassion. Additionally, participants' interview responses to this experience are presented to add depth to the understanding of the clinical relevance of this practice.

Part Three offers a qualitative study to explore reactions to the concept of self-compassion in a non-clinical sample. Participants emphasised the role of culture and systemic influences on their perceptions of their capacity to be self-compassionate and the paper presents a brief exploration into possible reasons for this and methods by which these barriers could be overcome in order to promote well-being.

Part Four comprises of appendices, including reflective and epistemological statements.

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Part One: Systematic Literature Review

Detecting Your Heart or Knowing Your Body? A review of the literature
relating to body awareness, well-being and emotional processing in
non-clinical populations

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Please see Appendix 1 for the guidelines for contributors

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Abstract

Body awareness involves awareness of and attention to one's physical internal and external state. A range of psychological and complementary therapies view increases in body awareness as a fundamental factor of improvements in well-being. In contrast, theories of anxiety suggest that body awareness can be detrimental as it can lead to panic, health anxiety or somatisation. This study aimed to review the literature regarding body awareness and elements of well-being and emotional processing within non-clinical populations, in order to investigate the conflicting theories around this ability. The searches found that most studies investigating body awareness reduced this construct to participants' abilities to detect their heartbeats without taking their own pulses. This method was used to examine the links between 'interoceptive awareness' and emotional, cognitive, behavioural and physiological processes and results are reported and considered in the context of studies' strengths and limitations. The paper highlights the importance of developing more holistic and ecologically valid methods for investigating how body awareness can influence well-being.

Keywords: *Body awareness; Embodiment; Well-being; Interoception*

Introduction

Over recent years, psychology has moved away from Cartesian dualism, which purports that mind and body are separate entities, and towards theories of embodiment, which suggest that the mind is held within and throughout the body and they are connected intricately and inextricably (see Barrett & Lindquist, 2008 for overview). Embodiment encompasses the awareness of one's body and ability to understand this symbiotic relationship between body and mind, therefore embodiment cannot occur without body awareness (Mehling et al., 2011).

Though James (1890) and Lange (1885) first posited that it is the perception of changes within one's body that leads to the experience of emotions, it is only more recently that this has been incorporated into contemporary theories of emotions. Damasio (1994) outlined the Somatic Marker Hypothesis, which proposes that we become aware of our emotions as a result of changes that occur within our bodies ('somatic markers'). Supporting this, neuroscience demonstrates regions within the brain that link to internal physical sensations as well as integrating these sensations (Craig, 2003). Wiens (2005) developed a two-level model of emotional experiencing, in which sensations from within the body are included in the first level processing of emotions. These sensations and experiences are held as mental representations, and becoming aware of these representations is the second level of processing. It is possible, however, to generate awareness at the second level from other sources of physiological change including both actual and imagined perceptions of changes in specific areas of the body, this could lead to attributing emotions based on external cues or cultural discourses, rather than actual whole-body experiences. As a result, one could bypass the first level and experience emotions based on an awareness of

perceptions from specific parts of the body as opposed to drawing on a holistic representation of the body. Thus, this theory lends support to the hypothesis that having a holistic representation of one's body can be beneficial for one's emotional experiences.

Across and within disciplines, body awareness and its relationship to cognition and emotion has been conceptualised in a multitude of ways. The awareness of, and attention to, internal body sensations, including arousal, viscera, temperature and hunger is often referred to as 'interoceptive awareness' (Garfinkel, Seth, Barrett, Suzuki & Critchley, 2015). The conscious perception of the body within space including balance, movement and posture as well as tension within muscles is termed 'proprioceptive awareness' (Proske & Gandevia, 2012). 'Body awareness' has been posited to involve both of these phenomena and to be related to the quality of integration of information between mind and body, and, therefore, embodiment (Mehling et al., 2012). Thus, this paper will use the term 'body awareness' to refer to the conscious awareness of interoceptive and proprioceptive information.

Running parallel to this conceptualisation of body awareness and embodiment, psychological therapies have also become more open to the notion that the body is critical to how one experiences the world. Röhrich (2009) explains that body-oriented psychotherapies aim to make psychological change by developing a body-based self-awareness that facilitates the processing and regulation of emotions. There has been a recent surge in research into how these therapies can benefit participants and clients, as well as the acceptance of such methods into clinical settings (for an overview see Mehling et al., 2012). However, a review of the effectiveness of body-oriented psychotherapy highlights that, although practice-based evidence suggests that such

therapies can be effective, there are few controlled trials that compare body-oriented psychotherapies with others that are already established (Bloch-Atefi & Smith, 2014).

In contrast to the suggested benefits of body awareness, some theories of anxiety propose that persons who are more aware of their body are more at risk of misattribution of these sensations, thus prone to Panic Disorder or Health Anxiety (e.g. Clark, 1986). A recent review of research into the relationship between awareness of internal sensations and anxiety presented mixed results (Domschke, Stevens, Pfleiderer & Gerlach, 2010). Domschke et al. report that one method of assessing body awareness (the ability to detect one's own heartbeat without taking a pulse) is related to greater anxiety and panic symptoms, while other methods do not support this association. The two-level model of emotional experiencing could explain this phenomenon; if individuals take information from perceptions of specific areas of their bodies (i.e. their hearts), as opposed to overall representations of their body states, they are more likely to misattribute these sensations to anxiety or panic, than if they draw from a whole-body perspective (Wiens, 2005).

In addition to considering the relationship between body awareness and people who are already struggling with their well-being, it seems critical to consider how being aware of one's own body impacts non-clinical samples. Seligman (2002) highlights the importance of understanding the processes involved in developing and maintaining well-being and resilience, and suggests we investigate wellness in non-clinical samples. In so doing, we can understand how to bolster these skills and attributes when people face emotional, behavioural or cognitive challenges. Thus, this paper will explore and review the literature addressing the relationship between body awareness and well-being, including the ability to process and regulate emotions, in non-clinical samples.

The review aims to better inform the understanding of the mechanisms by which enhancing body awareness could improve well-being.

Method

Search Strategy

Systematic searches of existing literature regarding the relationship between body awareness and emotion regulation and well-being were conducted between November 2014 and February 2015. Through the EBSCOhost interface, CINAHL Plus, MEDLINE and PsycINFO were searched, Scopus was also searched using the search strategy (body awareness OR interocept* OR embod* OR propriocept*) AND ((emot* OR affect* OR mood OR feel* OR well-being) AND (regulat* OR suppress* OR reapprais* OR ruminat* OR avoid* OR accept* OR distract*)).

Selection Criteria

Papers retrieved by the above search terms were then reviewed using the following criteria and included/excluded as appropriate.

Search Limits

- Papers published in the English Language
- Papers in which the search terms appeared in the abstract
- No limit was set for date of publication

Inclusion Criteria

- Papers considering the relationship between aspects of body awareness and emotion regulation
- Papers considering the relationship between body awareness and well-being

Exclusion Criteria

- Papers involving clinical samples
- Intervention studies
- Neuroscientific research
- Literature reviews
- Animal studies

Article Selection Summary

In order to minimise bias while selecting studies, the researcher remained blind to the authors and journal titles. The references of included article were scanned to ensure papers had not been missed. Figure 1 shows the process by which articles were selected for review.

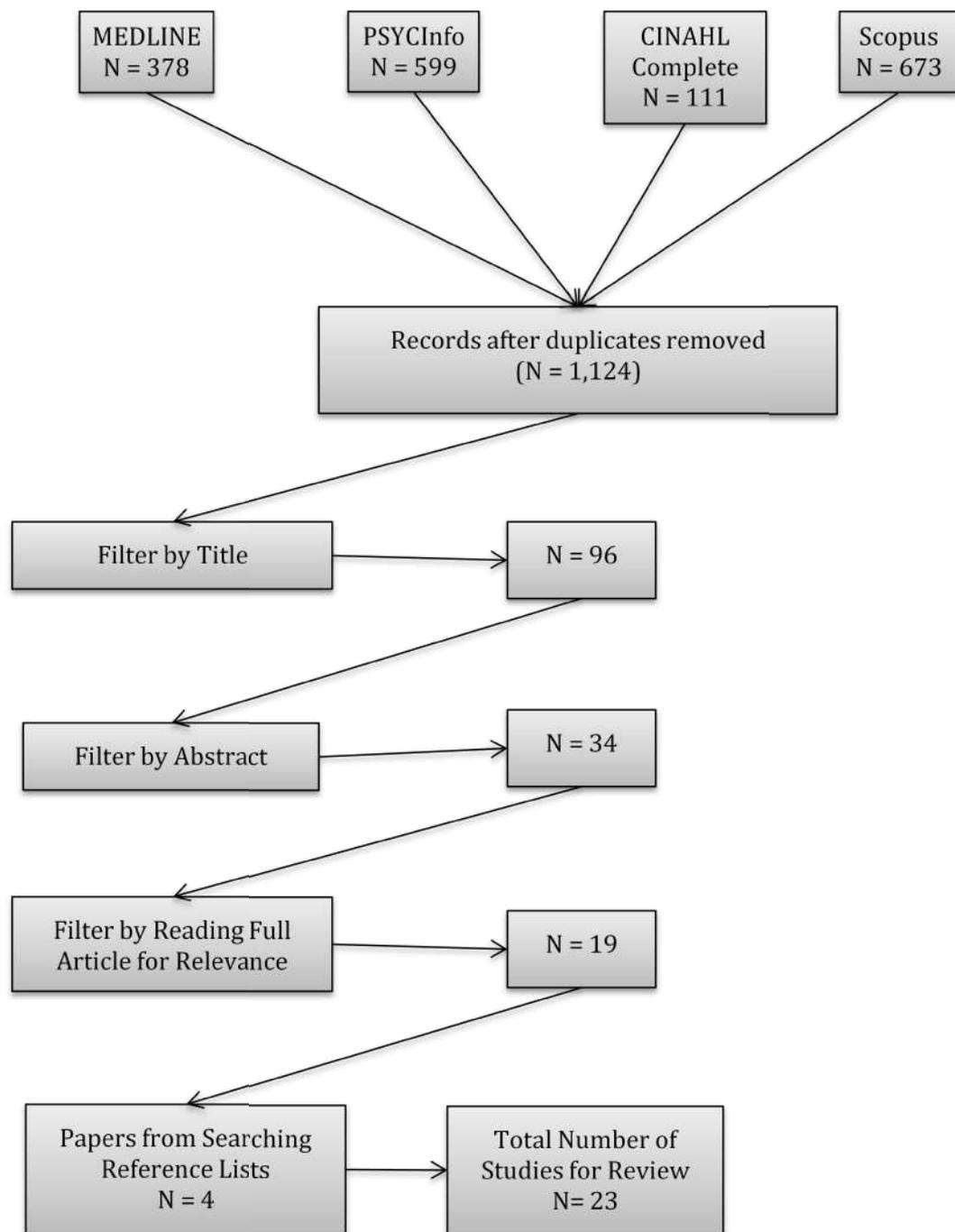


Figure 1: Article Selection Summary

Quality Assessment

Within this review, quality was assessed across:

- How appropriate the methodology was to the research question
- Control for and/or consideration of bias within the study

- Reliability, validity and appropriateness of outcome measures
- The appropriateness of the statistical methods used
- The extent to which the study was generalisable
- Quality of reporting

To construct an appropriate quality checklist for the studies under review, the Downs and Black (1998) checklist and the STROBE checklist for cross-sectional studies (Von Elm et al., 2007) were adapted. This created a checklist with 31 questions for between-groups studies and 28 questions for correlational studies; quality was assessed using a 1-point scoring system. Because three questions related to between-groups designs, scores are reported as percentages to allow comparison across studies. These checklists were used to help consider the findings within the context of the studies' strengths and limitations; these are referred to throughout the results.

All studies were assessed by one reviewer and a second reviewer assessed 5 of the 23 studies retrieved. The inter-rater reliability was 98%. Differing scores were discussed until an agreement was reached. See Table 1 for overall agreed quality scores and Appendix 2 for a detailed version of the checklist.

Data Extraction

The following data were extracted from each article reviewed:

- Aims and hypotheses
- Participant demographics; inclusion and exclusion criteria
- Number of participants in each group and average body awareness score if relevant

- Study design and methodology, including setting
- Measure of body awareness and other measures used in relation to this aspect of the study
- Outcomes relating to Body Awareness

Data Analysis

Although all of the papers reviewed were quantitative, they were also a heterogeneous sample, investigating a wide variety of dependent variables using many methodologies and analytic strategies. As a result, a meta-analysis would not be appropriate for reporting the findings. Therefore, a narrative synthesis (Popay et al., 2006) was used to collate and consider the findings of each study and summarise the results.

Results

Table 1 outlines the key findings and quality ratings of each study reviewed. All of the studies reviewed were experimental in design and considered the relationship between body awareness and a number of variables, ten employed between-groups analyses while 11 used correlational methods, two studies reported both correlations and between-groups differences (Herbert et al., 2007; 2012). The first author has categorised these variables as relating to well-being, emotional experiences, cognitive processes, physiological changes and behaviour regulation. A total of 2891 people participated across the studies reviewed, and 46.8% of participants were male. Two studies had over 150 participants (Ginzburg et al., 2014, N=385; Koch & Pollatos, 2014 N=1350) and, without these studies, the mean number of participants per study was

55.05 (standard deviation, SD=28.51; 42% female). Twenty-two of the studies used adult samples, while one used a child sample (Koch & Pollatos, 2014). Across adult studies the mean age of participants was 25.71 (SD=4.20), Hantas et al. (1985) and Ludwick-Rosenthal and Neufeld (1985) did not report mean ages of participants. Only two studies reported participants' ethnicities (Brani et al., 2013; Schneider et al., 2005) and studies were taken from Germany (N=11); USA (N=6); UK (N=2); Japan (N=1); Israel (N=1); The Netherlands (N=1); Unknown (N=1).

The narrative synthesis first describes the measures of body awareness used, and then addresses any individual baseline differences between participants classified as being high or low in body awareness. Each of the above variable categories is then presented and methodological and quality considerations are included throughout.

Study Quality

The highest scoring study was Ginzburg et al. (2014; 78.57%) and the lowest scoring study was Hantas et al. (1985; 29.03%), the mean rating was 58.89% (SD=13.03). All studies used only one measure of body awareness, except Ginzburg et al. (2014) who used two questionnaires addressing different aspects of self-reported body awareness. In general, studies struggled to report scientific reasons for the measure of body awareness, usually citing other studies that had previously used the same measure or explaining that it was a non-invasive measure of interoceptive activity. Of the 12 studies that reported between-group analyses, only 3 presented analyses that stated that participants in each group differed significantly in heartbeat detection ability scores (HDAS; Terasawa et al., 2014; Werner et al., 2009; 2014). Many studies use a

median split, making it difficult to determine whether groups actually differed in their heartbeat detection abilities.

Furthermore, it is difficult to determine whether each study had sufficient power to detect effects as no study reported power calculations. This makes it difficult to reject the null hypothesis, as findings could reflect an underpowered sample rather than lack of effect. Similarly, papers often did not explain how they recruited their sample and rarely made reference to the fact that most seemed to be student populations, limiting the generalisability of the results. Additionally, papers commonly lost marks for not reporting tests of normality within their data.

Measures of Body Awareness

Of the twenty-three studies reviewed, 20 measured body awareness by participants' ability to detect their heartbeat. Fourteen of these asked participants to count their heartbeats for set periods of time (Mental Tracking Task); four studies required participants to state whether their heartbeats were synchronous with presented tones (Heartbeat Discrimination) and in two studies participants reported their heartbeats by tapping their fingers or a keyboard synchronously with their heartbeats (Live Reporting). Two studies used the Body Awareness Questionnaire (Shields et al., 1989) as a self-report measure of participants' perceptions of their awareness of their bodies and the final study asked each participant to watch a video of him/herself playing a stressful video game and continuously report his/her arousal level using a dial.

Table 1: Summary of Reviewed Studies with Quality Rating Percentage

Authors, Date, Quality Rating	Research Aims	Participants	Method of Assessing Body Awareness	Other Measures	Key Findings
Brani, Hefferon, Lomas, Ivtzan & Painter 2013 71.42%	Examine how body awareness and mindfulness predict subjective reports of well-being	119 (42.9% male) Mean age = 32.3 years	Body Awareness Questionnaire (BAQ) ^a	Satisfaction with Life Scale ^b Mindful Awareness and Attention Scale ^c	Body awareness predicted 3% of subjective well-being variance Mindfulness predicted 14% of subjective well-being variance Relationship between body awareness and subjective well-being was not moderated through mindfulness As HDAS increased perception of unfairness increased Greater autonomic arousal predicted higher rejection rates in those with high HDAS but no clear relationship with low HDAS HDAS was not related to rejection rates, electrodermal activity/heart rate differentiation
Dunn, Evans, Makarova, White & Clark 2012 64.29%	Investigate whether body responses, regulation and perception interact and contribute to rejection rates in the Ultimatum Game	51 (36 female) Mean age = 37.8 years 41 participants for HDAS	Mental Tracking Task - 25, 35, 45 seconds, two trials on each Mean HDAS score = 73.49	Electrodermal Activity Heart rate	

Füstös, Gramann, Herbert & Pollatos 2012 35.71%	Explore the neural dynamics of reappraisal of emotional responses to pictures in 28 participants with different HDAS	28 Participants Mean age =25.5 years 10 male	Mental Tracking Task No detail of length of time	Electrocardiography (ECG) Electroencephalography (EEG) Likert scale of arousal and pleasantness ratings	HDAS positively correlated with arousal during negative maintain (NM) trials and negatively related to arousal during negative reappraise (NR) trials Calculated difference score NM-NR, to reflect the perceived down-regulation of arousal due to reappraisal which was significantly correlated to HDAS Perceived efficacy of reappraisal (Likert) was correlated positively and significantly with HDAS
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<p>Ginzburg, Tsur, Barak- Nahum & Defrin 2014 78.58%</p>	<p>Explore associations between self-reports of sensitivity to body signals and monitoring body signals and whether these are adaptive for adults</p>	<p>Study 1 180 (54% female) Mean age = 27.83 years</p> <p>Study 2 205 students (75% female) mean age = 26.29 years</p>	<p>BAQ^a Body Vigilance Scale^d</p>	<p>Whitely Index^e Pain Catastrophisin g Scale^f Trait Anxiety from short version of State-Trait Anxiety Inventory (STAI)^g</p>	<p>Females scored significantly higher in sensitivity to body signals and monitoring No significant contribution of sensitivity to hypochondria Sensitivity correlated with monitoring Sensitivity to body signals negatively correlated with anxiety and pain catastrophising moderated this association The adaptivity of this sensitivity was moderated by pain catastrophising and monitoring Monitoring body signals correlated positively and significantly with anxiety and hypochondria</p>
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Hantas, Katkin & Blascovich 1982	To show that participants who had higher HDAS would have higher self-reported arousal in response to noxious stimuli	63 18-22years 'Good perceivers' N=17	Discrimination Deemed 'good perceiver' if discrimination significantly exceeded chance	Shown slides of mutilated car accident victims 7 point Likert scale 'very calm' - 'very upset'	Participants with different HDAS did not differ on baseline heart rate Similar changes in heart rate when presented with pictures between high and low HDAS Those in the high HDAS group reported significantly greater levels of subjective distress in response to the pictures than those in the low HDAS group
Herbert, Ulbrich & Schandry 2007	To explore how interoceptive sensitivity and behavioural load are associated	34 (15 male) Mean age = 26.4 years High interoceptive sensitivity = 14 Low interoceptive sensitivity = 20	Mental Tracking Task - 25, 35, 45 seconds Mean interoceptive sensitivity score = 0.74 'High interoceptive sensitivity' = above 0.85	Subjective fatigue level rated 0-10 Distance cycled on in 15 minutes Fitness levels	Those with high HDAS cycled significantly less distance than low HDAS groups No difference in levels of fatigue No effect of fitness level High HDAS had significantly less heart rate acceleration than those with low HDAS No baseline differences between groups in heartbeat or fitness levels HDAS significantly negatively correlated with distance travelled

Herbert et al. 2012 58.06%	Explore associations between interoceptive sensitivity and sensitivity to gastric functions in healthy females	49 females Mean age = 25.19 years Good perceivers N=20 Poor perceivers N=29	Mental Tracking Task Mean heartbeat perception score = 0.70	Water Load Test Electrogastrogr am (EGG) ECG German version of State Trait Anxiety Inventory ^h	As HDAS score increased, amount of water ingested decreased Those with high HDAS ingested significantly less water than those with low HDAS scores No correlation between EGG and HDAS HDAS significantly predicted amount of ingested water until ingested water volume was also entered into the linear multiple regression analysis No significant difference in baseline heartbeat between good and poor HDAS groups No significant correlations or differences between HDAS and subjective ratings of fullness, arousal, pleasant feelings, unpleasant feelings and nausea No significant correlations or differences between HDAS and state or trait anxiety
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<p>Herbert, Blechert, Hautzinger, Matthias & Herbert. (2013)</p> <p>75%</p>	<p>Examine the relationship between interoceptive sensitivity, intuitive eating and body mass index</p>	<p>111 healthy females 25.4 years</p>	<p>Mental Tracking Task Mean interoceptive sensitivity = 0.65</p>	<p>STAI^g Intuitive Eating Scale (IES)ⁱ</p>	<p>Significant positive correlations between HDAS and total intuitive eating score</p> <p>Significant correlations between HDAS and the subscales: 'eating for physical rather than emotional reasons' and 'reliance on internal hunger and satiety cues to determine how much to eat'</p> <p>No correlation between state or trait anxiety and HDAS</p> <p>No correlation between mean heart rate and HDAS</p> <p>HDAS significantly predicted IES total score, and subscales in a simultaneous linear multiple regression equation</p> <p>HDAS and BMI were related and HDAS has a mediating role between intuitive eating and BMI</p>
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Katkin, Wiens & Öhman 2001	Examine whether sensitivity to visceral activity facilitates prediction of shocks given backward-masked images of fear-related stimuli, sometimes paired with shocks	36 undergraduate students (16 female) Mean age = 19.5 years Good detectors = 12 Poor detectors = 24	Heartbeat Discrimination Task - 50 trials of 10 tones, half synchronous 'Good detectors' performed better than chance (32+ correct)	Skin conductance response Forced Choice Recognition Task	HDAS had no effect on skin conductance response in habituation, acquisition or extinction phases Participants with higher HDAS were better able to predict shocks than low HDAS participants during acquisition phase
Koch & Pollatos 2014	To investigate cardiac perception abilities in a community sample of children	1350 (693 Female) Mean age = 8.39 years	Mental Tracking Task 15, 18, 20 seconds Mean HDAS score = 0.55	Cardiac activity Body Mass Index Bar-On EQ-i-Youth Version ^j	Boys had significantly higher HDAS scores than girls HDAS was significantly associated with interpersonal intelligence HDAS was not significantly associated with intrapersonal intelligence or stress management

<p>Lobel, Granic & Engels 2014</p> <p>64.29%</p>	<p>To explore relationships between ability to identify arousal levels during a videogame and emotion regulation</p>	<p>26 male university students</p> <p>All proficient gamers</p> <p>Mean age = 24.51 years</p>	<p>Heart rate monitored during video game play and they are video recorded</p> <p>While watching the video back, participants used a dial to demonstrate level of arousal</p>	<p>COPE^k</p> <p>Ruminative Response Scale^l</p> <p>Emotion Regulation Questionnaire^m</p>	<p>Significant positive correlation between heart rate and dial score</p> <p>Interoceptive awareness significantly correlated with Actively Seeking a Resolution only</p> <p>Trend relationship with Seeking Social Support</p>
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Ludwick-Rosenthal & Neufeld 1985 45.16%	To examine the efficacy of a novel heartbeat detection task To compare the emotional character of those with good and poor heartbeat detection abilities	61 (29 female) Mean age not given	Tap in time with heartbeat	Test of Emotional Experience (TES) ⁿ Private Self-Consciousness Subscale ^o The Emotionality Scale of EASI-11 Temperament Survey for Adults ^p Somatic Perception Questionnaire ^q STAI ^g	Heart rate correlated positively with HDAS Those with high HDAS had significantly higher State Anxiety scores and significantly Lower TES Expressiveness scores than those with low HDAS However, when heart rate was partialled out, the effects ceased to be significant Males had significantly higher HDAS than females
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Pollatos, Herbert, Matthias & Schandry 2007a 61.29%	Investigate the relationship between interoceptive awareness, emotional experience and heart rate responses in an emotional stimulation paradigm	95 participants screened 38 students (16 male) mean age = 28 years 19 in high and low HDAS groups	Mental Tracking Task High HDAS is above 0.85 Mean HDAS score in high HDAS group = 0.92 Mean HDAS score in low HDAS group = 0.62	Likert scale of pleasantness and arousal Heartbeat	Significantly stronger heart rate responses to pleasant and unpleasant stimuli in participants with high HDAS Participants with high HDAS rated pleasant and unpleasant slides as significantly more arousing HDAS correlated significantly positively with both the mean arousal rating and the mean heart rate changes Reported arousal also explained a unique amount of the variance No relationship between HDAS and valence ratings
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Pollatos, Traut- Mattausch, Schroeder & Schandry 2007b 67.86%	Clarify the nature of relationships between interoceptive awareness, anxiety and the intensity of unpleasant feelings	102 students (35 male) Mean age = 26.9 years	Mental Tracking Task Mean HDAS score = 0.78	STAI ^g Self- Assessment Manikin for Pleasantness and Arousal ^f	HDAS significantly positively correlated with mean arousal scores for unpleasant pictures No correlation between HDAS and pleasantness ratings or neutral pictures Positive correlation between HDAS and trait anxiety Emotional arousal and trait anxiety relationship mediated by differences in HDAS No gender differences in HDAS Participants with high HDAS showed more correct responses than participants with low HDAS
Pollatos & Schandry 2008 67.74%	To explore the relationship between interoceptive awareness and conscious processing of and memory for emotional information	30 students (12 male) 28.5 years Mean BMI = 21.7	Mental Tracking Task High HDAS is above 0.79 Mean HDAS = 0.78		Those with high HDAS had significantly more hits than those with low; no differences for correct rejections or false positives Age, gender, BMI did not differ between groups High HDAS participants had greater heart rate changes than low HDAS participants

Pollatos, Füstös & Critchley 2012 41.94%	To explore the relationship between interoceptive awareness and pain perception and tolerance	60 (30 female) Mean age = 24.4 years High HDAS = 30 (0.79) Low HDAS = 30 (0.54)	Mental Tracking Task Mean interoceptive sensitivity score = 0.66	Pain threshold Mean heart rate (at baseline and pain assessment) Mean respiration rate (baseline/pain assessment) Subjective ratings of pain pleasantness and pain intensity	Participants with high HDAS had significantly augmented heart rate deceleration for pleasant and unpleasant pictures A lower threshold for pain in participants with high HDAS than low HDAS Negative correlation between HDAS and pain threshold Participants with high HDAS evaluated pain stimuli as significantly more unpleasant but not more intense than those with low HDAS Increase in heart rate between baseline and pain was more pronounced in participants with high HDAS Hierarchical regression suggested that pain threshold was explained by HDAS and age; pain tolerance was only explained by HDAS
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Schneider et al. 2005 46.43%	Examine whether people who score higher in emotional intelligence are also better at perceiving their heartbeats	88 (49 female) Mean age = 19.5 years	Heartbeat discrimination	Mayer-Salovey-Caruso Emotional Intelligence Test (EI) ^s	<p>No sex differences in HDAS</p> <p>Combined data showed no relationship with HDAS</p> <p>Positive correlation between HDAS and the use of emotions to Facilitate Cognition¹ and Emotional Understanding², only significant for females</p> <p>Females scored higher on EI</p> <p>Regression analyses showed that for males and females Facilitating Cognition predicted higher HDAS and Emotional Management³ predicted lower HDAS</p> <p>For females, emotional understanding predicted higher HDAS</p>
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¹ Ability to create, use and experience emotion as necessary to communicate feelings or use them in other cognitive processes
² Ability to understand emotional information, including the combination and progression of them through relationship changes
³ Ability to be open towards feelings and to attune them to promote personal growth

Sütterlin, Schulz, Strumpf, Pauli & Vögele 2013 61.86%	To further demonstrate that better interoceptive awareness is associated with better decision making	40 (20 female) Mean age = 27.6 years	Mental Tracking Task - 25, 35, 45 seconds Mean HDAS score = 0.5	Framing task German Version of State Trait Anxiety Inventory ^h Allgemeine depressionsska la (German Depression Scale) ^t	No sex differences in HDAS No link between HDAS and depression or anxiety Positive correlation between effect of framing and HDAS (no impact on this by depression or anxiety)
Terasawa, Moriguchi, Tochizawa & Umeda 2014 51.61%	To investigate whether interoceptive sensitivity modulates emotional experience in a social context, using pictures of different facial expressions	30 (13 Male) Mean age = 21.4 years Good detectors = 10 Poor detectors = 10	Mental Tracking Task - 25, 35, 45 seconds, two trials on each Mean interoceptive sensitivity score = 68.82	Social Anxiety Disorder Scale ^u Manifest Anxiety Scale ^v Emotional Sensitivity Task	No significant differences in actual heart rate between high and low HDAS No significant between-group differences in anxiety Main effect between emotional sensitivity and HDAS, suggesting those with high HDAS were more sensitive to the emotions of others than those with low HDAS

Van't Wout, Faught & Menino 2013 57.14%	Investigate how awareness of body responses influences decision making in the Ultimatum Game	30 Participants Mean Age = 25.36 years 23 females	Live Tracking Participants instructed to press a key on the computer keyboard every time they thought their heart beat Mean Interoceptive Ability score = 0.66	Beck Depression Inventory ^w Beck Anxiety Inventory ^x Emotion Regulation Questionnaire m	No relationship found between HDAS and acceptance rates No relationship found in a multiple regression between HDAS and acceptance in reappraisal condition No relationship between HDAS and return offer proposed Suppression did not predict HDAS Reappraisal predicted HDAS until outlier was removed
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<p>Werner, Jung, Dunn & Schandry 2009 58.06%</p>	<p>To investigate how good and poor heartbeat detection is related to decision making</p>	<p>50 (24 female) Mean age = 23.74 years Good perceivers = 25 Poor perceivers = 25</p>	<p>Mental Tracking 25, 35, 45 seconds Mean HDAS score in high = 0.92 Mean HDAS score in low = 0.61</p>	<p>Iowa Gambling Task^y ECG STAI^g NEO-Five Factor Inventory^z</p>	<p>No significant differences in actual heart rate between high and low HDAS groups Those with high HDAS scores chose significantly fewer of the 'risky' decks and significantly more of the 'safe' decks No significant difference in overall net gain but participants with high HDAS did gain more No impact of HDAS on rate of learning HDAS correlated significantly negatively with choice of disadvantageous decks and significantly positively with advantageous decks</p>
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Werner, Kerschreiter, Kindermann & Duschek 2013 77.42%	To investigate whether and how interoceptive awareness moderates affective responses in social exclusion situation	58 university students 31 male mean age = 23.29 years High HDAS N=28 Low HDAS N=30	Mental Tracking 25, 35, 45 seconds High HDAS is above 0.85 Median HDAS score = 0.82 screening 0.84 in experimental session	Positive and Negative Affect Schedule (PANAS) ^{aa} STAI ^g NEO-Five Factor Inventory ^z Skin conductance Perceived acceptance, rejection and defensive strategies on Likert Scales	Participants with high HDAS showed a smaller decrease of positive affect and perceived acceptance as well as a smaller increase of negative affect and perceived rejection when comparing an inclusion phase with a subsequent exclusion phase No significant differences in cognitive and physiological measures were observed between those with high and low HDAS
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Wiens, Mezzacappa & Katkin 2000 54.84%	Investigate the relationship between cardiac perception and self-report of emotions after watching differently affective videos	52 students (33 female) Mean age = 21.8 years Good detectors = 9 Poor detectors = 43	Heartbeat Discrimination Task - 40 trials of 10 tones, half synchronous 'Good detectors' if 26+ correct	Skin conductance ECG Likert scale intensity and pleasantness	Those with high HDAS reported more intense emotions those with low HDAS across all conditions No differences found on pleasantness ratings No significant difference in heart beat
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^aShields, Mallory & Simon (1989); ^bDiener, Emmons, Larson & Griffin (1985); ^cBrown & Ryan, (2003); ^dSchmidt, Lerew & Trawkowski (1997); ^ePilowsky (1967);
^fSullivan, Bishop & Pivik (1995); ^gSpielberger, Gorsuch & Lushene (1970); ^hLaux, Glanzmann, Schaffer & Spielberger (1981); ⁱTylka (2006); ^jBar-On & Parker
(2000); ^kCarver, Scheier & Weintraub (1989); ^lNolen-Hoeksema & Morrow (1991); ^mGross & John (2003); ⁿAllen & Hamsher (1974); ^oFeneststein et al. (1975);
^pBuss & Plomin (1975); ^qLandy & Stern (1971); ^rBradley & Lang (1994); ^sMayer, Salovey & Caruso (2000); ^tHautzinger & Bailer (1993); ^uKaiya (2009); ^vTaylor, Ave
& Takaishi (1985); ^wBeck, Steer & Carbin (1988); ^xFydich, Dowdall & Chambless (1992); ^yBechara, Damasio, Damasio & Anderson (1994); ^zCosta & McCrae
(1989); ^{aa}Watson, Clark & Tellegen (1988)

Individual Baseline Differences

Twelve studies reported baseline comparisons between participants with high and low heartbeat detection ability scores (HDAS). Herbert et al. (2007) reported that there was no significant difference in fitness levels between groups. All studies comparing resting heart rate between-groups found no significant differences between high and low HDAS groups (Hantas et al., 1985; Herbert et al.; Terasawa et al., 2014; Werner et al., 2009; 2013; Wiens et al., 2000). In contrast, in a correlational analysis, Ludwick-Rosenthal and Neufeld (1985) reported a significant positive correlation between heart rate and HDAS.

Additionally, Ludwick-Rosenthal and Neufeld (1985) reported that males had significantly higher HDAS than females, while five other studies found that, in adults, ability to detect heartbeats did not seem to differ between sexes (Pollatos & Schandry, 2008; Pollatos et al., 2007a; Pollatos et al., 2007b; Schneider et al., 2005; Sütterlin et al., 2013). Conversely, in children, Koch and Pollatos (2012) found that boys were significantly better at detecting their heartbeats than girls.

Ludwick-Rosenthal and Neufeld (1985) reported different findings from a group of studies for two baseline measures presented above, this study is also the only one of the above to have asked participants to tap their fingers in time with their heartbeat, while the rest used the Mental Tracking Task. It is possible that differences in methodology explain these discrepant findings. Indeed, Ginzburg et al. (2014) used self-report measures and found that females scored significantly higher in sensitivity to body signals and body monitoring than males. This suggests that methodological differences elicit diverse skills; therefore, they may not be measuring the same concept.

Well-being

One study investigated the relationship between body awareness and self-reported well-being. Brani et al. (2013) found that body awareness predicted 3% of subjective well-being and mindfulness predicted 14%, and the relationship between body awareness and subjective well-being was not moderated through mindfulness.

While this study only employs self-report measures, which can be subject to social desirability bias and retrospective bias, this is the only investigation into the relationship between body awareness and well-being.

Emotional Experiences

Anxiety and Affect

Six of the nine studies that examined the link between HDAS and anxiety reported no relationship (Ginzburg et al., 2014; Herbert et al., 2012; Herbert et al., 2013; Sütterlin et al., 2013; Terasawa et al., 2014; Werner et al., 2013). By contrast, Pollatos et al. (2007b) found a significant positive correlation between HDAS and trait anxiety as measured by the STAI (Spielberger, et al., 1984) and reported that HDAS mediated the relationship between emotional arousal and trait anxiety. Ludwick-Rosenthal and Neufeld (1985) also reported that participants with high HDAS had significantly higher state anxiety than those with low HDAS; although, when heart rate variability was partialled out, this difference ceased to be significant.

Each of these studies considered body awareness using cardiac perception measures, thought to be more objective than self-report measures. However, it is important to note

that none of the above studies asked participants how often they pay attention to their heartbeats or other internal processes. When using the BAQ (Shields et al., 1989) and the Body Vigilance Scale (Schmidt et al., 1997), Ginzburg et al. (2014) found different effects. They demonstrated that self-reports of body monitoring made a significant contribution to hypochondria symptoms and, while body monitoring correlated with self-reports of body awareness, there was no significant contribution of body awareness to hypochondria scores. Furthermore, self-reports on the BAQ (Shields et al.) negatively correlated with trait anxiety, and participants' tendency to catastrophise pain moderated this association. Thus, it seems that the objective measures of body awareness may miss a critical link between monitoring of body sensations and anxiety, as opposed to merely being able to be aware of these sensations.

With regards affect, Werner et al (2013) reported that there were no significant baseline differences in PANAS scores (Watson & Clark, 1999) between high and low HDAS groups, and Sütterlin et al. (2014) also found no correlation between HDAS and depression.

Ludwick-Rosenthal and Neufeld (1985) used 10 subscales to test the relationship between HDAS and 'emotional character' and found no significant differences between those who had high HDAS and those who had low HDAS. The only exception to this was a significantly lower score of emotional expressiveness for those with higher HDAS but this ceased to reach significance when heart rate variability was partialled out.

Experience of Feelings

Three studies explored the relationship between HDAS and changes in self-reported arousal following the visual presentation of potentially emotional stimuli (Füstös et al., 2012;

Pollatos et al., 2007a; 2007b). Each of these studies report that people with higher HDAS were more likely to experience unpleasant images as more arousing, than people with low HDAS were. In addition, Pollatos et al., (2007a) reported that people with high HDAS rated pleasant pictures as significantly more arousing than people with low HDAS did. Hantas et al. (1985) also found that participants with high HDAS reported significantly more distress than those with low HDAS, in response to affective pictures.

Four studies investigated the impact of HDAS on perception of pleasantness or valence of visually presented stimuli (Füstös et al., 2012; Pollatos et al., 2007a; 2007b; Wiens et al., 2000). These studies demonstrated that, although the reported intensity of emotions was greater for participants with high HDAS (Wiens et al.), perceptions of pleasantness or valence of visually presented stimuli did not differ between groups.

It is important to note that all of these studies were conducted within laboratory settings and participants were asked to view images or videos that others have previously rated as emotional. This is not a procedure that replicates daily exposure to images or films, and it is therefore difficult to determine whether other participant variables may have affected their responses to these pictures. However, these findings converge, enhancing the robustness of the reports and, overall, this seems to offer evidence that, while participants with varying HDAS will report the same valence of emotions as those with low HDAS, they differ in the levels of arousal that they report experiencing as a result of exposure to affective stimuli.

Emotion Regulation

Four studies considered relationships between HDAS and emotion regulation strategies, using a range of methodologies. The first involves the Ultimatum Game, in which

participants are offered either a split of a defined amount of money or nothing (e.g. £10 where proposer gets £8, participant gets £2), and participants are asked whether they accept or reject the offer. When playing the Ultimatum Game, the logical response is to accept all offers as participants will always gain more than they previously had. Thus, acceptance rates are thought to imply that participants are making logical decisions, while rejections are the result of emotion-driven responding. Van't Wout et al. (2013) hypothesised that participants with high HDAS would be better able to use reappraisal as an emotion regulation technique, thus would have higher acceptance rates in this condition. In contrast to this hypothesis, they reported that there was no relationship between HDAS and differences in acceptance rates after reappraisal.

Füstös et al. (2012) also explored the relationship between reappraisal and HDAS using responses to unpleasant pictures. They reported that HDAS positively correlated with arousal, when participants were asked to maintain their usual emotional responses while looking at negative pictures. However, when asked to use reappraisal techniques, HDAS correlated negatively with arousal, suggesting that participants with high HDAS were also more able to use reappraisal to control their levels of arousal.

Although this finding seems to imply that participants with high HDAS are more responsive to emotion regulation teaching, it is also possible that participants with low HDAS already employed reappraisal as a method for regulating their arousal. Indeed, Füstös et al. (2012) found that the differences between arousal in emotion maintenance conditions and reappraisal conditions were significantly positively correlated with HDAS, that is as HDAS increased so did the difference between the two conditions. In addition, Füstös et al. reported that the perceived efficacy of reappraisal correlated positively with HDAS. Thus, it

could be that people with high HDAS did not use reappraisal prior to instructions in the experiment, while those with low HDAS did.

However, van't Wout et al. (2013) found no baseline differences in acceptance rates between participants with high and low HDAS, suggesting no difference between participants' tendencies to act on emotional responses as opposed to logical decisions. They also reported that participants' tendency to use suppression or reappraisal did not predict their HDAS.

Koch and Pollatos (2014) used a self-report method to assess the relationship between emotional intelligence in children and their ability to detect their own heartbeats, reporting that HDAS was not associated with intrapersonal emotional intelligence or stress management. Conversely, in female adults, Schneider et al. (2005) reported positive correlations between HDAS and both the use of emotions to facilitate cognition and their emotional understanding. No significant correlations were found for male adults. Regression analyses also demonstrated that, in both males and females, using emotions to facilitate cognition predicted higher HDAS, and higher scores on emotional management predicted lower HDAS. Additionally in females, understanding emotions predicted better HDAS.

Employing a different approach to measure interoceptive awareness, Lobel et al. (2014) asked video gamers to use a dial to rate their levels of arousal while watching themselves playing a stressful video game. With this method, they found that, out of eight possible strategies, HDAS had a significant positive correlation with self-reports of 'Actively Seeking a Resolution' only, while a positive correlation between interoceptive awareness and 'Seeking Social Support' approached significance. This study had a small and specific sample (male

video-gamers), so it is difficult to generalise these results. However, Lobel et al. used a novel method for examining interoceptive awareness and it is possible that, with a larger sample, results may have been significant. Reappraisal and suppression were also options within this measure of emotion regulation and the correlations did not approach significance.

Social Situations

Overall, four studies considered relationships between HDAS and social situations (Dunn et al., 2012; Koch & Pollatos et al., 2014; Terasawa et al., 2014; Werner et al., 2013). Two studies investigated the relationship between HDAS and participants' awareness of the emotional experiences of others. Terasawa et al. found a main effect for emotional sensitivity and HDAS, such that those who were better at detecting their heartbeats were significantly more sensitive to the emotions of others, when asked to recognise emotions from pictures of faces. Additionally, Koch and Pollatos reported that as HDAS increased so too did interpersonal intelligence.

Two further studies considered the relationship between HDAS and the perception of others' behaviour. During the Ultimatum Game, Dunn et al. (2012) found that, as HDAS increased, participants' perception of the unfairness of 'unfair' offers also increased. In contrast, Werner et al. (2013) reported that, in a social exclusion experiment, participants with high HDAS showed significantly smaller decreases of positive affect and perceived acceptance during the exclusion phase than those with low HDAS did. In addition, participants with high HDAS reported a significantly smaller increase of negative affect and perceived rejection than those with low HDAS did.

Though Werner et al. (2013) used confederates to manipulate participants' experiences, they blinded confederates to participants' groups and used manipulation checks as further controls for bias. In addition, it is noteworthy that there were no personality differences between high and low groups, suggesting that such variables cannot account for the differences in experiences between participants.

The relationship between HDAS and social situations has been investigated using a variety of methodologies and, overall, it seems that those with high HDAS have more positive interpersonal experiences and are better able to read the emotions of others than those with low HDAS are. A mixture of self-report and experimental techniques was used to examine this phenomenon, though none of the studies offers a replication of a previous one.

Cognitive Processes

Processing of emotional information

Two studies used masking experiments to evaluate the relationship between HDAS and unconsciously processed emotional material (Katkin et al., 2001; Pollatos & Schandry, 2008). These studies found that participants with high HDAS had significantly more correct responses than participants with low HDAS did, suggesting that participants with high HDAS are more able to access unconsciously processed emotional events.

Both of these studies used heartbeat detection tests and neither used self-reports to explore the frequency with which participants might usually pay attention to their body signals. However, within this paradigm, it seems fitting that body awareness might be

measured by an unconscious ability, as the variables under consideration are also unconscious. Thus, it is possible that these studies have used two methods of measuring unconscious awareness rather than a relationship between two different variables.

Decision Making

Four studies examined the relationship between HDAS and decision-making (Dunn et al., 2012; Sütterlin et al., 2013; van't Wout et al., 2013; Werner et al., 2009). In addition to examining the use of emotion regulation strategies in the Ultimatum Game, van't Wout et al. considered relationships between HDAS and decision making in this paradigm, finding that participants with high HDAS were not more likely to make logical decisions than those with low HDAS were. Dunn et al. found the same results, although they did report a moderating role of HDAS, such that those with high HDAS were more likely to reject 'unfair' offers as they experienced greater autonomic arousal but this effect was not observed in those with low HDAS. This suggests that people with high HDAS may be more likely to make decisions based on their body's responses, whereas those whose body perceptions are not so accurate do not use such information for decision-making.

Two further methodologies were used to test the relationship between HDAS and decision-making. The Iowa Gambling task asks participants to choose cards from four decks, two of which are 'risky', offering both big financial gains and big financial losses, while the other two 'safe' decks offer smaller financial changes. Werner et al. (2009) found that participants with high HDAS chose significantly fewer of the 'risky' decks and significantly more of the 'safe' decks and than those with low HDAS did, and as HDAS increased so too did this trend.

Similarly, Sütterlin et al. (2013) used a framing task to consider whether participants with high HDAS were more likely to be susceptible to the ways in which offers were phrased. Prospect Theory (Kahneman & Tversky, 1979) states that humans are more opposed to losses than they are favourable to gains. Thus, when asked whether they would like to lose £60 from £100 they are more likely to respond with 'no', whereas if they are asked if they would like to keep £40 from £100 they are more likely to respond with yes. Sütterlin et al. reported that participants with high HDAS were more susceptible to this, finding a positive correlation between HDAS and the effect of framing.

Although each of these studies was experimental in nature and, thus, not necessarily representative of the risks that participants might usually take with their own money, studies did vary the amount of money participants received in reward for participating, according to their task performance. Thus, some measures were taken to alleviate this source of bias.

However, it is also important to note that participants were not asked throughout these studies to rate their levels of arousal or the extent to which they were accessing their internal sensations. As a result, it seems difficult to conclude definitively that the cause of these findings was that participants with high HDAS were relying more on their body sensations than those with low HDAS were.

Physiological Changes

As noted above, participants with high HDAS were more likely to self-report higher arousal in response to emotional pictures than those with low HDAS were. Six studies also compared differences in objective physiological changes in participants with high and low

HDAS (Herbert et al., 2007; Katkin et al., 2001; Pollatos & Schandry, 2008; Pollatos et al., 2007a; 2007b; 2012). Three studies found that, when presented with emotional pictures (either pleasant or unpleasant), participants with high HDAS showed significantly greater heart rate changes than participants with low HDAS (Pollatos & Schandry; Pollatos et al., 2007a; 2007b). Additionally, Pollatos and Schandry found that participants with high HDAS had significantly greater heart rate deceleration when presented with pleasant and unpleasant pictures. Pollatos et al. (2007a) found that heartbeat perception scores correlated significantly with self-reports of arousal, suggesting that as HDAS increased so too did heart rate and participants' perceptions of their heart rate. Additionally, Pollatos et al. (2012) found that, when exposed to painful stimuli, participants with high HDAS had a greater increase in heart rate from baseline than those with low HDAS. Similar results were also found for autonomic activity. In contrast, Hantas et al. (1985) reported no significant differences in changes in heart rate between groups when presented with affective pictures. The report written by Hantas et al. is limited in length and detail, however, so caution must be emphasised when considering these results.

In contrast to most findings regarding emotional arousal, Herbert et al. (2007) found that, during an exercise task, participants with high HDAS had significantly less heart rate acceleration than those with low HDAS did. This finding could suggest that physiological arousal relating to emotions is different from physiological arousal that occurs as a result of exercise. Additionally, Werner et al. (2013) reported that between inclusion and exclusion phases of their social manipulation experiment, participants showed significant differences in heart rate. However, there was no interaction between HDAS and this change, suggesting that HDAS was unrelated to heart rate change in this paradigm.

Werner et al. (2013) also measured skin conductance responses and found no differences either between discussion phases or between groups. Similarly, Katkin et al. (2001) found no effect of HDAS on skin conductance, in a backward-masking paradigm where participants were given shocks when shown certain pictures subliminally. This could suggest that, although participants' with high HDAS have a greater change in heartbeat when experiencing arousal than those with low HDAS do, other areas of autonomic nervous system activity are not significantly different. Thus, it is possible that high HDAS scores are related to heart rate variation in emotionally arousing situations.

Behaviour-Regulation

Four studies considered the relationship between body awareness and behaviour regulation (Herbert et al., 2007; 2012; 2013; Pollatos et al., 2012). Investigating the relationship between HDAS and the ability to regulate physical exertion, Herbert et al. (2007) found that participants with high HDAS cycled significantly less distance than those with low HDAS did in 15 minutes and, as HDAS increased, distance travelled decreased. These results could suggest that participants with high HDAS are more able to use their body signals to regulate their behaviour and, thus, are less likely to overload themselves. It is also possible that participants with high HDAS are cautious about their behavioural loads and this could be inhibitory as opposed to adaptive.

Pollatos et al. (2012) reported that participants with high HDAS had a significantly lower threshold for reporting pain and lower pain tolerance than those with low HDAS did, and as HDAS increased pain thresholds and pain tolerance decreased. Additionally, hierarchical regressions found that pain thresholds were explained by both HDAS and age while pain

tolerance was only explained by HDAS. This suggests that participants with high HDAS are more attuned to their body responses and are less likely to tolerate painful situations.

Pollatos et al (2012) also showed that participants with high HDAS evaluated pain stimuli as significantly more unpleasant but no more intense than participants with low HDAS did. This finding contrasts with responses to emotional stimuli reported above, which found that participants with high HDAS reported their emotions as more intense but no differences in reports of pleasantness.

Herbert et al. (2012; 2013) considered the relationship between eating behaviour and HDAS. Herbert et al. (2012) reported that, although those with high and low HDAS did not differ in their self-reported perception of fullness, participants with high HDAS consumed significantly less fluid on a water load task than those with low HDAS consumed. Herbert et al. (2013) also reported that cardiac perception scores significantly correlated with overall intuitive eating scores. Additionally, significant correlations were reported between HDAS scores and two subscales which measured the tendency to eat for physical rather than emotional reasons and the reliance on hunger and satiety cues to determine how much to eat.

Discussion

This review aimed to evaluate the literature relating to body awareness and well-being in a non-clinical sample. It is noteworthy that only one study directly examined this relationship. Using self-report measures, Brani et al. (2013) reported that body awareness was related to participants' well-being, though this study was limited by the use of a single self-report measure to investigate each variable.

Overall, the studies reviewed suggested that people with higher HDAS self-reported higher levels of arousal in response to emotional stimuli than people with lower HDAS did, and this was also demonstrated in physiological measures, though baseline heart rates did not vary between groups. Additionally, people with higher HDAS may be more able to access unconsciously processed emotional events and rely on their body sensations to make decisions more than people with lower HDAS. It also appears that people with high HDAS were better able to read the emotions of others than those with low HDAS. People with higher HDAS may also regulate their exercise, pain and eating behaviour based on body sensations. Taken together, HDAS seems to be related to some emotional, cognitive, behavioural and physiological processes.

In terms of emotion regulation, body awareness seemed to be limited in its relationship with reappraisal or suppression. Lobel et al. (2014) did report that their measure of interoceptive awareness was significantly related to 'Actively Seeking a Resolution' in video gamers. This study may have been underpowered as it had a small sample size and HDAS was also trend related to seeking social support. This is reported tentatively as studies investigating the relationship between interoceptive awareness and social situations, also found that participants with high HDAS were better able to read the emotions of others and had more positive social experiences than those with low HDAS. Additionally, participants with high HDAS had higher scores of interpersonal emotional intelligence than those with low HDAS did. It seems that there is a relationship between ability to perceive one's own heartbeat and social experiences, such that those with higher HDAS have more positive social experiences. It would be beneficial to explore this area further, to develop an understanding of whether elements of body awareness can facilitate social connectedness

and the mechanisms that underlie this. One possibility is that the more embodied a person is, the easier it is for them to be aware of and understand themselves thus freeing them up to understand others and make sense of social experiences and situations.

The findings presented in this review must be considered in the context of their methodological strengths and limitations. The quality checklist demonstrated that most studies used appropriate analyses to determine that there were relationships between chosen measures of body awareness and emotional, cognitive, behavioural or physiological variables. However, only three studies reported significant differences in HDAS between groups (Terasawa et al., 2014; Werner et al., 2009; 2013), making it difficult to determine whether other studies were actually comparing differing groups. Although the studies were, overall, replicable and clearly reported, it is important to note that they were all experimental in nature and mostly lacked ecological validity. In particular, it is striking that, with the exception of Ginzburg et al. (2014), only one measure of body awareness was investigated.

Although correlations between HDAS and anxiety were not always supported, many of the other variables reported in this review could reflect anxious behaviour (e.g. pain tolerance; making 'safer' gambling decisions). Thus, it is possible that the ability to perceive one's own heartbeat is related to anxiety, and better ability to detect heartbeat may be due to a greater increase in heart rate when presented with emotional stimuli. This finding replicates Domschke et al. (2010) who found that, in clinical populations, ability to perceive heartbeat was related to anxiety but other measures of body awareness were not. Indeed, Ginzburg et al. (2014) reported that people who were more vigilant to their body signals were more likely to have hypochondriac tendencies, whereas body awareness was not related to

hypochondria. These findings converge to support Wiens' (2005) two-level model of emotional processing, proposing that heartbeat perception abilities may be related to anxiety, as they involve taking information from an isolated area of the body, while body awareness is not related to anxiety due to its holistic approach.

An array of variables have been found to affect the ability to detect one's own heartbeat, for example gender, body fat content, fitness levels and arousal (for an overview see Koch & Pollatos, 2014). Although many of the studies presented here reported no significant between-group differences in these variables, the present paper found that participants with higher HDAS were more likely to report higher levels of arousal, and were more likely to experience a greater increase in heart rate when presented with affective stimuli (e.g. Pollatos et al., 2007a; 2007b; 2008). Thus, it is difficult to determine whether these changes in heart rate are the cause for higher HDAS, rather than an overall sensitivity to body phenomena.

In order to gather a more comprehensive picture of the relationship between body awareness and well-being, it will be important to consider what constitutes a valid measure of body awareness, and this may demand the use of a range of measures (Mehling et al., 2009). Mehling et al (2012) have proposed a conceptual framework of body awareness based upon five dimensions: awareness of body sensations; emotional reaction to body sensations and the attention paid to these; capacity to regulate and control attention to these sensations; awareness of mind-body integration; and trusting body sensations. Hence, the studies presented in the review could be developed by combining the objective measures of heartbeat perception with self-report methods like the Multidimensional Assessment of Interoceptive Awareness (Mehling et al., 2012) and investigating the extent

to which these measures are related to well-being, life satisfaction and emotion regulation. Using these measures in conjunction would also allow exploration into which elements of body awareness are adaptive and which are less adaptive.

In addition to considering methodological issues, it is important to distinguish between interoceptive accuracy and interoceptive awareness (Garfinkel et al., 2015). Ma-Kellams (2014) highlights that people from Western backgrounds tend to score more highly on tests of interoceptive accuracy, while people from Eastern backgrounds tend to be more 'body aware', which supports a distinction between interoceptive awareness (usually measured through heartbeat perception accuracy) and body awareness. Hypotheses suggest that meditators will have superior performance on tasks measuring interoceptive awareness, due to the emphasis on body awareness in meditation (e.g. Khalsa et al., 2008). However, research investigating heartbeat perception in meditators finds no significant differences between experienced meditators and a control group (Khalsa et al; Nielsen & Kaszniak, 2006). Nielsen and Kaszniak reported that of the five 'good heartbeat perceivers' in their study (out of a possible 28 participants), only one was a practised meditator. Despite this, meditators self-reported better emotional clarity and rated their interoceptive performance as higher than non-meditators. Furthermore, Daubenmier, Sze, Kerr, Kemeny and Mehling (2013) reported that meditators did not differ significantly from non-meditators in their respiratory interoceptive ability. Thus, it seems that the findings presented above may not consider the same body awareness that is thought to be encouraged in meditation, which is similar to that which is encouraged in body-oriented psychotherapies (Mehling et al., 2011).

Neuroimaging studies have linked the ability to perceive heartbeat to the Anterior Insula, an area of the brain that is responsible for collating information from most of the visceral

systems in the body (Craig, 2003). People with high HDAS have also shown greater activation within the Anterior Insula than those with low HDAS, which has led to the assumption that heartbeat perception is likely to represent other abilities to detect body sensations (Craig, 2010). Conversely, studies that have investigated this outside of neuroimaging research have shown mixed results. Steptoe and Vögele (1992) compared participant's subjective ratings of their body sensations both at rest and during stressful tasks to physiological measures of their heart rate, blood pressure, respiration rate and electrodermal activity and found no correlation between participants' accuracy across body sensations. Additionally, Shields and Simon (1991) reported that the tendency to experience changes within the body when experiencing emotions is not necessarily related to the tendency to attend to non-emotive body changes. Some studies presented in this paper, however, could suggest that cardiac perception abilities are related to other elements of body awareness like gastric functioning (e.g. Herbert et al., 2012) and unconscious processing (e.g. Pollatos & Schandry, 2008).

Overall, the current methods available for measuring people's body awareness seem to conflict with its holistic nature, limiting the ability of this report to draw conclusions about how body awareness is related to well-being and emotion regulation. It seems that though the ability to detect one's heartbeat could be related to anxiety, body awareness may not be. Empirical research seems to be lagging behind theory and clinical practice, suggesting that our understanding of the mechanisms involved in the link between body awareness and improved well-being needs developing. Widening the range of methods of assessment of body awareness could deepen understandings of this phenomenon and the relationship it has to well-being, which could facilitate clinical practice to offer techniques and skills that

are less restricted by language than those currently available. Furthermore, exploring the relationship between body awareness and social situations could help to develop new ways of working with people who find social situations challenging, such as changing the ways they interact with their bodies and helping them to better understand their body signal.

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Part Two: Mixed Methods Empirical Paper

*Seeing and Feeling Compassion: A pilot study exploring the effects of
compassionate imagery on self-compassion and affect*

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Abstract

Frameworks of emotion and information processing suggest that perceptual and bodily experiences can influence emotional states before entering cognitive awareness. In line with this, imagery is frequently used in compassionate research and therapies, although no study has directly investigated the effects of this practice on self-compassion or affect and the instructions used in these techniques vary in their focus. This study investigated the use of compassionate psychoeducation, mindful breathing and compassionate imagery in increasing self-compassion and positive affect, while decreasing arousal. This was a pilot study to test the feasibility of the use of these techniques in a non-clinical sample and a subsample of participants was interviewed in order to enrich this data. Results converged to suggest that each meditation instruction set created a holistic sense of relaxation in participants, which also heightened participants' awareness. Focusing on the sensations created by the compassionate image decreased tense arousal significantly more than mindful breathing did. Participants explained that they experienced a range of emotions during the meditation exercise and having space for this seemed beneficial. Findings from this study suggest that even a short intervention could promote self-compassion within non-clinical samples and this may be useful as a public health strategy.

Introduction

Eastern culture and Buddhist traditions are increasingly influencing Western psychology, with particular emphasis on meditative and mindful practices (Stanley, 2012; Williams & Kabat-Zinn, 2011). A wealth of research suggests that mindfulness is related to changes in focus and attention (Jha, Krompinger & Baime, 2007), as well as reductions in depression and anxiety (Hofmann, Sawyer, Wiit & Oh, 2010). Western psychology has also begun to draw upon the concept of self-compassion, which encompasses the self-awareness involved in mindfulness, yet draws upon this to attend to one's own suffering specifically (Neff & Dahm, 2014). Being self-compassionate also involves understanding that distress is a natural part of being human, and feeling motivated to be kind in response to this (Neff, 2003a). This contrasts with mindfulness, which promotes the adoption of a neutral stance in response to all thoughts and feelings (Neff & Dahm, 2014). There is a growing evidence base that suggests that those people who are more able to be self-compassionate also report higher levels of life satisfaction and psychological well-being, as well as being more resilient to challenging life events (for a review see Barnard & Curry, 2011).

In tandem with research into compassion, a number of therapies have been developed with the view to increase compassionate ways of relating to oneself and others (e.g. Gilbert, 2004; 2009; Germer & Neff, 2013). One technique used in these therapies asks clients to create images of being fully accepted and cared for by someone or something who has the wisdom and strength to manage any challenging situation and the empathy and understanding to nurture the client (e.g. Gilbert & Irons, 2004, 2005; Gilbert & Procter, 2006; Lee, 2004). Although imagery has been adopted into these therapies, only one study has directly investigated the impact of this particular imagery

technique on self-attacking and self-reassurance, with no measure of how this influenced mood or altered participants' level of self-compassion (Gilbert & Irons, 2004). This was a pilot study involving nine participants, all of whom were receiving anti-depressant medication and were attending a self-help group for depression. Thus, though this study suggested that compassionate imagery can decrease self-reports of self-attacking and increase reports of self-reassurance, there are limits to the extent to which these findings can be generalised. Indeed, Gilbert and Irons (2004) highlight the importance of developing methods to investigate the extent to which compassionate imagery can increase self-compassion.

The Interacting Cognitive Subsystems (ICS) framework (Barnard & Teasdale, 1991) can offer insight into the processes that may enable imagery to affect cognitive and emotional experiences. ICS outlines a bottom-up approach to cognition, explaining that perception systems have first contact between our minds/bodies and a stimulus. This system then informs implicit memory which is reciprocally linked to the body. Thus, there is a conversation between perception, body and memory before it has entered into cognitive awareness. As a result of these bi-directional processes, perception (e.g. vision) and the body can trigger and inform schema held in implicit memory and these can inform cognition. Indeed, Le Doux (1996) found evidence for two separate pathways within the brain for processing emotions. The first route is fast and direct, it mobilises the body for action and does not involve cognition. In contrast, the second pathway that involves thought and language is much slower. A series of studies by Holmes and colleagues has demonstrated that fear related-stimuli are not only more affective when imagining pictures than language, but positive emotions can also be enhanced when using imagery (for a review see Holmes & Matthews, 2010).

Thus, it seems that the stimuli need not be external to influence ICS and imagery could be a powerful and efficient method of altering one's affective state.

In addition to the potential for imagery to alter affect, ICS suggests that the posture of one's body can have a direct impact on mood and a range of research investigations support this (Carney, Cuddy & Yap, 2010; Riskind & Gotay, 1982; Schneider et al., 2013; Soussignan, 2002). Furthermore, the Facial Feedback Hypothesis (Buck, 1980) purports that a person's facial expressions not only express their emotions, but can also provide a feedback loop to maintain that state, and Dimeff and Linehan (2001) have incorporated this into Dialectical Behaviour Therapy. Research demonstrates that this therapy can be successful in helping people diagnosed with Borderline Personality Disorder to develop more stable patterns of mood and relationship (Kliem, Kröger & Kosfelder, 2010). Hence, there is evidence that laboratory studies can inform clinical practice. Furthermore, the triangulation of the studies mentioned above, which come from a wide variety of disciplines and countries, lends weight to the theory that the body can influence affective states.

Overall, research suggests that vision and body posture can have a direct impact on affective state and these pathways may be faster in influencing this than those involving language (Le Doux, 1996). Thus, it seems feasible that compassionate imagery could also influence affect and, maybe, self-compassion. Indeed, research that has used this technique within therapy reports positive outcomes for clients and research participants (e.g. decreases in depression, anxiety and shame, Gilbert & Procter, 2006; voices becoming less critical and more reassuring, Mayhew & Gilbert, 2008). It is also possible that this effect could be bolstered by asking participants to

move their bodies to reflect self-compassionate feelings, given the literature on the impact of body posture (e.g. Canales et al., 2010).

However, the direct link between compassionate imagery and changes in affect and self-compassion has not been explored. Furthermore, there seems to be inconsistency in the instructions given during the imagery exercises. Some participants are asked to focus purely upon the image (e.g. Jacob et al., 2011) while others are asked to focus more upon the feeling that the image brings about (e.g. Rockliff et al., 2008). Additionally, most studies investigating the impact of compassionate psychoeducation and imagery employ clinical samples and there is limited information about responses to the concept of self-compassion in non-clinical populations. Such research could better inform abilities of clinicians to work in preventative ways, by promoting 'living well' in accordance with government policies such as No Health without Mental Health (Department of Health, 2011).

Accordingly, this pilot study aimed to offer clarification and insight into how best to elicit increased self-compassion and changes in affect using compassionate imagery in a non-clinical population via both quantitative and qualitative measures. The hypotheses to be tested were:

1. Compassionate imagery will increase hedonic tone and decrease tense arousal and energetic arousal more than psychoeducation and mindful breathing.
2. Compassionate imagery will increase self-reported self-compassion more than psychoeducation and mindful breathing.
3. Compassionate imagery will be more effective when accompanied by a focus on body sensations.

4. The efficacy of compassionate imagery will be enhanced when the participants alter their body posture to feel more compassionate.

A range of studies have reported that people with difficulties in attachment can struggle to engage with compassion related exercises and, sometimes, find them distressing and/or frightening (e.g. Gilbert & Irons, 2004; Rockliff et al., 2011). In order to understand how attachment interacts with the effects of compassionate imagery, 'attachment style' will be measured and used as a covariate. It is hypothesised that participants who score higher in anxiety within attachment will show less decrease in measures of arousal than those who self-report as having less anxiety within attachments.

In addition to investigating the impact of compassionate imagery on affect and self-compassion, semi-structured interviews were used to explore the experiences of participants when engaging in a meditation exercise, and what helps and hinders this process. Insights from a sample of the general population can help to inform both health promotion techniques as well as therapeutic practices.

Specific research questions were:

1. What is the experience like of engaging in a compassionate imagery task or mindful breathing?
2. What can help to make this experience easier?
3. What makes the experience more difficult?

Method

Design

This was a mixed method study with both a quantitative and qualitative element. The quantitative part used a split-plot/mixed design to compare changes in self-compassion and affect before and after the meditative intervention between four groups. The independent variable was 'Group' with four levels:

1. Psychoeducation + Body Scan + Mindful Breathing
2. Psychoeducation + Body Scan + Focus on Imagery
3. Psychoeducation + Body Scan + Imagery + Focus on Body Sensations
4. Psychoeducation + Body Scan + Imagery + Focus on Body Sensations + Change in Posture

The dependent variables were change in affect (hedonic tone, tense arousal, energetic arousal)⁴ and change in self-compassion. Attachment was measured as a covariate.

In addition, a semi-structured interview was used to explore the experience of people during these conditions. This was then analysed using Thematic Analysis (Braun & Clarke, 2006).

⁴ High levels of hedonic tone when accompanied by high energetic arousal is associated with 'happiness', while high hedonic tone with lower energetic arousal is more reflective of a 'calm' and 'relaxed' state.

Participants

A convenience sample of 37 healthy volunteers was recruited from a university population and the local community via email and poster advertisements. Recruitment extended from October 2014 to February 2015. One participant did not complete all parts of the self-report questionnaires and her data were excluded leaving a sample of 36 participants (mean age = 34.25 years, SD = 12.76 years; 27 female). Participants were included if English was their primary language and they had capacity to consent. As the psychoeducation was aimed at people who had little to no prior knowledge of the psychological concept of compassion, participants were excluded if they had any experience of psychological or Buddhist practice, theory or research in compassion.

The first twelve participants were asked to engage in interviews and all agreed. The interview from the second participant did not record and so a thirteenth participant was interviewed. Demographic data for this subsample can be seen in Campion and Glover (submitted).

Measures

Self-Compassion

Self-compassion was measured using the Self-Compassion Scale (SCS; Neff, 2003b; Appendix 3). This is a 26-item self-report measure in which respondents are asked to rate on a scale of 1 ('almost never') – 5 ('almost always') their perceptions of their actions towards themselves at difficult times. The scale offers an overall measure of Self-Compassion as well as six subscales, which can be split into three continua: Self-Kindness – Self-Judgement; Common Humanity – Isolation; Mindfulness – Over-

identification. Neff (2003b) reports an internal consistency of .92 and Neff, Kirkpatrick and Rude (2007) report the construct validity to be 'good' as undergraduates in the highest quartile of self-compassion scores had significantly higher self-compassion scores than those in the lowest quartile ($p < .001$).

Affect

Affect has been conceptualised using the circumplex model (Russell, 1980) as modified by Matthews, Jones and Chamberlain (1990), who proposed a three-dimensional model of mood, namely Energetic Arousal (high to low), Tense Arousal (high to low) and Hedonic Tone (pleasure to displeasure). Affect was measured using the University of Wales Institute of Science and Technology Mood Adjective Checklist (UMACL; Matthews et al., 1990; see Appendix 4). This is a 24-item self-report questionnaire, which measures mood along four scales: Energetic Arousal, Tense Arousal, General Arousal and Hedonic Tone. Thus, someone in a calm and relaxed state will score low on arousal dimensions and high on Hedonic Tone. Participants are asked to rate the extent to which each adjective accurately describes their current mood on a four-point scale from 1 (definitely) to 4 (definitely not). Matthews et al., (1990) report good internal consistency (Cronbach's $\alpha = .88$).

Attachment

The Revised Adult Attachment Scale (AAS; Collins, 1996; Appendix 5) was used to measure attachment. This is an 18-item self-report measure, which considers attachment along three dimensions: comfort with emotional closeness, comfort with depending on others, and anxiety about being abandoned or unloved. Participants are asked to respond to items such as 'I find it relatively easy to get close to others' along a

Likert Scale ranging from 1 ('Not at all characteristic of me') to 5 ('Very characteristic of me'). Each scale has six questions, with a maximum score of 30. Brennan, Clark and Shaver (1998) report validity according to correlations with an avoidance dimension for the first two continua ($r = .86$ and $r = .79$, respectively) and the third component has been found to correlate with other self-report attachment scales ($r = .74$).

Manipulation Checks

Questionnaires were devised to gather insight into how understandable and achievable the instructions were. As this was a pilot study, these questionnaires were used to gauge whether instructions were clear and whether any information needed to be changed. Rockliff et al. (2011) used a similar technique in their study of the effects of compassionate imagery and oxytocin, and their paper informed this measure. See Appendix 6 for a copy of the measure.

Semi-structured Interview

Participants were interviewed to explore their experience during the activity they were asked to do. This interview was semi-structured, investigating their experience of both the exercise and the psychoeducation video. The interview was recorded and subsequently transcribed for analysis. For details of the development of this interview, please see Champion and Glover (submitted). See Appendix 7 for full interview schedule.

Materials

Psychoeducation Video

A psychoeducation video was developed by the researcher to offer information regarding what is meant by self-compassion and common reasons people report about worrying about being compassionate to themselves. This video used cartoons and pictures and lasted 8:43 minutes. Information for this video was drawn from literature by Gilbert and colleagues (e.g. Gilbert, 2004; Gilbert, McEwan, Matos and Ravis, 2011) and Neff and colleagues (e.g. 2003a) and the video was then shown to a pilot group who stated that it was clear, concise and comprehensible. See Appendix 8 for the script.

Procedure

Ethical approval was sought and gained from the University of Hull Faculty of Health and Social Care Research Ethics Committee. Participants were given information sheets and consented to taking part in the study (see Appendices 9 & 10), being offered the chance to clarify anything that seemed unclear. Following this, demographic data including age, gender and history of meditation were gathered. Participants completed the AAS (Collins, 1996), UMACL (Matthews et al., 1990) and SCS (Neff, 2003b), then watched the psychoeducation video. Participants had the opportunity to ask any questions about the video and were then randomly allocated to one of the four groups (Mindful Breathing, Imagery, Sensations or Posture), each meditation lasted 8 minutes. See Appendix 11 for scripts.

Mindful Breathing

Participants in the Mindful Breathing group completed a 3-minute body scan (Neff & Lamb, 2009), asking them to become aware of their bodies. Following this, they spent 5 minutes focusing on their breath with a prompt every 45 seconds to bring their focus to their breath.

Imagery

As above, participants spent 3 minutes doing a body scan. Following this, participants were asked to generate a compassionate image and focus on this over the next 5 minutes. Again, participants were prompted to bring their focus back to the image every 45 seconds.

Sensations

As above, participants spent 3 minutes doing a body scan and were then asked to generate a compassionate image; the focus over the five minutes was this time on the body sensations brought about by this image. Participants were prompted every 45 seconds to bring their focus back to the body sensations.

Posture

As above, participants spent 3 minutes doing a body scan and were then asked to generate a compassionate image with a focus on the body sensations accompanied by this. Participants were also asked to change their body posture to one that they felt best reflected this feeling. Every 45 seconds participants were prompted to bring their

awareness back to the sensations brought about by the image and reminded to move their bodies to reflect these feelings.

Following these groups, participants were asked to complete the SCS, the UMACL and the post-exercise questionnaires. After this, twelve participants were interviewed on their experiences of this intervention and this was recorded on a Dictaphone. As this was a pilot study, responses from the first four participants were reviewed to ensure the tasks were easy to understand and engage with; no changes were made following their responses.

Data Handling and Analyses

Power Calculations/Sample Sizes

A calculation using GPower Version 3.1 Software showed that, with four groups and 36 participants, using analysis of covariance (ANCOVA) to compare differences in pre- and post-condition ratings between groups with attachment type as the co-variate for a univariate outcome measure and a 5% significance level, an effect size of $\eta^2 = .27$ could be detected with 80% power. This calculation was completed for change in affect and was based upon effect sizes found from imagery exercises reported by Pictet, Coughtrey, Matthews and Holmes (2011).

Manipulation Checks

Between-groups comparisons were made using a bootstrapped ANOVA to ensure participants did not differ significantly on baseline measures. The variables compared were gender, age, previous history of meditation, AAS scores and scores from post-exercise questionnaires.

Data Handling

After scoring the UMACL and SCS before and after the intervention phase for each participant, 'difference' scores were calculated by subtracting the scores of each subtest taken at baseline, from the scores from each subtest taken after completion of the intervention for each participant. Thus the formula was:

$$\text{Subtest difference} = \text{Subtest score post-intervention} - \text{Subtest score pre-intervention}$$

These differences were then tested for equal variance and compared between groups using appropriate between-group comparison tests (ANOVA, Brown-Forsythe or Kruskal-Wallis Test, depending on the spread of variances and distribution of data).

Following this, difference scores for each subtest were measured using analysis of covariance with the covariate being attachment type as measured by the AAS.

Qualitative Data Analyses

The qualitative data analysis was approached thematically using recommendations from Braun and Clarke (2006). Because the pilot study was concerned with reported experiences of participants, as opposed to the conditions likely to construct a particular discourse around their experience, the analysis was semantic from an essentialist/realist epistemology (see Appendix 12 for epistemological statement).

The researcher familiarised herself with the data and this was facilitated by transcribing the recordings verbatim and keeping them as true to their original nature as possible. Following active reading and searching for meanings, patterns and themes, the researcher generated codes, which remained direct participant quotes in order to

minimise interpretation bias. The transcripts were also coded by a peer and these codes were compared to ensure that none had been missed. Any additional codes found at this point were entered into the analysis. After coding the entire data set, themes were developed, based on how well the codes seem to combine and make sense together, with attention paid to relationships between codes, themes and different levels of themes. The codes and themes were then reviewed to determine how well they fit together or separately and these were then considered in terms of the whole data set to ensure that it was accurately reflected in the meanings inferred by the researcher. Names and definitions of each theme were then derived from the interpreted meaning of the grouped codes. These themes were then discussed with the second named author as a method of quality checking. While developing themes, it became clear that participants discussed their responses to the exercises separately to their ideas about self-compassion, and it was decided at this point to address these issues in separate papers. See Appendix 13 for an example of transcript analysis.

When approaching the interviews and the data analyses, the researcher was aware of how her position as a young, educated, white-British female might influence both the responses from participants and her interpretation of these. The researcher kept a reflexive journal in order to increase her awareness of her biases and assumptions, for example, she was aware that she had experienced the benefits of compassionate imagery within clinical practice and, thus, had an expectation and hope that it would be effective in this study. Given that part of this research was deductive, there was a greater risk of bias towards finding evidence to fit the theories, than there might have been if it was all deductive. Thus, it was important to be as inquisitive and curious as

possible about the experiences and perceptions of others, to minimise the effects of her own beliefs and opinions.

Quantitative Results

Manipulation Checks and Demographics

Table 2 shows the demographic variables for each group, including gender, age and baseline scores on AAS. There were nine participants in each group, and each had a complete data set. Scores from the post-exercise questionnaires were compared between-groups, using a bootstrapped ANOVA, because they could not be assumed to have equal variances. No significant differences were found; see Appendix 15 for data.

Table 2: *Gender splits, mean age and scores on the AAS, with standard deviations, for each group*

Group	Women	Men	Age		AAS Close		AAS Dependent		AAS Anxious	
			Mean	SD	Mean	SD	Mean	SD	Mean	SD
Mindful Breathing	7	2	34.71	9.62	18.71	3.35	19.43	4.28	15.71	3.4
Imagery	5	4	27.86	12.15	18.29	2.81	21.14	3.29	15.29	3.55
Sensations	7	2	32.00	14.57	20.14	1.07	20.00	4.69	17.43	4.11
Posture	8	1	32.14	13.81	18.00	2.52	18.86	5.70	15.71	1.98

Table 3: *The mean differences between pre- and post-intervention scores, with standard deviations and significance estimates in affect and self-compassion variables for each group*

Variable	Mindful Breathing		Imagery		Sensations		Posture		p
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Hedonic Tone	1.00	1.73	1.71	1.80	3.07	3.66	.86	2.27	.085
Energetic Arousal	-2.43	4.50	-1.86	1.57	-2.43	4.58	-1.71	3.82	.748
Tense Arousal	-1.00	1.91	-3.86	4.22	-5.86	3.72	-3.00	3.51	.033 ^a
General Arousal	-3.71	4.27	-5.00	4.55	-7.00	6.56	-4.57	5.09	.457
Self-Kindness	.19	.29	-.20	.43	.14	.53	.03	.51	.397
Self-Judgement	.34	.50	.17	.45	-.11	.54	.23	.44	.705
Common Humanity	.09	.20	-.09	.34	.37	.59	.23	.41	.161
Isolation	-.09	.32	.06	.53	.03	.50	-.11	.28	.691 ^b
Mindfulness	.11	.20	.09	.53	.11	.41	.03	.45	.999
Over-Identifying	-.18	.12	-.18	.53	-.29	.64	-.21	.78	.758 ^a
Overall Self-Compassion	.22	.48	0	1.40	.71	1.00	.93	2.46	.610

^aEqual variances for these measures were not assumed as Levene's test showed significance, so Brown-Forsythe tests were used to measure significance.

^bThese data were not normally-distributed, as measured by a Shapiro-Wilks test, so groups were compared using a Kruskal-Wallis test

Effects of Instruction Sets

Table 3 displays the mean differences, with standard deviations, in response scores from before to after the intervention, with p-values for between groups comparisons. Levene's test demonstrated unequal variances for Tense Arousal ($F=2.984$, $\eta^2=0.243$, $p=.046$) and Over-Identification ($F=3.346$, $p=.031$), thus, a Brown-Forsythe test was used to compare between-group differences for these subscales. All data were

parametric with the exception of Isolation ($W=.790$, $p=.016$), a Kruskal-Wallis test was used to assess between-group effects for this variable, revealing no significant differences. For Tense Arousal, a significant between-group difference was found ($F(3,23.729)=3.428$, $p=.033$). Post-hoc analyses, using Tukey's Honestly Significant Difference (HSD), revealed that participants in the Sensations group reported significantly greater decreases in their Tense Arousal scores than those in the Mindful Breathing group ($p=.018$). No other significant differences were found. There is a trend for the sensations group to have the largest mean difference score, although this difference was not significantly bigger than the other groups.

Covariance with Attachment Scales

Analyses of covariance (ANCOVA) were conducted to assess whether attachment style affected the extent to which participants' scores changed from pre- to post-intervention. Levene's test demonstrated equal variances, so no manipulations were made to the data. The between-group differences noted above did not alter in significance when covariates were added. No significant effect was found for attachment closeness. As comfort with depending on others increased, so too did energetic arousal differences ($F(1,28)=4.387$, $p=.045$) and as anxiety within attachment increased, so too did differences in mindfulness scores ($F(1,28)=5.025$, $p=.033$). No other effects of attachment style were found.

Table 4: *The mean difference, with standard deviations and significance estimates, for each affect and self-compassion variable before and after the intervention*

Variable	Differences		
	<u>Mean</u>	<u>SD</u>	<u>P value</u>
Hedonic Tone	1.46 ^a	2.60	.003
Energetic Arousal	-2.33	3.96	.001
Tense Arousal	-4.08 ^a	4.14	<.001
General Arousal	-5.72	5.09	<.001
Self-Kindness	.03	.45	.743
Self-Judgement	.05	.57	.6
Common Humanity	.16 ^a	.44	.039
Isolation	-.07 ^a	.38	.105
Mindfulness	.05	.40	.453
Over-Identifies	-.21	.53	.025
Overall Self-compassion	.47	1.50	.035

^aNormal-distribution for these scores were not assumed as Shapiro-Wilk test showed significance, so Wilcoxon Signed Ranks tests were used to measure significance.

Tests of Efficacy of Intervention

Table 4 shows the mean differences in affect and self-compassion variables across groups, with standard deviations and estimates of significance when comparing the scores before and after. To investigate whether the intervention made an overall change, regardless of instruction set, data from all groups' pre- and post- intervention were compared. A Shapiro-Wilk test demonstrated that data could be assumed to be normally distributed with the exceptions of Pre-test Tense Arousal Scores ($W=.922$, $p=.015$); Pre-test Isolation Scores ($W=.933$, $p=.032$); Post-test Hedonic Tone Scores ($W=.923$, $p=.015$); Post-test Tense Arousal Scores ($W=.866$, $p<.001$); Post-test Common Humanity Scores ($W=.937$, $p=.041$). Therefore, these comparisons were completed with Wilcoxon Signed Ranks Test, while others used t-tests.

T-tests revealed significant differences in Energetic Arousal ($t=3.538$, $df=35$, $p=.001$); General Arousal ($t=6.751$, $df=35$, $p<.001$); Over-identifications ($t=2.346$, $df=35$, $p=.025$) and Overall Self-Compassion Scores ($t=-2.187$, $df=35$, $p=.035$). Wilcoxon Signed Ranks tests demonstrated significant differences in Hedonic Tone ($z=-2.970$, $p=.003$); Tense Arousal ($z=-4.639$, $p<.001$) and Common Humanity ($z=-2.062$, $p=.039$).

Qualitative Findings

Participants' interviews were analysed using Thematic Analysis. Participants were asked about their responses to the psychoeducation video and the mindful breathing or compassionate imagery exercise. Participants' reactions to the concept of self-compassion are described elsewhere (Campion & Glover, submitted). Four themes were developed from participants' answers to questions about their experience of the exercise, with eight additional subthemes (see Table 5).

Participants spoke about their *Experiences during the Exercise* including the process of *Developing an Image* and how their *Minds Wandered*. Additionally, participants discussed a range of *Thoughts and Feelings* that occurred. It seemed that the exercises created a *Holistic Sense of Relaxation* and contentment, which encompassed *Emotional Experiences; Heightened Awareness; Changes in Body and Cognition*. Participants also discussed the *Factors That Affected Their Experiences* of the exercises including aspects of *The Space for Reflection* and the impact of their current *Frame of Mind*. Findings are reported with pseudonyms.

Table 5: *Themes and subthemes developed from participants responses*

Themes	Subthemes
Experience during the exercise	Developing an Image
	Mind wandering
	Thoughts and Feelings
Holistic Sense of Relaxation and Contentment	Emotional experience
	Heightened awareness
	Changes in Body and Cognition
Factors Affecting the Experience	The Space for Reflection
	Frame of Mind

Experience during the Exercise

Developing an Image

There was a contrast in participants' accounts of how easy it was to develop an image; some participants found that an image came instantly in response to the description given.

"I didn't really [choose that image]... as soon as the description on the video described my partner... the image... just came to me mind straight away"

Arthur

While others found it difficult to create an exact image and, instead, it was fuzzy and unclear.

"More like a sort of motherly figure and somebody just literally coming and just hugging me was what I was thinking about and sort of talking to me..."

Them saying it's OK to be like this and to think this... Just kind of reassuring"

Lucy

Participants described the dilemma of not wanting to choose a specific person, or not being able to think of somebody who exactly matched the description.

" Family makes me incredibly happy... what makes you happy isn't always what necessarily makes you feel incredibly content and free because with family you've got all the responsibilities and all the worries" Abigail

Some participants found it difficult to describe an image at all and found it easier just to describe the sensations they experienced.

"I just imagine arms around or not even arms just something... I don't know the way to describe it like an aura or something really warm and soft just surrounding my entire body just holding me that's what I felt" Rose

Participants described finding the image as comforting.

"Once I got a little photograph in my head that's it... A twinkle peace... Calming relaxed" Nicholas

Participants reported enjoying the exercise, to the extent that they wanted to recreate the feelings and to recommend it to others.

"I'm gonna try and recreate this again" Rose

"So I'm gonna recommend it to other people" Abigail

Mind wandering

Participants noted that they found it difficult to maintain their focus on the exercise consistently and that their minds were prone to wandering. In particular, participants reported that they found themselves thinking about tasks they had to do in the day. Participants seemed to speak about this as though it was against their will and that their mind was acting in ways they wished it would not.

"Your mind sort of drags you into other things that are bothering you" Isabella

"Hard to keep daily life from bouncing into your head" Abigail

In contrast, one participant suggested that, because she found the exercise daunting, she had allowed her mind to wander so that she did not have to think about somebody being compassionate to her.

"Trying to avoid thinking about [someone being compassionate to me] so I would just start thinking about what I'd been doing just before I came here and maybe what I'm gonna do" Lucy

Lucy then went on to discuss how accepting these feelings allowed her to connect with the exercise and how she felt she had benefitted from it.

Conversely, Pam reported that her mind was wandering and that she had not enjoyed the exercise.

"my mind was wandering I noticed... erm feeling slightly a bit impatient"

"and in some ways I was getting a little bit disconnected from the experience"

Thoughts and Feelings

Participants described how, as their minds wandered, they experienced a range of thoughts and feelings throughout the exercise.

"The feelings were quite swift y'know and I thought of my daughter and sort of the pride and the the sorrow and the joy" Abigail

There seemed to be a reciprocal influence between these thoughts and feelings, such that feelings could bring about changes in cognition in the same way as thoughts could bring about changes in sensations.

"... And I started to think really sad things and then I felt the presence and warmth again and it just melted away again" Rose

Participants seemed to find that accepting these processes, rather than fighting the different feelings was beneficial.

"I don't not enjoy feeling sad... I understand it when I do and it helps me realise things sometimes... The feeling of it passing is just it's like something's been lifted off your chest" Rose

"You don't want to feel like that so maybe try to steer away from it but I think having the time to sit and reflect like that did feel very different at the end like in a good in a good way" Lucy

These participants went on to describe their enjoyment and feelings of relaxation after the exercise.

Holistic Sense of Relaxation and Contentment

Emotional Experience

All participants described feeling relaxed after completing the intervention.

"Calming relaxed... Like being in a meadow or a field with no hassles no worries no issues no nothing just that calming bliss... Like a sanctuary"

Nicholas

Some participants found it difficult to describe this sensation, and it seemed novel to them.

"I don't feel sad now I don't feel happy either I feel good in between I feel calm I don't know if there's a word for in between" Rose

"I guess just I feel easier inside somehow but it's not like a location it's a holistic feeling" Nicholas

Heightened Awareness

Despite the relaxation participants felt, they also experienced a heightened awareness and increased attention.

"It was relaxing but at the same time it made me focus" Rose

Participants also spoke about an increased awareness of body sensations.

"As I was doing it that I felt like I was smiling" Arthur

"Definitely felt more relaxed and more aware of different parts of me and whether or not they were relaxed" Isabella

Participants seemed to appreciate this new awareness, particularly noticing the benefit from being reminded to breathe.

"Understanding how my body felt and... The blood rushing around I could almost feel it running through my body the air going in and out of my lungs it made me very aware of how my body was feeling" Rose

"Breathing like just taking a second to breathe and not hold my breath all the time" Lydia

Changes in Body and Cognition

Participants who mentioned that they had been in pain throughout the day noticed that this pain had alleviated.

"No pain whatsoever and I've been having a really bad neck and back today"
Rose

Participants also described how easy or difficult they found it to relax different parts of their bodies. A common theme suggested that participants found it easier to relax their lower bodies, while it seemed more difficult for them to alleviate the tension in their head, neck and shoulders.

"Legs were fine my shoulders were tensed and my head that's the most heaviest it's like carrying a whole... road" Nicholas

Participants also seemed to experience a change in their perspective following the intervention.

"Enlightening... Just to make me realise... it's stepping back and seeing from a different perspective and knowing that things are different all the time" Rose

"It almost felt like... making a bit of peace with certain thoughts" Lucy

For some participants, this new perspective made their upcoming tasks seem more achievable and less daunting.

"I'm feeling energetic about what I've got to do but a lot of these... slight anxiety about it is I'll just do what I've gotta do" Arthur

Factors Affecting the Experience

The Space for Reflection

Participants believed that having gaps between each reminder was helpful in allowing them to reflect on their feelings and choice of image.

"You allowed quite long spaces and I know that other people have said when they've tried sort of things is that there's been a constant murmuring and actually that's been incredibly distracting" Abigail

Although the spaces for reflection were important, participants also valued the reminders to bring their minds back to the image as they found their minds wandering.

"Just to have the reminder to like check back in because... My mind definitely does wander" George

In addition to the audio recording, participants thought it was helpful to have the physical presence of another person in the room with them.

"It was actually good to have somebody there" George

The physical features of the environment also seemed to affect participants' experiences. Depending on availability, the experiment was conducted in one of two

rooms. The first room was in a library, with a view that overlooked university grounds and participants seemed to find this helpful in their experience.

"It's a nice quiet environment" Graham

In contrast, the other room was in a relatively ugly, noisy building. When asked, participants noted that this environment seemed to conflict with the task being asked of them.

"This room's not particularly conducive... The chairs aren't good" Abigail

Although participants highlighted the need for a relaxing and comfortable room, they also noted that the exercise made them feel tired and that if they had been more comfortable they may have fallen asleep.

"If I was too comfortable I'd have fallen asleep" Graham

Frame of Mind

Some participants noted that they were in need of this type of intervention on that particular day.

"[The exercise] was probably exactly what I needed to do today" Lydia

For other participants, being asked to relax or create a compassionate image seemed to create anxiety, initially.

"[I was feeling] trepidation about what to do you know... I'm not used to relaxing" Arthur

"Think of a person being compassionate to you like I know that I find that difficult so it made me feel a bit anxious so I think I was sort of keeping that at arm's length a little bit" Lucy

Other participants noted that their ability to fully engage with and benefit from such an intervention depended upon their experience within that moment.

"It can help me just feel really calm and relaxed or if I've had a really sad day sometimes it can magnify it" Rose

"It's an exercise that's trying to contain you in a physical position and in a mental position and that's a bit of a struggle at the moment" Sophia

Discussion

This pilot study sought to offer preliminary insights into the effects of psychoeducation and compassionate imagery on self-reports of affect and self-compassion within a community sample. Overall, findings converged to suggest that, following the intervention phase of the study, participants felt calmer, more content and experienced a holistic sense of relaxation, which encompassed body sensations, emotions, changes in perspective and a renewed focus. Quantitatively, participants in the group asked to focus most on their body sensations had a significantly larger decrease in tense arousal than those in the mindful breathing group. However, no other significant between-group differences were found, this could be due to a lack of power within the study and it is worth noting that there was a trend towards the sensations group having larger differences than other groups. It could also be that the

psychoeducation video or the processes involved in meditation are what created the change.

When interpreting the findings of this pilot study, it is important to consider the limitations of the method and design. Clinical practice informed this study, which offers participants a number of sessions to become acquainted with the concept of self-compassion and to practise developing a compassionate image, as well as using many other techniques and being held within a therapeutic relationship (e.g. Gilbert, 2004; 2007; 2009). In contrast to this, participants were given fewer than nine minutes of psychoeducation and an eight-minute meditation. Nevertheless, this appears to be the first study to measure the effects of compassionate imagery on affect and ratings of self-compassion and findings suggest that this limited intervention can alter affect and reports of self-compassion, common humanity and over-identification. In addition, the qualitative element of the study allows a deeper understanding of the experience of engaging with a mindful or compassionate exercise and can offer insight into the circumstances that may promote the efficacy of this intervention.

Participants emphasised that the sense of relaxation they experienced was holistic and multi-faceted. That is, in addition to a decrease in tension and arousal and an increase in hedonic tone, as depicted in the quantitative results, participants described feeling more aware and focussed, as well as more ready to face tasks that had previously seemed overwhelming. This readiness to begin working coincided with a decrease in the perceived pressure on these tasks, which may have reduced the arousal associated with such demands. There has been extensive research into the impact of mindfulness on attentional processes, suggesting that mindfulness is related to both cognitive

flexibility (Moore & Malinowski, 2009) and selective attention, in the early stages of practise (Chiesa, Calati & Serretti, 2011).

However, though it could be the mindful element of self-compassion that facilitated this change in focus, scores on the mindfulness subscale of the SCS (Neff, 2003b) did not change. Conversely, participants' scores on the over-identification subscale significantly decreased. This subscale measures the extent to which people can observe their thoughts and feelings with a removed view, rather than becoming overwhelmed and blinded by them. It is possible that offering participants a space to breathe, to focus on their own internal processes and to accept these, decreased the extent to which they over-identified with their thoughts and feelings. Additionally, encouraging participants to be kind in response to themselves, rather than neutrally accepting the present moment may have allowed a change in perspective, leading to a motivation to tackle the day's tasks.

In understanding the processes involved in such a holistic sense of relaxation that also focuses a person and readies them for work, it can be helpful to consider models which propose that the mind and body are inextricably linked (e.g. Barnard & Teasdale, 1991). Theories of embodiment propose that the mind is held within the body and, thus, relaxing the body is relaxing the mind (Barrett & Lindquist, 2008). It is noteworthy that, participants found it difficult to let go of tension in their head, neck and shoulders and those areas were more painful at the beginning of the intervention. Following the intervention phase, participants appeared surprised to note that they no longer felt the pain they had at the beginning. It is possible, that as participants moved their awareness into their bodies and 'out of their heads', their cognitive processes became diluted throughout the body, creating a sense of relaxation and relief from the

thoughts that had previously been compacted into their heads. This pilot study suggests that changes in cognition can occur due to changes in body sensations, supporting theories of embodiment. Further investigation into the experiences that occur with embodiment, how to facilitate this and how embodiment impacts on well-being could expand our knowledge base to offer innovative methods by which we can promote well-being.

Participants described experiencing an array of feelings and emotions during the exercise. Participants spoke about how the thoughts that occurred while their minds wandered or they tried to develop an image, created a range of emotions, including sadness, guilt, frustration and anxiety. Moreover, participants spoke about how the emotions they felt could also influence their thinking processes. It seemed that those participants who were able to accept these shifts in emotions were more likely to report enjoying the exercise and experiencing multiple benefits from having participated. These participants also seemed to appreciate long spaces for thinking and reflection between reminders to bring their awareness back to the task. In contrast, those participants who felt restricted by the exercise and seemed to fight the feelings, reported feeling more disconnected and impatient. This finding supports research suggesting that the extent to which an individual avoids emotional experiences mediates the efficacy of their coping styles and emotion regulation strategies (e.g. Kashda, Barrios, Forsyth & Steger, 2006).

Previous research has suggested that attachment style can affect the ease with which a person might accept the idea of self-compassion (Gilbert et al., 2011), and this may have affected the extent to which participants were willing to allow their emotions to flow during the exercise. When considering attachment style as a covariate, results

demonstrated that, as anxiety within close relationships increased, so too did changes in mindfulness scores. Participants' discussions suggested that those who felt anxious about the exercise also spoke about feeling comforted by the image and this might have facilitated their acceptance of their feelings and their increases in mindfulness, possibly bringing them to a similar level of their less anxious peers.

In addition, results suggested that if participants were lower in comfort with depending on others within close relationships, they were also likely to experience less decrease in energetic arousal. It may be that those who struggle more with depending on others did not find it comforting to develop an image of an other upon whom they were then asked to depend for compassion. Although this is a pilot study, limiting the extent to which the findings can be generalised, comfort within attachment relationships could affect the ways in which participants respond to information about self-compassion and meditative exercises. This complements previous research, which has also found that people who have difficulties with attachment relationships can find such imagery challenging (Gilbert & Irons, 2004; Gilbert et al., 2011). However, the results of the present study suggested that the effects of attachment insecurity on responses to ideas regarding self-compassion within non-clinical samples were limited to few subscales. Thus, if using this technique as part of a public health intervention, practitioners should be aware that some people might find this challenging and uncomfortable, but it is possible that attachment will be less influential than in clinical practice.

Similarly, *'frame of mind'* seemed to affect the extent to which participants were able to engage with the exercise and participants made reference to the fact that they were not always in the right state psychologically to be positively affected by meditative

exercises. This implies that the impact of psychological variables on receptiveness to these interventions is transient. The field of self-compassion would benefit from further research into the psychological states of mind that promote and inhibit receptiveness to self-compassion and how these fluctuate.

Additionally, participants explained that their physical environment could also affect the extent to which they felt tranquil and highlighted the need to balance calm, comforting environments with not being so comfortable that they could fall asleep. Indeed, arrays of research areas investigate the impact of physical environments on psychological well-being (for a review see Dijkstra, Pieterse & Pruyn, 2006). Cooper, Boyko and Codinhoto (2009) highlight the impact of sensory stimulation on our psychological well-being and studies of environmental psychology emphasise the influence of different environments on our affective states (e.g. Kwallek, Lewis & Robbins, 1985). This suggests that it is important to pay attention to environment when asking people to engage in exercises like this, emphasising the importance of quiet, tranquil spaces that encourage comfort and peace.

In addition, participants discussed finding it difficult to develop an image and, instead, found it easier to describe feelings or a vague description of a person. This could be partly due to confusion with the instructions as they quickly move from asking participants to develop an image, to imagining the image as a 'friend', and then asking participants to bring their awareness back to the image of the 'friend'. Participants noted that it was difficult to think of a particular friend or person who fitted this description, thus it would be important to alter the wording of the exercise to make it clear that the image should not be a real person. In their pilot study, asking participants to use compassionate imagery within a clinical population, Gilbert and

Irons (2004) noted that, though participants often said that the image appeared visually, they also experienced it via sensations and a feeling of warmth. This is in keeping with the trend results from this study. A further area for exploration, therefore, would be to make the instruction sets more explicit and to ask larger groups of people to focus on the sensations related to compassion compared to focus on the image. Furthermore, it would be important to investigate longer-term benefits of such an intervention, exploring whether participants actually did work more efficiently and whether they were able to maintain their sense of relaxation.

It is interesting to note that, even with a very short intervention, there was an overall increase in ratings of self-compassion and common-humanity and a decrease in over-identification. Such findings suggest that these interventions could have beneficial effects, at least in the short term, and lend weight to the use of these as health promotion strategies. Additionally, participants noted the importance of having another person there, to facilitate the process, with the implication that it would have been more difficult to have participated in the intervention if they had been asked to do it alone. Thus, future research should consider how to maximise the benefits of such techniques using community or online groups. Exploring how long the changes participants experienced endured, as well as the nature of the longer-term changes that occur, could help to develop more insight into the impact of such techniques on well-being. Additionally, it would be valuable to investigate how experiences of such exercises change over time and with practice.

This seems valuable, given the current emphasis on the importance of 'living well' and developing methods of prevention and early intervention (Department of Health, 2011; Prince et al., 2007), which could reduce both physical and mental health costs to

society. Furthermore, given the current emphasis on creating a 'compassionate National Health Service' (NHS; Department of Health, 2012), it could be fruitful to investigate the influence of such short interventions on NHS staff. Indeed, Henshall, Alexander, Molyneux and McLellan (submitted) report that self-compassion significantly predicted the ability to be compassionate to others, within NHS staff. The present study could offer methods for eliciting self-compassion and increasing levels of focus, thus creating more capacity for compassion to others within non-clinical samples.

Overall, this pilot study supports the use of compassionate imagery as an intervention technique, suggesting that it may be most beneficial to ask people to focus upon their body sensations while engaging in the task. Furthermore, offering participants a space to allow their emotional and cognitive experiences and to become aware of their whole bodies, appears to create a holistic sense of relaxation, which encompasses a focussed and removed perspective. What is more, participants were taken from a non-clinical sample and they expressed an interest in learning more about self-compassion and wanting to recreate these experiences at home. There is a growing body of research to support the use of compassion-related therapies with clinical samples, and this paper supports the use of such techniques with non-clinical populations. Further research considering the influence of learning about self-compassion and meditative techniques on self-regulation and self-awareness could also develop insight into preventative health approaches, supporting the use of such short techniques as public health promotion strategies. This should be supported by the current government emphasis on mental health promotion and early intervention.

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Part Three: Qualitative Empirical Paper

*A Qualitative Exploration into Responses to Self-Compassion within the
General Population*

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Abstract

There is an increasing evidence base suggesting that self-compassion is associated with an array of characteristics involved in well-being, including cognitive and emotional resources for coping with stressful events. As a result, a variety of techniques has been developed to cultivate feelings of compassion for the self and/or others. This study aimed to explore responses to the idea of being compassionate to oneself within the general population. As part of an intervention study aimed at increasing hedonic tone, decreasing arousal and increasing self-compassion, participants watched a psychoeducation video about the concept of self-compassion and then participated in one of four meditation exercises. Twelve participants were interviewed about their experience of the exercise as well as their response to the idea of being compassionate to themselves. Responses were analysed thematically and five themes were identified: Novelty of Self-Compassion; Barriers to Self-Compassion; Benefits of Self-Compassion; Need for Permission and Being Self-Compassionate. These themes are discussed with reference to clinical and cultural implications.

Introduction

Western psychologists have conceptualised self-compassion as comprising of three elements – mindfulness, common humanity and self-kindness (Neff, 2003). In order to be self-compassionate, people must be aware of their own experiences and able to recognise when they are suffering. Within this, it is important to accept that everybody has challenging life experiences and makes mistakes and being self-compassionate means responding to these feelings and actions with kindness and understanding.

Self-compassion has been associated with increased life satisfaction, coping skills and emotional intelligence (Barnard & Curry, 2011). In addition, induction studies have suggested that self-compassion can be increased in participants, which seems to benefit well-being. For example, Leary, Tate, Adams, Allen & Hancock (2007) asked participants to recall an event they had perceived as negative and to write about it following instructions that aimed to elicit either self-compassion, self-evaluation or standard recall. A control group also completed measures before and after recall but were not asked to write about the event. Participants following compassion-informed instructions were more likely to self-report feeling similar to others and experiencing less negative affect than the other groups were.

Compassion-related therapies are now being developed and evaluated across the United Kingdom and the United States of America (e.g. Germer & Neff, 2013; Gilbert, 2009). Although evidence is still being generated, it seems such interventions can decrease self-attacking and self-critical ways of relating to oneself (Gilbert & Irons, 2004) and increase self-compassion and self-reported well-being (Neff & Germer, 2013). Overall, therefore, it seems that being compassionate to oneself can benefit

one's mental health and well-being, making it easier to cope with challenging life circumstances and to regulate emotions, and that self-compassion can be taught and enhanced.

Despite the positive effects of being compassionate to oneself, experienced clinicians often report that clients can become anxious when thinking about being self-compassionate. Pauley and McPherson (2010) investigated the experience and meaning of self-compassion for participants diagnosed with depression or anxiety. Participants spoke about compassion as being a kind and active process, which they believed was meaningful and useful. However, participants also stated that they believed it would be difficult for them to learn to be self-compassionate as they had a long-standing history of being unkind to themselves, and they believed that their experiences of anxiety and depression made it impossible for them to be kind to themselves. Furthermore, Gilbert, McEwan, Matos and Ravis (2011) report that clients often seem to be fearful of receiving compassion from others, as well as from themselves. . Gilbert et al. suggested that these fears of self-compassion were related to the extent to which participants were self-critical and cold to themselves, as well as being associated with insecure attachment and levels of stress, depression and anxiety. Together, these studies suggest that, within clinical settings, clients may experience compassion as threatening and find self-compassion difficult.

Given the reported benefits of self-compassion, it seems valuable to develop this way of being within the wider population, possibly as a method to promote and maintain well-being. To date, however, there has been little research investigating qualitative responses to information about self-compassion from a community population. Thus,

this study seeks to bridge that gap and explore the perceived barriers to and benefits of self-compassion within a non-clinical sample.

As part of a larger pilot study exploring participants' experiences of a compassionate imagery exercise (Campion & Glover, submitted), participants were asked about their responses to a short psychoeducation video. This video explained the concept of self-compassion and stated some commonly reported as reasons why people would not feel comfortable being compassionate to themselves (Gilbert, 2004). Participants were then asked to complete a mindful breathing or compassionate imagery task, after which they were interviewed about their responses to both the psychoeducation video and the exercise. Quantitative and qualitative results from the meditation exercises are reported elsewhere (Campion & Glover, submitted) and this paper reports responses regarding the following research questions:

- How do participants respond to information about self-compassion?
- What do participants think is involved in self-compassion?
- What makes it difficult to be self-compassionate?
- What might make it easier to be self-compassionate?

Method

Design

This paper reports results from a larger study that used mixed methods to investigate the effects of learning about self-compassion and participating in a meditation exercise. For details of the quantitative results and responses to the exercise, please see Champion and Glover (submitted). A semi-structured interview was used to explore

participants' responses to a psychoeducation video about self-compassion. These responses were analysed using Thematic Analysis (Braun & Clarke, 2006).

Participants

A convenience sample was recruited using email and poster advertisements, from a university population and the local community in the North East of England, from October 2014 to February 2015. Participants had not had previous contact with the researcher, although they were informed that she was a Trainee Clinical Psychologist. Participants were included if English was their primary language and they had capacity to consent. Participants were excluded if they had any knowledge of psychological or Buddhist practice or research into compassion, as the psychoeducation was aimed at people who had little to no prior knowledge of the psychological concept of compassion and its potential benefits.

The first twelve participants were asked to engage in interviews and all agreed. The interview from the second participant did not record and so a thirteenth participant was interviewed. See Table 6 for participant demographics. The mean age for participants was 40.83 years ($SD=11.72$). Participants reported a range of activities that they deemed similar to meditation, such as yoga, swimming and prayer. The extent to which they engaged in these ranged from 5 times a week for 7 weeks, ending a year ago, to 10 hours per week for five years ongoing.

Table 6: *Demographic variables for interview participants*

Participant Pseudonym	Gender	Ever participated in meditation or activities similar to meditation?
Abigail	Female	No
Pam	Female	Yes
Sophia	Female	Yes
Rose	Female	Yes
Isabella	Female	No
Arthur	Male	No
Nicholas	Male	Yes
Lydia	Female	Yes
Selena	Female	No
George	Male	Yes
Lucy	Female	No
Graham	Male	No

Materials

Psychoeducation Video

A psychoeducation video was developed by the first named author to offer information regarding what is meant by self-compassion and common reasons why people worry about being self-compassionate, using cartoons and pictures; it lasted 8:43 minutes. The video mainly drew upon research and theory by Neff (e.g. 2003) and Gilbert (e.g. 2004; 2009). The video was piloted to ensure that information was clear and accessible, all responses were positive and no changes were made.

Interview Schedule

To develop the interview schedule, papers investigating responses to self-compassion in clinical samples (e.g. Pauley & McPherson, 2010) were reviewed as well as those that explored the effects of compassion-focused therapies (e.g. Gilbert & Irons, 2004). The first named author reviewed these papers for outcomes, gaps and ideas for further investigation and this informed the creation of the interview schedule.

Data Collection

Ethical approval was sought and gained from the University of Hull Faculty of Health and Social Care Research Ethics Committee. For full details of the experimental procedure, please see Campion and Glover (submitted). Participants were given information sheets and consented to taking part in the study, being offered the chance to clarify anything that seemed unclear. Following this, demographic data including age, gender and history of meditation were gathered. Participants completed measures of attachment, affect and self-compassion, before watching a psychoeducation video explaining what self-compassion is and is not, and why it may be a helpful and valuable way to relate to oneself. Participants had the opportunity to ask any questions about the video and were then randomly allocated to one of four groups (Mindful Breathing, Imagery, Sensations or Posture⁵), each of which lasted eight minutes. Following these groups, participants were again asked to complete

⁵ In each group, participants first completed a guided body scan and then instructions varied slightly. In the Mindful Breathing group, participants focused on their breath, with occasional reminders to bring their awareness back to their breath. In the remaining three groups, participants were asked to create a compassionate image and then the focus of their attention varied per group. In the Images group, participants focused on the image. In the Sensations group, participants focused on the sensations brought about by the image. In the Posture group, participants moved their bodies to reflect the feelings brought about by the image.

measures of affect and self-compassion. After this, twelve participants were interviewed about their responses to the psychoeducation video and the exercise, and these interviews were recorded on a Dictaphone. As this was a pilot study, responses from the first four participants were reviewed to ensure the tasks were easy to understand and engage with, and no changes were made following their responses.

Data Analyses and Quality Checking

Participants' interviews were analysed using Thematic Analysis (Braun & Clarke, 2006). This was based upon essentialist/realist assumptions and aimed to explore the semantic content of participants' responses.

The first named author conducted and transcribed the interviews and then transcribed them verbatim in order to ensure that as much of their original meaning was maintained. Following this, the first named author further familiarised herself with the data and began active reading, searching for patterns within the data, generated from codes. This was an iterative process, as the more codes were found, the more patterns were developed and other codes could be sought. The codes were always kept as direct participant quotes, and it was hoped that, in doing this, the researcher's interpretation bias would be minimised. A peer also read and coded the transcripts to ensure that codes had not been missed, results were compared and any differences were discussed and extra codes were included. Themes were drawn from the dataset by grouping codes together, reviewing the groups and considering the meaning within the data. These were discussed at a qualitative research group and with the second named author. It was at this point that it became clear that participants seemed to discuss the experience of participating in the exercise separately from their responses

to the idea of self-compassion, and it seemed that considering these issues separately would offer a chance to explore each area more fully.

Throughout the research process, the first named author kept a reflexive and reflective research journal in order to consider the extent to which her own biases and assumptions might be affecting the data. Reviewing this helped to ensure that themes were as balanced and true to participants' experiences as possible. The researcher was alert to her own influence on the outcomes of the research and biases in interpreting the findings. For example, having been educated about self-compassion and its benefits, the researcher was conscious that she might elicit responses from participants that reflected enthusiasm for this concept. However, the researcher was also aware of the challenges of self-compassion, through personal experiences and this ambivalent approach may have also influenced the interpretation of the findings.

Findings

Participants explained the *Novelty* of the concept of self-compassion and, while discussing this, they spoke about the *Challenges Of Being Self-Compassionate*. Participants went on to explore their perceptions of the *Barriers To Self-Compassion*, which included *Limitations of Social Discourses*; it being '*Easier For People Who Aren't Like Me*' and the difficulty of overcoming *Challenging Feelings*, which seemed to arise from the perceived expectations and judgements of others. Furthermore, participants spoke about the *Time Pressures* that they believed inhibited their ability to be self-compassionate. Although participants explained that being compassionate to themselves was difficult and somewhat anxiety provoking, they believed that being self-compassionate could have a positive impact, both personally and socially and

these impacts were grouped into the theme of *Benefits Of Self-Compassion*. In order to reap these benefits, and break through the barriers restricting self-compassion, participants spoke about *Needing Permission* to be self-compassionate and explored the ways in which we might develop this within our culture. Lastly, participants discussed what they believed would be involved in *Being Self-Compassionate*, which encompassed *Connecting With Others, Doing Things For Ourselves* and *Acknowledging And Accepting*. Table 7 presents the themes and subthemes.

Table 7: Themes and subthemes regarding self-compassion

Theme	Subtheme
Novelty of Self-Compassion	
Barriers to Self-Compassion	Challenges of Being Self-Compassionate Limitations of Social Discourses It's easier for people who aren't like me Challenging Feelings Time Pressures
Benefits of Self-Compassion	
Need for Permission	
Being Self-Compassionate	Connecting with Others Doing things for ourselves Acknowledging and Accepting

Novelty of Self-Compassion

Participants were asked what they thought about information presented in a psychoeducation video outlining the concept of self-compassion. Their responses

suggested that the idea of being compassionate to themselves was something that seemed sensible and yet not something they had previously considered.

"It seems to make a lot of sense almost like... why have I not heard of [self-compassion] before"

Lucy

Barriers to Self-Compassion

Challenges of being self-compassionate

Given that the concept was new to participants, it made sense that they spoke about not knowing how to put it into practice.

"I think really complicated to work out like how [to be compassionate to yourself] and to practise that" Lydia

In addition, although participants liked the idea of being self-compassionate, they also believed it would be a challenge.

"Practising being kind and bringing yourself back and reminding yourself that you're just a person... It's very beneficial but yeah it's very difficult" Lydia

Participants suggested that it was particularly hard to be compassionate to themselves because they had not developed it as a habit or a way of being.

"If you get used to being a certain way to yourself it's almost like totally alien to be kind to yourself" Sophia

Limitations of Social Discourses

Participants went on to explore why they had not previously heard about self-compassion. They talked about the social messages available within Western society from childhood. First, they considered the expectation that we be kind to others.

"We learn to be compassionate to others and we're always taught that as a child aren't we that we have to think about other people and be courteous and compassionate towards them and we're not really taught to do it to ourselves"

Selena

In addition, participants discussed how they did not treat themselves as kindly as they would treat others.

"If my kid falls over I sort of go over and try and help him feel better and all that kind of thing you know but... I don't know how much I do that to myself"

Isabella

Participants also highlighted another social expectation that seemed to conflict with this approach, in which an individual can only rely on him/herself to care for him/herself as others will cannot be depended upon for this.

"[Being kind to others] is something I do it's been built into me since I was a young person but then sometimes I forget to look after myself and I get worked up because I've been doing everything for everybody else... Which I know sounds silly because obviously I'm number one" Rose

This expectation fitted more into discussions around the capitalist and individualist nature of Western culture and how these ideals seem to conflict with principles of self-compassion.

"United States capitalist individualistic based society... That does not create an environment for compassion or kindness... Anybody who's not in a place that they like is just not doing anything to change it is the common conception"

Lydia

"Increasingly we are encouraged to be more and more individualistic so I think that makes things difficult for people to be compassionate to one another and to... themselves" George

In addition, participants spoke about British norms of stoicism, which they believed also conflict with self-compassion.

"The idea of being kind to yourself I can see is a good idea but on the other hand somehow I... feel like it's ah not British... Like just bloody well get on with it rather than paying attention to yourself" Isabella

"I don't know whether it's our upbringing or our culture... We're taught not to be self-absorbed or you're frightened that you get a bit self-obsessed... Stiff upper lip and carry on regardless and it'll get better tomorrow" Selena

It's easier for people who aren't like me

In exploring elements of compassion, participants discussed their perceptions of differences across genders and generations. It seemed that, due to culturally derived gender roles, women believed being self-compassionate was harder for women and men believed it was harder for men.

"We're always told to put others before ourselves, particularly women I think... I think kind of...passive... I do think as women we are kind of taught that it's feminine to be that way " Selena

"The whole boy code around...you're not meant to show big feelings and not meant to you know kind of have feelings and... women... [are] more able to socially connect with other people and more likely to share feelings more likely to you know notice them within themselves far more easy going about crying... and... expressing... and knowing themselves and perhaps ... knowing their own bodies" George

There was also a suggestion that generations are becoming more open about their feelings and that this might change the extent to which people are able to accept the idea of being self-compassionate.

"Possibly a generation difference I can see that I'm different from my parents and certainly from my grandparents you know I'm sorta more open and willing to talk about issues but I can see generations... coming through sort of very open and self aware" Graham

Challenging Feelings

There seemed to be a sense that being self-compassionate would seem selfish to others and this made participants feel guilty, which made them avoid being self-compassionate.

"You do tend to think of yourself as being a bit self-absorbed or self-involved or whatever if you... start focusing on yourself" Selena

In addition to feeling guilty for being kind to themselves, participants discussed feeling vulnerable when sharing a need for compassion and accepting it from others.

"If you're open with people as well so you have to let people come in and that's probably one of the hardest things is letting people come in" Abigail

Participants expressed that there were some times when they particularly believed that self-compassion would not be a helpful or safe method for relating to themselves.

"I've got a sort of long term condition and uh I'm very much in the frame that you don't feel sorry for yourself and I sort of worry a bit that I'd become a bit of a liability if I start to engage in self behaviour... I don't think there's a need at the moment" Graham

Time Pressures

Participants also seemed to perceive that being self-compassionate would take time, which they did not believe they had.

"It's also hard to create that time and space for yourself" Lydia

Benefits of Self-Compassion

Participants spoke about personal benefits they believed they would experience from being self-compassionate.

"I probably would have had an easier time I've suffered... with depression and I think that a lot of those issues... I probably would have dealt with them better and I wouldn't have had a lot of angst" Abigail

"It would generally make us happier... We'd feel less guilty all the time we'd feel perhaps in a better place ourselves" Selena

In addition, participants believed that if everybody felt able to be self-compassionate, we would live in a happier world.

"I think it would make the world better... Creating a kind and compassionate and safe place for all people would definitely make some positive change"

Lydia

Need for Permission

Participants suggested that they felt as though they needed permission from others to be compassionate to themselves.

"If somebody's told you to be compassionate or to... relax then OK it's like given you permission almost" George

Participants suggested that in order to feel permitted, ways of being self-compassionate would have to be encouraged from an early age and that we would need to be taught how to be self-compassionate, as it is not something that comes naturally.

"Maybe if it was a bit more in our kind of culture and our upbringing from an early age" Selena

Participants also seemed to be reluctant to be self-compassionate unless others were doing it first and held that it was the responsibility of others to model self-compassion.

"The responsibility for imparting compassion is the responsibility of everybody around you" Isabella

It is possible that this need for permission arose from the perception that others would judge them negatively if they began to act in self-compassionate ways.

"People think that if you take time to be compassionate to yourself oh it's a waste of time or it's selfish" Lucy

Being Self-Compassionate

Although participants initially struggled to think about how they might be compassionate to themselves, ideas began to emerge regarding what being self-compassionate would involve emerged.

Connecting with Others

Participants spoke about the need for social connection and how this would facilitate understanding of the fallibility of being human and how to accept and allow for this.

"Being around other people... And genuinely sharing what's going on with us... Everybody would find it easier to be compassionate to themselves and to one another if they were more connected to other people and had the time to be more connected" George.

"We all deserve compassion it means understanding being supportive... allowing for individuality" Pam

Doing things for ourselves

Participants also believed that being self-compassionate would involve doing things for themselves, particularly things that they may have put off.

"If that's spending time erm acknowledging whatever's going on or just doing something just purely for ourselves" George

While taking time to do things for themselves, participants also spoke about finding joy within this and the importance of enjoying everything we can.

"What would make it easier is actually enjoying that rather than rather than treating it as erm a competitive challenge... Enjoying the part of it you can enjoy" Arthur

However, there seemed to be a belief that taking time for oneself stole time away from doing things for others.

"To say I'm not going to do such and such for somebody else I'm actually gonna purposefully put this piece of time in place to be compassionate for myself" George

Acknowledging and Accepting

In addition, participants highlighted the need to be aware of our needs and acknowledge when we are in need of compassion.

"You've got to realise that you could or should be [compassionate to yourself]... The whole sort of being aware of suffering thing... If you don't even realise that you're bothered by something then you can't respond to that" Isabella

Once we have acknowledged our needs, participants spoke about the need for acceptance of who we are and what we are experiencing.

"I think that for me compassion it's not so much like actively the things that you do but it's almost like seeing the things that maybe you're not so happy about and just saying that's ok you know" Lucy

Self-compassion also seemed to be about allowing others to help us and accepting their kindness.

"You have to recognise that it's coming" Abigail

Discussion

This study aimed to qualitatively explore the reactions to the concept of self-compassion, in a non-clinical sample. Overall, findings seemed to converge with reports from Pauley and McPherson (2010). Similar to their clinical sample, the community sample in this study stated that they believed self-compassion was a good idea and that they thought it would be beneficial for their mental health and well-being as well as the well-being of the world. Furthermore, participants expressed that they thought being self-compassionate would be difficult because they had not developed this as a 'habit' and, like participants in Pauley and McPherson's study and Gilbert et al. (2011), participants found it easier to be cruel and punishing to themselves than to be self-compassionate.

When considering the findings presented in this study, it is important to be aware of its limitations. Firstly, participants volunteered to participate in a study about compassion, thus it is likely that they had some level of interest in this area already

and may have been more likely to respond to the ideas favourably. Nevertheless, although the information was not completely new to some participants, most expressed that they had not considered this concept previously. Secondly, compassion-related interventions tend to offer clients weeks of psychoeducation about the concept of self-compassion, the benefits of being self-compassionate and how we might approach this (e.g. Gilbert, 2009). Participants in this study were shown a short psychoeducation video and then asked to complete a meditation exercise, and responses may have been different if participants had had a chance to explore the concept of self-compassion more fully. Additionally, it may have been beneficial to ask participants to begin to include self-compassion in their lives and to explore their experiences of this.

Nevertheless, this study presents preliminary explorations of the concept of self-compassion with a non-clinical sample and highlights important areas for further discussion and investigation. Participants described self-compassion as being attuned to one's own body, being able to accept their needs and difficulties and connecting with others. Self-compassionate acts included doing things for themselves, which they may have previously put off, or that bring them joy. However, participants explained that principles of self-compassion seemed to conflict with the cultural expectation that we should be kind to others. There was a sense that being self-compassionate was selfish and stole time and compassion away from others, which created feelings of guilt. In addition to feeling reluctant to be compassionate to themselves, participants also explained that allowing compassion from others made them feel vulnerable. Thus, accepting compassion from either the self or others seemed to create uncomfortable feelings in participants and this seemed to be fuelled by available discourses that

suggested that taking time for oneself is selfish. Complicating the matter further, participants mentioned the conflicting discourse of 'looking after number one', which suggests that a person should promote their own self-interest and should not expect help from others. Although this way of being seems related to self-compassion, participants hinted that, actually the lack of connection with others involved in 'looking after number one', was not compatible with self-compassion.

As noted above, self-compassion draws from Eastern cultures, which tend to be more collectivist focussed. Participants explained that they believed Western culture drives us to covet and feel accomplished if we have individually gained material possessions and achievement-based successes, while they know on a deeper level that they feel better if they are able to accept and connect with themselves and others. This adds depth to Gilbert's (2004) model of affect regulation, grounded in evolutionary psychology, which posits that we have three methods by which we can regulate our affect – threat, drive and affiliation. The focus of therapies such as Compassion Focussed Therapy is to increase the affiliative system, which tends to be the one that is used the least (Gilbert, 2009). Clinical Psychology often emphasises the importance of parental influences on the development of personality, thus suggesting that children of parents who struggle to be self-compassionate often develop similar difficulties (e.g. Neff & McGehee, 2009). The present study highlights the importance of expanding this view to consider how social discourses can influence and shape parental responses to their own needs and those of their children and, therefore, how children and adults learn to respond to themselves. Thus, in order to change this on a wider scale, it will be important to challenge social discourses around the acceptability of being compassionate to oneself.

As well as considering the evolution of our brains, theories about the evolution of compassion could aid our understanding of the roots of the concerns presented by participants. Spikins, Rutherford and Needham (2010) explain that compassion may have evolved as a means for regulating and furthering social relationships, which, in turn can help to advance the self. Thus, in its primary form, it is possible that compassion developed as a means of survival. As we have evolved, we have come to thrive on the sensations we experience associated with being compassionate to others and having others be compassionate to us (Gilbert, 2004). It is important to note, however, that being compassionate to others also makes us vulnerable to exploitation. Thus, humans have to balance compassion with the need for self-protection (i.e. the threat system) and for furthering one's own interests (i.e. the drive system). Furthermore, although we have evolved to benefit from being compassionate to others and receiving compassion from others, there has not necessarily been a need for us to evolve the practice of being compassionate to ourselves.

This could prompt the question 'why now?', in considering what is it that has provoked this need to remind ourselves that we are part of a human collective, and that we deserve kindness as much as others. Participants discussed feeling increasingly connected to material possessions and decreasingly connected to other people. McPherson, Smith-Lovin & Brashears (2006) report that the number of adults in the United States of America who report having nobody with whom they could discuss important matters has nearly tripled over the past three decades. It could be that there is a need for self-compassion now, more than before, because people are less connected to others and, therefore, less able to gain compassion from others. Participants explained that one part of being self-compassionate would involve

increasing the amount of time they spent with friends, as opposed to being at work, yet participants believed that this is not encouraged in current Western cultures.

Another hypothesis involves the Western move towards secularism (British Humanist Association, 2015; Pew Research Center, 2015). Gilbert (2004) notes that each of the major religions involves some form of teaching around compassion. It is possible that religion fulfilled a need that is now not being met, and elements of 'third wave' cognitive behavioural therapies are attempting to fill that gap. Szaz (1988) argues that psychotherapy developed in place of religion and Kirschner (1996) notes the Judaeo-Christian influences on psychoanalysis. Furthermore, West (2000) questions whether we have an inbuilt need for religion that cannot be met in secular society and that therapy at that time did not quite fulfil. West compares the role of therapy to that of spiritual/religious counselling, from a Christian background, and notes that therapy aims to promote autonomy, while spiritual/religious counselling promotes self-surrender to god. Self-compassion offers a different solution that could bridge this gap, by encouraging both the autonomy to fulfil one's own needs, as well as the feeling of oneness and belonging that could be related to self-surrender to god. Hence, we postulate that the shift to incorporate Eastern, collectivist traditions into psychotherapeutic practice could be an attempt to fill this inbuilt need by promoting more 'spiritual' practices.

As well as the challenges from social discourses regarding 'self-behaviours', selfishness and self-obsession, participants seemed to believe that other people find it easier to be self-compassionate than they do, due to the restrictions placed upon them by society. Women believed it was easier for men to be self-compassionate and vice versa. It seemed that each gender believed that cultural expectations inhibited them

from feeling able to engage in some aspect of self-compassion. Women explained that they believed that the assertiveness involved in pursuing one's own needs was not 'feminine', and thus would not be accepted by society. Indeed, this perception of the expectation of women within Western culture has been explored by Eagly (2005) in relation to female leaders. Eagly explains that followers expect their leaders to be true to themselves, their beliefs and their values and to be assertive in striving for these. However, Eagly notes that, when female leaders behave in such ways, they are thought to be 'unfeminine' and often receive hostility from their followers. On the other hand, while males of Western cultures are 'allowed' to be assertive and to pursue their own interests, men in this study highlighted that it was not acceptable for them to experience or express a range of emotions that may also be a facet of self-compassion. Indeed, Brody and Hall (2008) highlight that, while women are expected to display emotions such as happiness, embarrassment, sadness and guilt, men are more expected to show anger and pride. Thus, although men are 'allowed' by society to pursue their goals and ambitions, they are not 'allowed' to express a range of emotions, and the opposite is true for women. Self-compassion seems to tie these elements together and asks people to feel able to be both 'masculine' and 'feminine', in acknowledging and feeling one's own emotions and being motivated and assertive in meeting their own needs.

These discussions highlight the importance of considering cultural norms and systems around individuals when encouraging them to be self-compassionate. Participants spoke about feeling vulnerable and guilty about being self-compassionate and, as a result, they wanted others to model self-compassion. This emphasises the need to create a feeling of 'permission' within society, which will encourage its members to

feel increasingly safe to be compassionate to themselves. The need for social acceptance is considered a core human need and social psychology demonstrates how perceptions of others can influence the perception of the self (Cialdini & Goldstein, 2004). As a result of this, people are more likely to act in ways that conform to those around them, in order to maintain important social connections. Given that this need for connection is also a facet of self-compassion it seems critical that we create a society in which being self-compassionate promotes belonging rather than ostracising individuals.

Indeed, within organisational literature, the importance of creating a business-wide ethos of care and a system that notices, experiences and responds to suffering as a whole is now being emphasised (Kanov et al., 2012; Lawrence & Maitlis, 2012). In summarising the findings of a special topic forum on compassion and care within organisations, Rynes, Bartunek, Dutton and Margolis (2012) explain that the main mechanism by which these types of systems can be developed is through cultivating awareness, which can be facilitated by training. They note that modelling compassionate and caring interactions is critical in developing an ethos of care in an organisation. Additionally, Rynes et al. discuss the importance of the structure of organisations and embedding relational responsibilities into job descriptions as well as considering this when employing candidates. Although they note that these responsibilities do not solely rest with persons in positions of leadership, some of these changes can only be made by managers and, thus, it seems that encouraging a compassionate environment from the 'top-down' may be beneficial within systems.

This has implications for therapeutic practitioners as well as those working in leadership positions. As practitioners, there is a responsibility for us to create a sense

of permission for our clients and those working around us to be self-compassionate. In order to do this, it seems most critical that we 'practise what we preach', becoming versed in extending compassion towards ourselves before attempting to instil it in others. This approach has parallels with Mindfulness training, where it is now accepted that, to deliver Mindfulness Based Cognitive Therapy (MBCT), practitioners must practice Mindfulness themselves (Crane, Kuyken, Hastings, Rothwell & Williams, 2010). While there are differences between the mindful awareness in self-compassion and Mindfulness as taught in MBCT (Neff & Dahm, 2014), the resemblance seems important to note. Additionally, awareness of the tenets of self-compassion could be spread via education systems and Internet health promotion videos in order to embed self-compassion as a habit in forthcoming generations.

Overall, it seems that the barriers to self-compassion in a community sample are similar to those in clinical populations and these derive from cultural messages and a feeling of not being supported within both micro and macro systems. As a result, it will be important to work systemically to make the changes that participants from this study believe to be imperative both personally and globally. Thus, there is a call for future research to explore how people from non-clinical samples envisage self-compassion and what they believe it may involve. Investigations into the impact of learning about self-compassion and how people incorporate this into their lives would help to inform clinical practice of its potential. The Internet serves as a resource to share such information and ideas, via video and social media and the findings presented here support the use of such media for promoting mental health and well-being. Empowering people to feel permitted to be self-compassionate seems like a critical next step to embedding this way of being into our societies.

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Part Four: Appendices

Appendix 1: Chosen Journal Guidelines

For the literature review, Psychological Bulletin seemed an appropriate journal, given its focus on review articles that aim to critically assess previous research, with the view to opening new areas of exploration.

British Journal of Psychology seemed an appropriate journal for both empirical papers, given its interest in bringing together areas of psychology and developing new methods for investigation.

Psychological Bulletin

Prior to submission, please carefully read and follow the submission guidelines detailed below. Manuscripts that do not conform to the submission guidelines may be returned without review.

Submission

Submit manuscripts electronically through the Manuscript Submission Portal.

All efforts should be undertaken to submit manuscripts electronically to the editor. Files can be sent in Microsoft Word, or as a PDF file. The version sent should be consistent with the complete APA-style printed version.

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The identities of authors will be withheld from reviewers and will be revealed after determining the final disposition of the manuscript only upon request and with the permission of the authors.

Authors are responsible for the preparation of manuscripts to permit masked review. Manuscripts submitted electronically should include all author names and affiliations, as well as the corresponding author's and co-authors' contact information, in the box labeled "cover letter," not in the manuscript file.

Every effort should be made to ensure that the manuscript itself contains no clues to the authors' identities, including deletion of easily identified self-references from the reference list.

If an author feels that revealing his or her identity is critical to receiving a fair review, such a request along with its justification should be made in the cover letter accompanying the manuscript.

Please ensure that the final version for production includes a byline and full author note for typesetting.

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Prepare manuscripts according to the [*Publication Manual of the American Psychological Association \(6th edition\)*](#). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the *Publication Manual*).

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control, identity prediction, and motor prediction. *Psychological Bulletin*, 139, 133–151. <http://dx.doi.org/10.1037/a0028566>

Authored Book:

Rogers, T. T., & McClelland, J. L. (2004). *Semantic cognition: A parallel distributed processing approach*. Cambridge, MA: MIT Press.

Chapter in an Edited Book:

Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing* (pp. 53–73). New York, NY: Taylor & Francis.

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Appendix 2: Quality Checklist

Question
Is the study justified?
Are hypotheses stated?
Is the recruitment method clearly stated?
Are the inclusion/exclusion criteria clearly stated?
<i>If between groups method:</i>
Do the groups differ significantly in body awareness?
Are the groups well-matched? <i>If groups have not been explicitly compared no points</i>
Are mean body awareness scores reported for each group?
Does the study explain how the necessary sample size was calculated?
Is the measure of 'body awareness' clearly outlined?
Is there more than one measure of 'body awareness'?
Are 'body awareness' measures stated with their reliability and validity?
Has the scientific rationale for using this measure been stated?
Have confounds been considered? <i>(e.g. BMI, gender, resting heart rate)</i>
Are other measures stated clearly?
Are other measures stated with their reliability and validity?
Are the other measures appropriate?
Does the methodology follow clearly from theory and aims of the study?
Is the procedure clearly outlined? <i>Enough to be replicated</i>
Have sources of bias been addressed? <i>(e.g. participants' ability to guess the aims of the study; social desirability bias; order effects)</i>
Is the way in which data was handled from the measure of body awareness explicitly stated?
Is the average (mean/median) body awareness score reported?
Are statistical methods appropriate to the study's aims?
Are statistical methods clearly described?
Are participant characteristics defined? <i>Mean age, gender distribution etc.</i>

Are outcomes relating to body awareness explicitly described?
Are appropriate adjustments made for random variability of data? (if no mention of testing for normality then score 0)
Are findings reported with measures of error (e.g. SD/IQR)
Are p values stated, unless <0.001? (1 if yes up to 0.05)
Are limitations described?
Are limitations explained or offered with solutions?
Is the study generalisable/have the authors addressed this issue?

Appendix 3: Self-Compassion Scale (Neff, 2003)

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

- | Almost
never | | | | | Almost
always |
|-------------------------|----------|----------|----------|----------|---|
| 1 | 2 | 3 | 4 | 5 | |
| _____ | | | | | 1. I'm disapproving and judgmental about my own flaws and inadequacies. |
| _____ | | | | | 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong. |
| _____ | | | | | 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through. |
| _____ | | | | | 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world. |
| _____ | | | | | 5. I try to be loving towards myself when I'm feeling emotional pain. |
| _____ | | | | | 6. When I fail at something important to me I become consumed by feelings of inadequacy. |
| _____ | | | | | 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am. |
| _____ | | | | | 8. When times are really difficult, I tend to be tough on myself. |
| _____ | | | | | 9. When something upsets me I try to keep my emotions in balance. |
| _____ | | | | | 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people. |
| _____ | | | | | 11. I'm intolerant and impatient towards those aspects of my personality I don't like. |
| _____ | | | | | 12. When I'm going through a very hard time, I give myself the caring and tenderness I need. |
| _____ | | | | | 13. When I'm feeling down, I tend to feel like most other people are probably happier |

than I am.

- _____ 14. When something painful happens I try to take a balanced view of the situation.
- _____ 15. I try to see my failings as part of the human condition.
- _____ 16. When I see aspects of myself that I don't like, I get down on myself.
- _____ 17. When I fail at something important to me I try to keep things in perspective.
- _____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.
- _____ 19. I'm kind to myself when I'm experiencing suffering.
- _____ 20. When something upsets me I get carried away with my feelings.
- _____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
- _____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.
- _____ 23. I'm tolerant of my own flaws and inadequacies.
- _____ 24. When something painful happens I tend to blow the incident out of proportion.
- _____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.
- _____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

**Appendix 4: UWIST Mood Adjective Check List (Mathews, Jones
& Chamberlain, 1990)**

Does the adjective define your present mood?

	Definitely	Slightly	Slightly Not	Definitely Not
Happy	1	2	3	4
Dissatisfied	1	2	3	4
Energetic	1	2	3	4
Relaxed	1	2	3	4
Alert	1	2	3	4
Nervous	1	2	3	4
Passive	1	2	3	4
Cheerful	1	2	3	4
Tense	1	2	3	4
Jittery	1	2	3	4
Sluggish	1	2	3	4
Sorry	1	2	3	4
Composed	1	2	3	4
Depressed	1	2	3	4
Restful	1	2	3	4
Vigorous	1	2	3	4
Anxious	1	2	3	4
Satisfied	1	2	3	4
Unenterprising	1	2	3	4
Sad	1	2	3	4
Calm	1	2	3	4
Active	1	2	3	4
Contented	1	2	3	4
Tired	1	2	3	4

Appendix 5: Revised Adult Attachment Scale (Collins, 1996)

The following questions concern how you generally feel in important close relationships in your life. Think about your past and present relationships with people who have been especially important to you, such as family members, romantic partners, and close friends. Respond to each statement in terms of how you generally feel in these relationships.

Please use the scale below by placing a number between 1 and 5 in the space provided to the right of each statement.

1-----2-----3-----4-----5
Not at all Very
characteristic characteristic
of me

- 1) I find it relatively easy to get close to people. _____
- 2) I find it difficult to allow myself to depend on others. _____
- 3) I often worry that other people don't really love me. _____
- 4) I find that others are reluctant to get as close as I would like. _____
- 5) I am comfortable depending on others. _____
- 6) I don't worry about people getting too close to me. _____
- 7) I find that people are never there when you need them. _____
- 8) I am somewhat uncomfortable being close to others. _____
- 9) I often worry that other people won't want to stay with me. _____
- 10) When I show my feelings for others, I'm afraid they will not feel the same about me.

- 11) I often wonder whether other people really care about me. _____
- 12) I am comfortable developing close relationships with others. _____

13) I am uncomfortable when anyone gets too emotionally close to me. _____

14) I know that people will be there when I need them. _____

15) I want to get close to people, but I worry about being hurt. _____

16) I find it difficult to trust others completely. _____

17) People often want me to be emotionally closer than I feel comfortable being. _____

18) I am not sure that I can always depend on people to be there when I need them.

Appendix 6: Post-Exercise Questionnaire

The video was clear and easy to understand

Not at all

1

2

3

4

5

6

7

Very much so

I believe having self-compassion is a worthwhile way of relating to myself

Not at all

1

2

3

4

5

6

7

Very much so

I found the instructions easy to understand

Not at all

1

2

3

4

5

6

7

Very much
so

I felt able to participate in the exercise

Not at all

1

2

3

4

5

6

7

Very much so

During the exercise my mind wandered

Not at all

1

2

3

4

5

6

7

Very much so

During the exercise, it was difficult to settle upon an image⁶

Not at all

1

2

3

4

5

6

7

Very much so

⁶ Questions for participants in groups using imagery (groups 2, 3, 4)

The image I had was vivid/clear⁷

Not at all

Very much

so

1

2

3

4

5

6

7

It was easy to focus upon how my body felt⁸

Not at all

Very much

so

1

2

3

4

5

6

7

It was easy to change my body to maintain the feeling of self-compassion⁹

Not at all

Very much

so

1

2

3

4

5

6

7

Please rate the extent to which you found this exercise:

Enjoyable

Not at all

Very much

so

1

2

3

4

5

6

7

⁷ Questions for participants in groups using imagery (groups 2, 3, 4)

⁸ Questions for participants using body sensations (groups 3, 4)

⁹ Questions for participants changing their body position (group 4)

Boring
Not at all
Very much
so
1 2 3 4 5 6 7

Frustrating
Not at all
Very much
so
1 2 3 4 5 6 7

Easy
Not at all
Very much
so
1 2 3 4 5 6 7

Pleasant
Not at all
Very much
so
1 2 3 4 5 6 7

Worthwhile
Not at all
Very much
so
1 2 3 4 5 6 7

Appendix 7: Interview Schedule

1. How did you find the exercise you have just completed?
2. What were your reactions towards the information about compassion?
3. What did you think about the idea of being compassionate to yourself?
4. When creating a compassionate image, what kinds of image did you use?¹⁰
5. What made you choose that image?¹¹
6. What made it easier or harder to stay with your image?¹²
7. Can you tell me about any thoughts you had while you were engaging in the exercise?
8. Can you tell me about any feelings in your body while you were engaging in the exercise?¹³
9. Can you tell me about any changes you made to your body position during the exercise?¹⁴
10. Overall, what made this exercise easier and what made it difficult?
11. If you found this exercise difficult/distressing/upsetting, could you tell me about that?
12. What might have made it less distressing?
13. Have you got any other comments?

Questions for pilot participants:

What was it like answering these questions?

Was there anything you were asked that you didn't understand?

Was there anything else you wanted to be asked?

¹⁰ Questions for participants in groups using imagery (groups 2, 3, 4)

¹¹ Questions for participants in groups using imagery (groups 2, 3, 4)

¹² Questions for participants in groups using imagery (groups 2, 3, 4)

¹³ Questions for participants using body sensations (groups 3, 4)

¹⁴ Questions for participants changing their body position (group 4)

Appendix 8: Psychoeducation Video Script

All participants were asked to watch a psychoeducation video about self-compassion. The script for the video audio is detailed below.

“This video is about compassion. The awareness of suffering and the desire to reduce this. Researchers have broken this idea down into three parts.

First, in order to decrease suffering, we need to be aware that it is happening. In order to do this, we need to be able face the suffering without needing to run away from it.

Second, in order to relieve suffering we have become aware of, we need to be motivated to be kind. So if your friend comes to you and is upset, you might want to give them a hug.

Third, in order to be able to be kind to others, it is helpful to remember that we are all in the same boat. Sometimes, when things are going wrong for people, when they make mistakes or are feeling sad or bad or angry, they think they are the only ones in the world who have ever or will ever feel this way. This can make them feel even more isolated and alone, which can make them feel even worse. What can be helpful, instead, is to remember that everybody suffers. Life isn't a fairy tale and we don't need to be perfect while living it. When we are suffering it is likely that many other people across the world, or even in our tiny patch of it, are going through something similar and they would understand and be able to relate to it.

So, to recap, compassion involves being aware of suffering, being motivated to be kind in order to reduce that suffering and understanding that as humans we all suffer and this is a natural part of our evolution. Sometimes suffering can help us.

This video is not just about being compassionate to other people, though. This video is about why it's important to be compassionate to ourselves.

Being compassionate to ourselves involves the same three steps – being aware of our suffering, being motivated to relieve it and understanding that everybody suffers and that that is OK because we can do something about it.

To understand this better, it can be helpful to think of how our understanding of evolution tells us our bodies have spent millions of years growing and developing. Our bodies have evolved to tell us what is going on and to motivate us to do something to make it better. This means, our bodies have developed to find suffering informative so that we can do something about it. As a result, our bodies offer us the chance to be compassionate to ourselves. For example if it is cold, our bodies tell us and we are then motivated to put a jumper on. If something sad happens, our bodies tell us and we might be motivated to cry, seek comfort or hide.

Humans are complex beings, though, and it's not just the evolution of our bodies and our genes that we have to factor in. We all have life experiences that have affected who we are and what we expect of ourselves and of others. When we are babies and children all we can do is listen to our bodies and hope that our needs are met. Sometimes, when we get older, though, we get told our bodies are wrong. We might have said "I'm hungry" and someone might have responded "no you're not, you just ate". If the other person gets it wrong a lot we can learn not to listen to what our bodies are telling us we need. So, as we get older, we can lose touch with our bodies and stop knowing how to be compassionate to ourselves.

Not only this but when thinking about being kind to themselves, some people respond like this...

What?! Being kind to myself? That's not allowed! That's selfish and arrogant and absolutely not allowed!

Well, before we think about that, let's think about something that's a bit scary for you. Not too scary, maybe an exam situation or a deadline you have coming up. Maybe something that you're a bit afraid of like dogs, snakes, heights or birds. How does your body feel now? Tense? Maybe you have some goosebumps? Started to feel a little bit uncomfortable?

Now imagine someone shouting at you for being scared of this thing. What do you notice changes in your body?

Let's try something a bit nicer, let's think about cake. Imagine the most delicious cake you can think of, it has all the best parts a cake can have. What does it look like? How does it smell? What does it taste like? What does it feel like in your mouth?

Has anything changed in your body while you were doing that? Maybe you feel a bit hungrier? Your tummy is rumbling, your mouth's watering? Maybe you hate cake and you're feeling a bit sick or disgusted.

Now imagine someone shouting at you for wanting to eat that cake. What have you noticed in your body?

What's the point of this? Well, we can see that when we think about things, our whole bodies react to our thoughts. And we can feel that when the things we think are not nice, our bodies don't feel very nice either. So if we are mean to ourselves about it, our bodies react like they would if someone else was being mean to us in real life.

“But if I'm nice to myself all the time and just do what I like, I'd never get anything done!”

This is a common concern raised by a lot of people.

Let's think about parenting. If a child says to his parent that he doesn't want to go to school ever again, he wants to stay at home, eat all the sweets and cakes he can, watch TV all day and play computer games all night; is the parent being compassionate by letting him do this? Compassion is about having your best interests at heart, taking pleasure when you do well and learning from your experiences. If this parent is going to be compassionate to their child, they want to see him do well so they will encourage him to do what they hope is best for him.

“But if I'm compassionate to myself, people will think I'm arrogant and self-centred”

Another common worry.

Let's imagine that we are looking for a school for a child that we love. There are two in your area. In the first school, the head teacher looks a bit angry, and says “In this school, our children are never prideful, they are never lazy because when they make

mistakes we are angry with them. We are disgusted with them. And they will learn that they must never be prideful and they must never be lazy”

In the second school, the head teacher smiles and says “In this school, we encourage our children to seek joy in their work, if they make mistakes we will encourage them to ask for help and to learn from them”

Which school would we choose?

Somewhere along the way, we have lost touch with our bodies and how to hear what they tell us we need. And we have learned to believe that being angry with ourselves is the best way to get things done and that we would be horrible, lazy people if we didn’t shout at ourselves frequently. We know that it’s better for other people to have others be compassionate to them and their suffering; to be kind and encouraging, mindful of their suffering and motivated to relieve it. What’s different about you? After all, we are all just people, why can we be compassionate to others and not to ourselves?”

Appendix 9: Information Sheet

Title of the study: *A Pilot Study Exploring the Effects of Compassionate Imagery on Affect and Self-Compassion*

I would like to invite you to take part in my research study. Before you decide, I would like you to understand why the research is being done and what it would involve for you. I will go through the information sheet with you and answer any questions you have. Overall, the study should not last longer than an hour and a half. Talk to others about the study if you wish. Ask if there is anything that is not clear.

What is the purpose of the study?

This study aims to investigate a particular technique used in therapies and meditations called 'compassionate imagery'. This technique is thought to be useful in helping people to relate more kindly to themselves, which can be helpful for people experiencing psychological distress. We would like to understand more about this technique and how best it can be used to help people to feel better.

Why have I been invited?

It is important to test these techniques on the general population in order to ascertain what makes them most useful for people who need psychological help.

Do I have to take part?

No, your participation is completely voluntary and, as such, you are free to withdraw from the study at any time without giving a reason. If you decide to take part, you will be asked to sign a consent form to indicate that you agree to take part.

What will happen if I decide to take part?

You will be asked to complete four questionnaires. Next, you will be asked to watch a video explaining the concept of self-compassion and why it can be helpful for people. Following this, you will be asked to engage in relaxation and compassionate techniques. Finally, you will be asked to complete another three questionnaires and some people will be asked questions by the researcher, this will be recorded. The whole procedure will require approximately an hour and a half of your time.

What are the possible disadvantages and risks of taking part?

It is possible that focussing on compassion for yourself or creating a compassionate image could become upsetting. However, this procedure has been used in previous studies and is a commonly used therapeutic technique and it has not been found to have a lasting effect on mood.

What are the possible benefits of taking part?

Many people have reported this information and using these techniques comforting and a positive experience. In addition, the information I get from this study will hopefully help to develop techniques used in psychological therapies for people who are experiencing psychological distress.

What will happen if I decide I no longer wish to take part?

You are free to withdraw from the study before the results are analysed and the study is written-up without giving a reason.

What if there is a problem?

If you have a concern about the study you can contact the researcher or their supervisor who will do their best to answer your questions.

Will my taking part in this study be kept confidential?

Yes, all the personal information that you provide will be kept strictly confidential. Any information that could be used to identify you will not be used in the research. The people who will decide to participate will be given a code to protect their anonymity. After the research is completed all the audio recordings will be destroyed. The only time that information cannot be kept confidential is if you disclose something that suggests that you or someone else is at risk of serious harm. If this happens during the study the researcher will need to contact appropriate authorities to ensure that you and other people are safe. It is unlikely that this will happen and the researcher will try to discuss this with you.

What will happen to the results of the study?

The findings will be submitted for a doctoral thesis, for publication in relevant journals and for conferences. All raw data collected will be stored securely within the Hertford Building at the University of Hull for ten years, at which time it shall be destroyed.

Who is organising and funding the research?

This research is being undertaken as part of a doctoral research project in Clinical Psychology. The research is funded and regulated through the University of Hull. Some relevant sections of data collected during the study which are relevant to taking part in this research may be looked at by responsible individuals from the University of Hull or from regulatory authorities to ensure that appropriate guidance was followed by the researcher.

Who has reviewed the study?

The study is reviewed by an independent organisation which is called a Research Ethics Committee. The Research Ethics Committee protects the interest of people who participate in research. This study has been reviewed by the Faculty of Health and Social Care Ethics Committee at the University of Hull.

If you have any further questions, comments or queries, please don't hesitate to contact Maxine Campion. Thank you for taking the time to read this information.

Yours Sincerely,

Maxine Campion

Trainee Clinical Psychologist

Supervised by,

Dr Lesley Glover

Clinical Psychologist

Further information and contact details

Appendix 10: Consent Form

Participant Identification Number:

CONSENT FORM

Title of Project: **Seeing and feeling compassion: A pilot study exploring the effects of compassionate imagery on self-compassion and affect**

Name of Researcher: **Maxine Campion**

Please initial all boxes

1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my legal rights being affected.

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

Name of Participant

Date

Signature

Name of person

Date

Signature

giving consent.

Appendix 11: Intervention Scripts

Participants were allocated to one of four groups, Mindful Breathing; Imagery; Sensations; Posture. The scripts for the instructions in each meditation group are included below.

Mindful Breathing Group

Time	Instructions
	Allow your eyes to close gently.
	Let go of ideas of “success,” “failure,” “doing it really well”. This is not a competition. Approach the task with an attitude of openness and curiosity.
	If your mind is wandering, simply note the thoughts (as passing events) and then bring your mind gently back to the task.
Start	Take a few moments to get in touch with the movement of your breath and the sensations in your body. When you are ready, bring your awareness to the physical sensations in your body, especially to the sensations of touch or pressure, where your body makes contact with the chair.
	On each outbreath allow yourself to sink deeper into the chair.
	Now focus on your feet. Notice any tension in your feet and, as you breathe out allow the tension to flow out to the ground.
01:15	Move your awareness up to your legs and allow any tension you have to melt away as you breathe out.
01:45	Now focus on your chest and stomach. Feel any pressures or tensions that might be caught up there and allow yourself to let them go. Feel them leave as you breathe out.

02:15 Move your awareness up to your shoulders and neck and allow any knots to be released. Gently let the tension run out of your body.

02:45 Now imagine the tension that sits in your head, neck and forehead. Allow yourself to feel that weight as you breathe in and, as you breathe out let that weight be lifted.

03:15 Now bring your attention to your breathing. Notice as your breath enters your body through your nose and travels to your lungs. Notice where the breath travels as it comes in and out. There's no need to change your breathing, just be aware of it. Pay attention to the speed and depth of your breathing.

04:15 Continue focusing on your breath

04:45 If your mind wanders, that's OK, just bring your attention back to your breath

05:30 Carry on bringing your mind back to your breath and noticing how it travels in and out

06:15 Carry on bringing your mind back to your breath

07:00 Carry on bringing your mind back to your breath

08:00 We will now end this exercise by you taking a bigger breath and allowing yourself to notice any changes in how your body feels. When you are ready, bring yourself back into the room and open your eyes.

Imagery Group

Time	Instructions
	Allow your eyes to close gently.
	Let go of ideas of "success," "failure," "doing it really well". This is not a competition. Approach the task with an attitude of openness and curiosity.
	If your mind is wandering, simply note the thoughts (as passing events) and then bring your mind gently back to the task.
Start	Take a few moments to get in touch with the movement of your breath and the sensations in your body. When you are ready, bring your awareness to the physical sensations in your body, especially to the sensations of touch or pressure, where your body makes contact with the chair.
	On each outbreath allow yourself to sink deeper into the chair.
	Now focus on your feet. Notice any tension in your feet and, as you breathe out allow the tension to flow out to the ground.
01:15	Move your awareness up to your legs and allow any tension you have to melt away as you breathe out.
01:45	Now focus on your chest and stomach. Feel any pressures or tensions that might be caught up there and allow yourself to let them go. Feel them leave as you breathe out.
02:15	Move your awareness up to your shoulders and neck and allow any knots to be released. Gently let the tension run out of your body.
02:45	Now imagine the tension that sits in your head, neck and forehead. Allow yourself to feel that weight as you breathe in and, as you breathe out let that weight be lifted.

Now create an image of someone imaginary or something which is unconditionally loving, accepting, kind and compassionate. Allow yourself to imagine this image as a friend. Imagine that this friend can see all of your strengths and all of your weaknesses. Reflect upon what this friend feels towards you, and how you are loved and accepted exactly as you are, with all your very human imperfections. This friend recognizes the limits of human nature, and is kind and forgiving towards you. In his/her great wisdom this friend understands your life history and the millions of things that have happened in your life to create you as you are in this moment.

03:15

04:15 Continue focusing on that image

04:45 If your mind wanders that's OK, just bring your attention back to the image of your friend

05:30 Carry on bringing your mind back to the image of your friend who is unconditionally loving, accepting, kind and compassionate

06:15 Carry on bringing your mind back to that image

07:00 Carry on bringing your mind back to that image

08:00 We will now end this exercise by you taking a bigger breath and allowing yourself to notice any changes in how your body feels. When you are ready, bring yourself back into the room and open your eyes.

Body Sensations Group

Time	Instructions
	<p>Allow your eyes to close gently.</p> <p>Let go of ideas of "success," "failure," "doing it really well". This is not a competition. Approach the task with an attitude of openness and curiosity.</p> <p>If your mind is wandering, simply note the thoughts (as passing events) and then bring your mind gently back to the task.</p>
Start	<p>Take a few moments to get in touch with the movement of your breath and the sensations in your body. When you are ready, bring your awareness to the physical sensations in your body, especially to the sensations of touch or pressure, where your body makes contact with the chair.</p> <p>On each outbreath allow yourself to sink deeper into the chair.</p> <p>Now focus on your feet. Notice any tension in your feet and, as you breathe out allow the tension to flow out to the ground.</p>
01:15	<p>Move your awareness up to your legs and allow any tension you have to melt away as you breathe out.</p>
01:45	<p>Now focus on your chest and stomach. Feel any pressures or tensions that might be caught up there and allow yourself to let them go. Feel them leave as you breathe out.</p>
02:15	<p>Move your awareness up to your shoulders and neck and allow any knots to be released. Gently let the tension run out of your body.</p>
02:45	<p>Now imagine the tension that sits in your head, neck and forehead. Allow yourself to feel that weight as you breathe in and, as you breathe out let that weight be lifted.</p>

Now create an image of someone imaginary or something which is unconditionally loving, accepting, kind and compassionate. Allow yourself to imagine this image as a friend. Imagine that this friend can see all of your strengths and all of your weaknesses. Reflect upon what this friend feels towards you, and how you are loved and accepted exactly as you are, with

03:15 all your very human imperfections. This friend recognizes the limits of human nature, and is kind and forgiving towards you. In his/her great wisdom this friend understands your life history and the millions of things that have happened in your life to create you as you are in this moment.

Now notice what feelings this image creates in your body and where those feelings are. Continue focusing on those feelings.

04:15 Continue focusing on the feelings that the image creates

04:45 If your mind wanders that's OK, just bring your attention back to the image of your friend and the feelings created by that image

05:30 Keep bringing your mind back to the image of your friend who is unconditionally loving, accepting, kind and compassionate and the feelings in your body

06:15 Carry on bringing your mind back to that image and the feelings in your body

07:00 Carry on bringing your mind back to that image and the feelings in your body

08:00 We will now end this exercise by you taking a bigger breath and allowing yourself to notice any changes in how your body feels. When you are ready, bring yourself back into the room and open your eyes.

Posture Group

Time	Instructions
	Allow your eyes to close gently.
	Let go of ideas of "success," "failure," "doing it really well". This is not a competition. Approach the task with an attitude of openness and curiosity.
	If your mind is wandering, simply note the thoughts (as passing events) and then bring your mind gently back to the task.
Start	Take a few moments to get in touch with the movement of your breath and the sensations in your body. When you are ready, bring your awareness to the physical sensations in your body, especially to the sensations of touch or pressure, where your body makes contact with the chair.
	On each outbreath allow yourself to sink deeper into the chair.
	Now focus on your feet. Notice any tension in your feet and, as you breathe out allow the tension to flow out to the ground.
01:15	Move your awareness up to your legs and allow any tension you have to melt away as you breathe out.
	Now focus on your chest and stomach. Feel any pressures or tensions that
01:45	might be caught up there and allow yourself to let them go. Feel them leave as you breathe out.
	Move your awareness up to your shoulders and neck and allow any knots to
02:15	be released. Gently let the tension run out of your body.
	Now imagine the tension that sits in your head, neck and forehead. Allow
02:45	yourself to feel that weight as you breathe in and, as you breathe out let that weight be lifted.

Now create an image of someone imaginary or something which is unconditionally loving, accepting, kind and compassionate. Allow yourself to imagine this image as a friend. Imagine that this friend can see all of your strengths and all of your weaknesses. Reflect upon what this friend feels towards you, and how you are loved and accepted exactly as you are, with all your very human imperfections. This friend recognizes the limits of human nature, and is kind and forgiving towards you. In his/her great wisdom this friend understands your life history and the millions of things that have happened in your life to create you as you are in this moment.

03:15

Now notice what feelings this image creates in your body and where those feelings are. Continue focusing on those feelings. Allow yourself to notice how your body feels and let yourself move to accept those feelings.

04:15

Continue focusing on the feelings that the image creates, let yourself move to accept those feelings

04:45

If your mind wanders that's OK, just bring your attention back to the image of your friend and the feelings created by that image, let yourself move to accept those feelings

05:30

Keep bringing your mind back to the image of your friend who is unconditionally loving, accepting, kind and compassionate and the feelings in your body, let yourself move to recognise those feelings

06:15

Carry on bringing your mind back to that image and the feelings in your body and allowing yourself to move to embrace those feelings

07:00

Carry on bringing your mind back to that image and the feelings in your body and allowing yourself to move to embrace those feelings

08:00 We will now end this exercise by you taking a bigger breath and allowing yourself to notice any changes in how your body feels. When you are ready, bring yourself back into the room and open your eyes.

Appendix 12: Epistemological Statement

Ontology and epistemology refer to the nature of truth and the nature of our knowledge of truth, respectively. These constructs often seem to be discussed as a series of opposites (e.g. realism vs. Idealism; inductive vs. deductive), which often leads to a divide between quantitative and qualitative methods. This presents challenges for a mixed methods paper, which attempts to draw from both research disciplines to present integrated findings. Though Bryman (1984) suggests that this may be possible, he warns against confusing technical arguments with epistemological ones. For example, Bryman supports the use of triangulation of results from different methodological backgrounds, yet emphasises that 'triangulation' is a technical point, not an epistemological one.

This statement intends to consider the researcher's understanding of ontology and epistemology. Following this, it will explore the analyses used within this thesis and their underlying assumptions. This will be discussed with reference to both quantitative and qualitative aspects of the paper and the researcher's own reflexive views and comments, with implications for how the research was developed and should be interpreted.

Ontology concerns the question of reality, or truth, and how we can understand its existence (Ritchie, Lewis, Nicholls & Ormston, 2013). Ontological positions tend to be polarised as 'realist' vs. 'idealist'. At its extreme, realism assumes that there is a 'truth' that can be objectively observed and understood. Less extreme realist points of view suggest that, although there is an 'external reality' or 'truth' it can only be measured

through the distortions of human perception. Whereas, extreme idealism assumes that there is no 'truth', only the subjective meanings made by each individual.

In considering how 'truth' can be gathered to develop 'knowledge', it is important to consider methods of reasoning: deductive and inductive. Deductive reasoning involves finding evidence that supports or refutes a theory that has already been generated (Scotland, 2012). In contrast, inductive reasoning, involves observing patterns and deriving theories from those patterns.

The qualitative parts of this paper used a Thematic Analysis to explore participants' experiences and responses to novel concepts. Braun and Clarke (2006) explain that, although there are no clear frameworks for how to conduct thematic analyses, it is critical for the researcher to be explicit about his/her own assumptions and methodologies when undertaking such an exploration. The analyses used within the current research employ an essentialist/realist assumption, in order to explore the experiences, meanings and realities of participants. Implicitly, therefore, this holds both the assumption that there is some level of 'external reality' and that people's perceptions of this could be gathered to generate a 'knowledge base'. This complements the quantitative aspects of the paper, which imply that there is truth and that this can be understood through measurement.

'Subtle Realism' (Blaikie, 2007) holds that, though there is an external reality, it can only be known via human understandings, which involves meanings that are socially constructed. Thus, although it may be difficult to explicitly measure or access external reality in its purest form, participants' experiences could be gathered to consider similarities and differences to further our own understandings, and to widen our own

knowledge bases. However, when interpreting the responses of participants, it is important to consider both the person 'giving' the knowledge and the person 'receiving' the knowledge, as these can each affect the manner in which the data was understood.

I believe that self-compassion is a beneficial thing for humans, both individually and as a whole. Furthermore, I think that if everybody understood it, they would think so too, thus implying that those who do not respond favourably to self-compassion must not understand the concept. It is possible, therefore, that I elicited responses from clients that suggested that they thought self-compassion was beneficial. Indeed, I created the psychoeducation video and the meditation tapes and most participants recognised this as my voice, which could cue participants into my beliefs about self-compassion. In addition to eliciting possible responses from participants, it was important to be aware of a possible bias towards ignoring negative responses from clients and dismissing them as not understanding the concept. In order to overcome this, I have attempted to present a balanced overview of participants' responses, demonstrating that some participants thought self-compassion was limited in its uses. A colleague reading the transcripts to ensure codes had not been missed facilitated this.

Participants' comments were interpreted at the surface level, or 'semantically', with little exploration of the underlying ideas and concepts that lead to the construction of their meanings and analyses were mostly inductive. Thus, 'codes' remained participants' direct quotes throughout the process of developing themes. Working directly with participants' words at all stages, aimed to reduce some of the influence of my own interpretations and biases.

In considering the development of themes, it is helpful to explore my beliefs about the nature of truth in research. While writing the qualitative parts of the paper, I became aware that I believed that more quotes meant that the point was more valid and that I needed as many quotes as possible to demonstrate the point. This way of thinking coincides with the 'coherence' theory of truth, suggesting that an account is 'true' if it fits with another account, thus, implying that a theme cannot be a theme if only one person discussed it. In order to overcome this, I read around the topic area so that I could be aware of discourses that might arise and this helped to overcome me emphasising responses that cohered with my own beliefs. Furthermore, I think clinical practice helped to facilitate this method of listening. I have learned through talking with clients that, whenever I assume an answer, I am always wrong and so it is always better to ask for clarification in a non-leading way to better understand the perspectives of others.

Although the ontological stances across qualitative and quantitative methods in this paper were based upon the same assumptions (essentialist/realist), the epistemologies differed. Within quantitative research, hypotheses are set to be tested which means working deductively, to find evidence to fit a theory. In contrast, the Thematic Analysis was inductive, though it must be acknowledged that participants' responses were limited by the questions they were asked and the exploration of these responses was restricted by the research questions.

When interpreting and reporting all aspects of these investigations, I have attempted to be tentative and offer possible explanations for the patterns that we can see between the quantitative and qualitative parts of the paper. Thus, though hypotheses were set, the interpretation of the data has been informed by participants' responses

and observations of responses from participants in other studies. Using this inquisitive and curious approach to the data, I have attempted to overcome the conflict of their underlying assumptions.

References

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Appendix 13: Transcript Analysis Example

Transcript	Possible Themes/Meanings
<p>I sort of, well when you look at it it all makes absolutely sense and but in reality is that it's it's so incredibly hard to be very compassionate with yourself and one of the reasons that I wanted to do this was because as part of my placement one of the comments that my practice educator had made about me was that I was very self-critical</p> <p>mmmm</p> <p>and so I was quite taken aback by the comment and I thought y'know I'm I know I'm very assertive my background is business and I worked with in a very male dominated organisation and so assertiveness and y'know and being precise knowing what you wanted and all those sort of attributes were very much to the fore and I'd always put it down to being y'know that I was incredibly assertive</p> <p>mmm</p> <p>and when she said that I was self-critical I thought no no I'm very self-aware I'm very self-aware and it started this thought going on in my head that said well actually I may be self-aware but what do I do about that awareness? And is she right that actually we're both right that I am self-aware but in that awareness I'm not kind to myself and that actually the awareness becomes a criticism that and but not a constructive approach to it that actually it just sort of says oh my god that was absolute rubbish or you didn't do very well at that or y'know I'm gonna be terrible at this or even when I've walked out and thought yeah that went ok but I could have done this better and I could have</p>	<p>Makes sense</p> <p>Difficult to be compassionate</p> <p>Surprise at not being compassionate</p> <p>Assertiveness and knowing needs</p> <p>Relationship between criticism, awareness and self-compassion</p> <p>What not being self-compassionate is (what being self-compassionate</p>

<p>done that better and what I gradually came to realise is that we were both right and one of the things I don't necessarily do well is recognise when I'm doing well and therefore I'm probably not particularly compassionate with myself and I don't sort of look at things and think y'know you did a great job there that was really really good or erm y'know er this isn't going so well for me because if it's not going so well for me I'll tend to back off and I'll try and resolve it myself I don't look for support from other people very often and then that sometimes becomes a little bit of a y'know it's a self-fulfilling prophecy</p> <p>mmmmm</p> <p>that actually I've convinced myself *indecipherable* that it is rubbish so erm I've forgotten the question now! Laughs I've rambled on a bit</p> <p>Laughs it was erm about your reactions towards the information</p>	<p>is/not)</p> <p>Recognising problems</p> <p>Seeking support</p> <p>'Should'</p> <p>Understand, don't do it</p> <p>Self-compassion makes things easier</p> <p>Can help resolve depression</p> <p>Not a cure or completely</p>
<p>So yes I see it I understand it I probably don't practise it as well as I should do</p> <p>Yeah and you've kind of covered the next question that what do you think about the idea of being compassionate towards yourself?</p> <p>I think that (exhale) if I look back over my life if I'd have been more compassionate with myself I probably would have had an easier time I've suffered and I y'know I do suffer with depression and I think that a lot of those issues I'm not saying that I wouldn't have had episodes of depression I think that probably I would have dealt with them better and I wouldn't have had a lot of the angst about y'know do I come to university... I don't know if I can do this y'know really really poor moments and I think that if I had been more compassionate about</p>	<p>Understand, don't do it</p>

myself if I had known really because in some senses when you say that
oh yeah I know this that it's an innate thing that you've got to be kind
to yourself it's kinda not it's kinda not and you have to learn it and you
have to and you learn it through approaches from other people and
y'know from how and I think I learned more through having my
children in terms of compassion

preventative

Nature/Nurture

Influence of having

children

Appendix 14: Reflective Statement

Before I started this course, I had not realised the extent to which my mum had influenced the things that I hold to be true. I had known that growing up with a mother who is a homeopath was somewhat unusual and I had learned that, if I wanted to avoid conversations about efficacy, placebos and codswallop, it was easier not to talk about parental occupation. I realise, now, however, that growing up with a mother who works as a homeopath and a father who supported that, taught me more than just about homeopathy. I learned to be open-minded about 'truth' and evidence and to approach things with curiosity, instead of scepticism. Additionally, and more importantly for this research project, growing up in this environment shaped how I understand the world, the mind and the body. To me, it seems completely reasonable that, if you are physically unwell, it can be helpful to consider more than just your body but also the state of your mind and your well-being. Thus, I suppose, I have always had some sense that the mind and body cannot be separated and that illness in one inevitably leaks into the other.

For this project, though, I wanted to know about wellness and how we could encourage 'feeling good' in the general population. During my undergraduate degree, I became interested in the idea of 'positive psychology' and the importance of considering wellness as well as illness, and I wanted to bring the celebration of what we can be at our best into my career and my research project. Having decided that I wanted to know how to perpetuate 'feeling good', I had to work out what 'feeling good' was. To me, 'happiness' is a fleeting emotion that costs a lot of energy to sustain, whereas 'contentment' seemed like a more sustainable feeling. Around this time, I was introduced to the idea of self-compassion, and this seemed like a concept

that could bring about feelings of safety, wellness and contentment as well as seeming to be psychologically beneficial.

Following this, I had to decide upon the method by which to elicit this feeling in people and this is where the research project changed to exploring how to elicit self-compassion in people, rather than how to encourage the maintenance of the feelings involved in self-compassion. I settled upon compassionate imagery because it seemed to be a commonly used technique with strong anecdotal evidence, yet little research to evidence it empirically – I realise, now, that this is not the only parallel to homeopathy in this portfolio.

The original design for this project was complex, to say the least. In addition to comparing the four types of instruction set for eliciting self-compassion, I wanted to investigate whether people who were more self-compassionate were more creative, and whether this could be enhanced by increasing self-compassion. In addition to this, I was going to interview participants on their experiences of the experiment. Fortunately, I got feedback on my plans that suggested that this might be too ambitious for a Clinical Psychology Doctorate. At this point, I was reminded of my undergraduate degree, where I learned that the extent to which I exerted and pushed myself was not being examined, the quality of the work was. Thus, it was important not to trade quality for quantity and I scaled the project down. Though I have been able to apply this at various points throughout the research project, I am aware that it is still part of my process – I have written two empirical papers where one would suffice. Clearly, there is still some room for improvement in this area!

With a scaled-back project, ethics was accepted with few amendments needed and I was ready to begin recruitment. I was fortunate that this was relatively simple as well and, to my surprise, participants responded quickly and keenly to my advertisements. Although I was interested in my research project at this point, I think I was also unsure of its benefit and relevance to the wider population. At the point of conception, I had been clear on the importance of working to promote wellness and investigating relationships between mind and body, however the more I had spoken to people to try to explain what I was doing, the more I had begun to question this. Indeed, I often diverted the topic of research to my housemate's project, instead of my own, as it seemed more accessible and interesting to the people I was talking with.

However, after meeting my first participant and hearing the changes she described, I became much more enthused by my project. In honesty, I had not expected much from the interviews and had tacked them on as an additional extra (probably due to my process of needing to do something extra). However, I now think the interviews were the most enjoyable and most informative part of the research. I learned much from my participants and I became increasingly convinced that self-compassion was the way forward for me, for others and for our world. Participants' enthusiasm was infectious and I began telling people about my own research project rather than my housemate's!

When the interviews were over, I enjoyed testing a little less and it became more of a chore. Though this could be due to repetition, I noticed that I did not feel as though participants got as much out of the experience if they did not have the chance to talk about and reflect upon it. Additionally, this time coincided with searching for my literature review and developing a question. Possibly one of the hardest and least

enjoyable tasks of the portfolio thesis. I didn't know where to begin in researching what I wanted to explore – how being in touch with the body can facilitate emotion regulation. Many areas seemed to suggest that body awareness was maladaptive, which was at odds with what I had experienced in clinic (another homeopathy parallel). In practice, I met person after person who was unable to connect with their feelings and their experiences and seemed to struggle with their well-being as a result of this. I still live in fear that I somehow missed a main research area, demonstrating how whole body awareness can facilitate, or is at least related to, emotion regulation. As far as I can tell, there is not. I have gone through phases of being frustrated and amazed at the limits of this body of literature and how, despite the attempts to pull away from Cartesian dualism, researchers are still restricted by the notion that everything is separate and can be compartmentalised.

Other than the challenges presented by my literature review, I have been fortunate to have relatively few struggles as a result of the portfolio thesis. Instead, my challenges have occurred in my personal life and this has given me the chance to experience the benefits of self-compassion first hand, as well as discovering that self-compassion is not a cure. Over the past eighteen months, I have attended six funerals, two of which were of very close family members. Having already had a year of training and really believing that avoidance is not the way forward but, instead, that one should experience and accept their feelings, I cried. A lot. I wasn't as self-compassionate, then, as I am now but I was aware that this was a hard time and it was OK to be struggling. When you've spent months accepting your feelings and saying this is OK, and it has still not passed, however, you come to doubt the power of such techniques. You also begin to feel as though you've reached your culturally decided limit for

acceptable grieving. It was around this point that I realised that self-compassion does not take away the pain, it is not a cure, it just makes struggling slightly easier sometimes. Learning that and learning how long healing takes and, how until you're ready, you just cannot change, has been invaluable in my practice and has influenced how I view and use self-compassion.

I did not enter into this research from a 'self-compassion' perspective, it was about the body and the mind, self-compassion just happened to be the thing I chose to study alongside. However, the self-compassion elements of this endeavour have probably had the most profound effect on me. In listening to participants talking about how they did not feel like they had permission to be self-compassionate, I have taken the responsibility of being self-compassionate to show people that it is OK. I have never been particularly self-compassionate, like my participants, I had one rule for myself and a much kinder and more accepting one for everyone else. I may not have perfected the art of always being self-compassionate but I feel much more justified in meeting my own needs and asking others to help me in this. That has been the most valuable outcome of this research, for me and I hope that it has allowed others to begin to think in a similar way.

Appendix 15: Manipulation Check Data

Table 8: Participants' responses to the tasks means and standard deviations

	Relaxation		Image		Sensations		Posture		Overall	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Clear Video	7.00	0.00	6.71	0.49	6.86	0.38	6.71	0.49	6.75	0.44
Having Self-Compassion is Worthwhile	6.71	0.49	5.43	0.98	6.29	0.95	6.00	1.00	6.14	0.87
Instructions Easy to Follow	6.86	0.38	6.57	0.79	6.86	0.38	6.71	0.49	6.75	0.50
Able to Participate	6.71	0.76	6.57	0.79	6.43	0.79	6.00	1.15	6.47	0.84
Mind wandered	3.71	1.89	4.29	1.38	4.57	1.99	4.71	0.95	4.31	1.62
Settle on Image	NA	NA	3.29	2.14	4.71	2.75	4.43	2.57	4.11	2.22
Clear Image	NA	NA	4.14	2.27	4.57	2.15	3.57	2.23	4.30	2.05
Easy to Focus on Body	NA	NA	NA	NA	5.43	1.51	5.57	1.51	5.39	1.42
Easy to Move Body	NA	NA	NA	NA	NA	NA	4.14	1.35	4.14	1.35
Enjoyable	6.43	0.79	5.86	1.07	5.86	0.90	5.86	1.07	6.00	0.96
Boring	1.71	1.11	2.00	1.00	1.29	0.49	2.21	1.78	1.88	1.25
Frustrating	1.43	0.53	1.71	1.50	1.14	0.38	2.43	1.62	1.78	1.22
Easy	5.71	1.11	5.57	1.27	5.14	1.21	4.86	1.57	5.17	1.36
Pleasant	6.00	1.15	6.29	0.76	6.00	0.82	5.86	1.21	5.97	1.03
Worthwhile	6.29	0.95	6.14	0.38	6.00	1.41	5.71	2.14	5.97	1.34

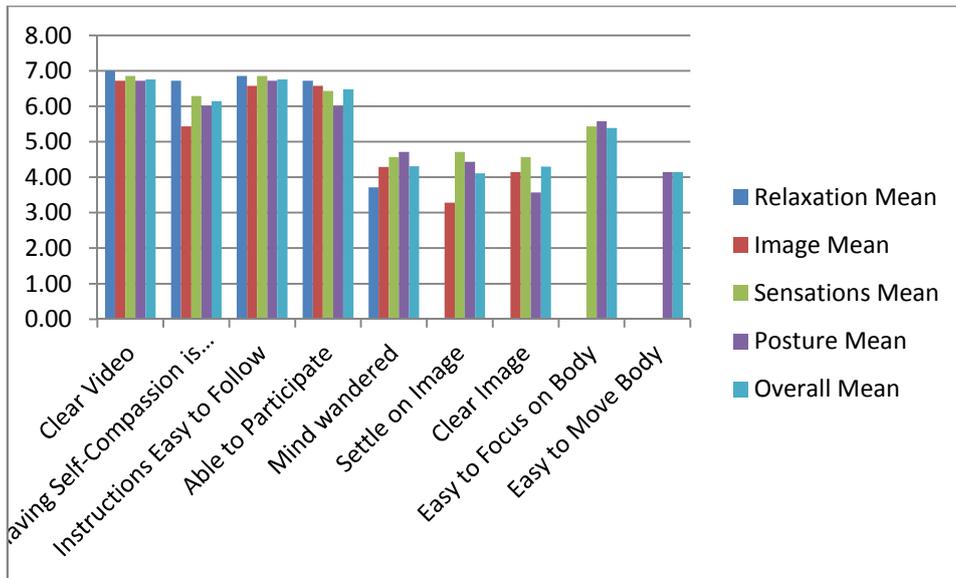


Figure 2: Mean participant ratings of the accessibility of instructions within all groups and overall

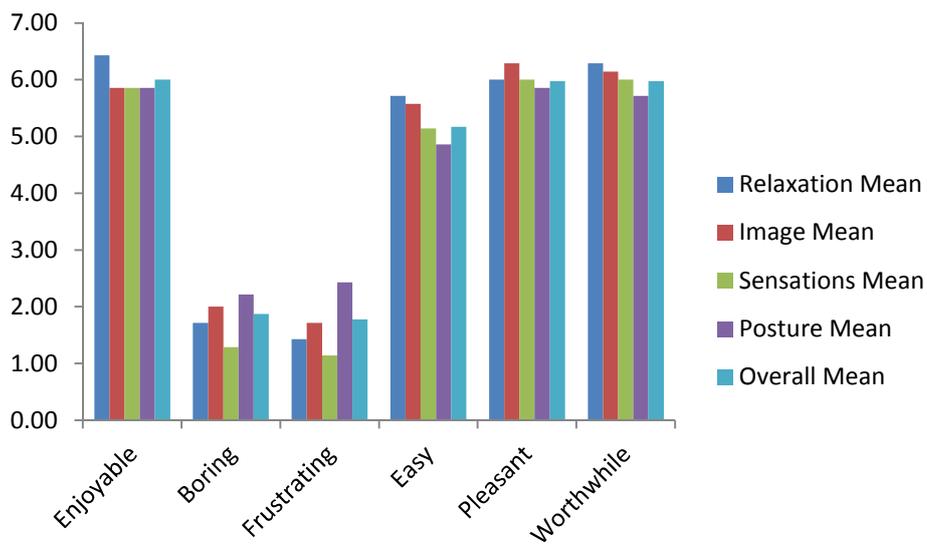


Figure 3: Mean participant ratings of their experience of the task within all groups and overall