Cultivating Self-Compassion and Reducing Self-Criticism in a Brief Intervention for Adolescents.

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Thesis declaration form

I confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Overview

Volume one of this thesis includes three sections.

Part one is a conceptual introduction that provides a detailed review of the literature on self-criticism, self-compassion and wellbeing in adolescence. The biological and social changes occurring in adolescence are outlined as a backdrop to understanding the increased vulnerability to self-criticism and subsequently mental health difficulties during this life stage. A review of the literature found an association between self-compassion and wellbeing in adolescence. Self-compassion has been highlighted as a potential buffer against self-criticism and other psychopathology. Initial studies aimed at enhancing self-compassion in adolescents are discussed.

Part two is an empirical paper reporting a randomised controlled study which investigated the effectiveness of two compassion-focused interventions in healthy adolescent participants. This study was part of a joint project (see Tweedale, 2019). Self-compassion was found to increase following the psychoeducation intervention but not in the group with an additional imagery component. Contrasting patterns were found across the groups for different elements of self-compassion. Compassionate behaviour increased following the imagery but not the psychoeducation intervention, whereas uncompassionate behaviour decreased after the psychoeducation but not imagery intervention. There were no effects found on self-criticism or affect.

Part three provides a critical appraisal of the empirical study. Reflections are shared on the challenges and opportunities of research in school settings and with adolescents. An overview of qualitative feedback from participants in the intervention groups is also included.

Impact Statement

The findings from this thesis have the potential to impact schools, clinical practice and policy at a government and local authority level, as well as on academia in the fields of self-compassion and adolescence.

Academia

As part of the conceptual introduction, a review of the literature found that research supports a link between self-compassion and wellbeing in adolescents. This emphasises the importance of developing interventions that cultivate self-compassion in adolescence, however, existing studies have been limited by methodological issues. Therefore, the empirical study is one of the first randomised-control designs to investigate different components of compassion-focused interventions in healthy adolescents. Self-compassion increased following the psychoeducation intervention but not following the imagery intervention. However, compassionate behaviour was found to increase in the imagery group only. The results are promising, however they were limited by a small sample size, suggesting further examination of imagery and other compassion-focused techniques is necessary to develop understanding of the mechanisms that enhance self-compassion in young people. Additionally, as no changes were detected in self-criticism, further research is necessary to clarify the procedures that reduce this construct. The critical appraisal considered the challenges of conducting research in schools and with adolescents. It is hoped the recommendations made will encourage and support researchers interested in this area, within the field of psychology and outside it, to carry out school-based research.

Outside Academia

Outside academia, the findings demonstrate the potential for the integration of prevention-focused interventions that promote wellbeing into schools. The

intervention was relatively brief and feedback from adolescents was predominantly positive suggesting it is acceptable to this group. In the current political climate which has limited NHS resources to treat mental health difficulties in young people, a shift to intervening early with the aim of prevention is needed. The findings provide evidence for commissioners at a local level and those writing government policy to consider integrating preventative, resilience-focused programmes into schools, which is likely to be a financially viable approach. Additionally, this research builds on an argument for shifting focus away from promoting self-esteem to instead cultivating self-compassion in young people. Schools can learn from these findings and aim to incorporate compassion more widely across the school system, including at the levels of staff and parents, to enable the greatest impact. The psychoeducation materials on adolescent development, self-compassion, self-criticism and social comparison that were developed and refined based on adolescent feedback could facilitate this integration. These resources were disseminated to schools for use in life skills classes and are available to others wishing to use them.

Finally, the study included a non-clinical sample. Therefore, generalisation to clinical settings is not possible but elements of the intervention, including the psychoeducation materials and imagery scripts, may be useful to clinicians working with adolescents to use alongside clinical judgment. The findings also emphasise the impact of psychoeducation alone which serves as a reminder to clinicians not to overlook this simple but important part of intervention. Further research is necessary to examine the impact of similar compassion-focused approaches with clinical populations.

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Part 1: Conceptual Introduction

Self-Criticism, Self-Compassion and Wellbeing in Adolescence.

Abstract

This conceptual introduction reviews the literature on self-criticism, self-compassion, and wellbeing in adolescence. Over the past two decades, mental health difficulties have increased in adolescents. One area of research interest is in the possible link between self-criticism and psychopathology, such as depression. During the adolescent life stage, the vast brain developments combined with extensive social and environmental changes mean adolescents are particularly vulnerable to self-criticism. Researchers have now turned their attention to the potential for self-compassion to be an anti-dote for self-criticism. Interest into the benefits of compassion for the self has soared with the increased focus on Positive Psychology, a field that emphasises the need to extend beyond the removal of mental health problems, to improving subjective experience and wellbeing. This review found that research supports a link between self-compassion and wellbeing in adolescents, which corresponds with findings from adult studies. Taking this further, self-compassion has demonstrated protective properties, such as mitigating the effects of stress. These findings emphasise the importance of developing compassion-based initiatives for young people. Several studies have begun to investigate the impact of compassion-focused interventions, including five- to eight-week programmes and a mobile phone intervention. They demonstrated promising findings with adolescents experiencing increases in self-compassion and wellbeing measures. However, these studies were limited by small sample sizes and uncontrolled designs. Therefore, future research is needed to address these shortfalls and to further investigate avenues for cultivating self-compassion in adolescents.

Introduction

This research project investigated the effectiveness of a school-based intervention aimed at increasing self-compassion and decreasing self-criticism in adolescents. Mental health problems in young people are increasing (NHS Digital, 2018) and schools are faced with the growing challenge of supporting children with these difficulties due to the high thresholds for NHS services. Therefore, prevention of the development of mental health difficulties in young people requires attention. One avenue of interest is in alleviating heightened levels of self-criticism in adolescents. Self-criticism has been found to be related to depression and other psychopathology (Xavier, Gouveia & Cunha, 2016).

Key researchers in the field of compassion view self-compassion as a potential 'antidote' to self-criticism (Neff, 2003b; Gilbert & Procter, 2006). There has been an increase in interest in self-compassion and its relationship with wellbeing in adolescents and the potential protective role against psychopathology (Neff & McGehee, 2010; Bluth, Mullarkey & Lathren, 2018; Bluth & Blanton, 2015). However, there are still relatively few studies (Bluth, Gaylord, Campo, Mullarkey & Hobbs, 2016; Bluth & Eisenlohr-Moul, 2017) that have investigated compassion-focused interventions for adolescents.

The empirical study aimed to investigate the effect of a novel self-compassion intervention for adolescents using a randomised-controlled design to address existing methodological limitations of studies in this field. The study also aimed to evaluate the effectiveness of different elements of compassion-focused interventions including the use of compassionate imagery, which has been frequently used as part of Compassion-Focused Therapy (CFT; Gilbert, 2010).

This extended introduction aims to provide a detailed overview of the literature which led to the design and implementation of the empirical study. The first part describes the approach to aggregating research studies. As context, the prevalence of mental health difficulties in adolescence is outlined. Self-criticism is

then explored as a potential contributor to psychopathology alongside consideration of the neurological and social changes in adolescence which may increase vulnerability to this type of self relating. The concepts of compassion and self-compassion are defined and their relevance for adolescents is considered. The construct of wellbeing is then discussed and an overview is presented of the research on the association between wellbeing and self-compassion, first in adults and then more extensively in adolescence. The review concludes with an exploration of studies investigating compassion-focused interventions briefly in adults and then in adolescents.

Inclusion of Research

To ensure this review included an in-depth coverage of the literature on topics of self-compassion and self-criticism in adolescence, studies were identified using a number of electronic databases (PsycINFO, WebofScience). Search terms included adolescen*, self-compassion, wellbeing, and self-criticism. Over 150 publications were reviewed for their relevance and further research was identified in citations included in these articles. Additionally, other resources were procured from informal searches through *Google Scholar* and the UCL online library catalogue. Resources include peer-reviewed journals, book chapters and articles published by key researchers in the field.

Adolescence and Mental Health

The rising rate of mental health issues in young people has received national attention and media coverage. A 2017 survey (NHS Digital, 2018) found the prevalence of mental health problems amongst five to 19-year olds was one in eight children. When compared with earlier surveys, data revealed a slight increase over time in the prevalence of mental health difficulties in five to 15 year olds, rising from 9.7% in 1999 and 10.1% in 2004, to 11.2% in 2017. They also observed mental

health problems increasing with age. Teenagers demonstrated the highest prevalence at 16.9%. For schools, these findings suggest on average there will be three to four children in each class with a recognisable mental health difficulty. In the UK, schools and colleges have recognised their unique position to support the mental health needs of their students due to the extensive contact time they have with pupils and therefore the potential for addressing difficulties and promoting mental health (Marshall, Wishart, Dunatchik & Smith, 2017). However, schools are restricted in implementing strategies due to a lack of funding and concurrently are faced with high thresholds for specialist provision in external NHS services (Children's Commissioner, 2016). One approach to managing the mental health crisis in young people is a shift towards preventative interventions that focus on reducing risk factors and increasing strengths to promote mental health. Self-criticism has received substantial attention in the literature due to the consensus that it is a risk factor for depression or a component of depression (Kannan & Levitt, 2013). The following section outlines why self-criticism might be particularly prominent during the adolescent period, thus making it a potentially viable target for prevention-focused interventions in this group.

Self-Criticism and Adolescence

Self-criticism has been highlighted as a key factor in internal shame, defined by Gilbert and Procter (2006) as self-focused attention and negative self-evaluations. They view self-criticism as a form of self-harassment in which individuals' brains respond in the same way as they would to external stimuli, with anxious or depressive responses. In other words, the self-evaluative system activates the same processing as when evaluating a social or interpersonal event, such as experience of persecution from another person (Gilbert, 2010). One proposed mechanism for this link is that self-critical people may not have access to memories of being soothed and cared for by others, and their own self-care abilities

are underdeveloped (Gilbert & Irons, 2004). Gilbert, Baldwin, Irons, Baccus and Palmer (2006) provided evidence for this theory in a study that found self-critical people were more able to generate hostile and self-critical images, and less able to develop self-supportive imagery than those who were higher in trait self-reassurance. A functional Magnetic Resonance Imagery (fMRI) study furthered this theory by uncovering distinct activity in the dorsal prefrontal cortex (PFC) when participants focused on self-criticism, whereas engaging in self-reassurance activated the ventrolateral PFC (Longe et al., 2010).

The adolescent period is a crucial developmental stage, which involves numerous biological and social changes that impact on emerging sense of identity and establishment of self-worth. Recent research has advanced understanding of the major structural changes that occur in the adolescent brain (Blakemore & Choudhury, 2006). Evidence from fMRI studies has demonstrated that adolescents' PFC, specifically the orbitofrontal cortex and the amygdala, do not activate in the same way as adults' brains in response to emotionally salient information, such as anxious or sad faces (Blakemore & Choudhury, 2006; Yang, Menon, Reid, Gotlib & Reiss, 2003). Giedd (2008) explained that the adolescent brain is not a defective adult brain but instead involves a changing balance between neuronal networks as several cognitive and emotional systems mature at different rates. In particular, the developing balance between frontal and limbic brain regions is often associated with alterations to executive functioning, which encompasses attention, response inhibition, emotion regulation, organisation and future planning. Blakemore and Choudhury (2006) suggested that synaptic reorganisation in the adolescent brain also heightens sensitivity to experiential input in the domain of social cognition. Researchers believe these developments lead to increased introspection, metacognition, self-reflection and social perspective taking abilities (Keating, 1990). It is now widely accepted that these changes are responsible for the 'typical' behaviours observed in young people, for example, increased risk tasking and

sensation seeking, and increased self-awareness and sensitivity to peer rejection (Sawyer et al., 2012). These findings highlight the plasticity of the teen brain and emphasise this life stage as pivotal in determining future patterns of health.

So, how do these vast brain developments during adolescence fit with the self-criticism literature? In order to understand this, we must consider the numerous relational changes that are occurring for young people. One key shift is the moving dynamic from predominantly family relations to the development of a new peer group identity. Research has shown that teenagers rate support from their peers as equal to or greater in value than parental figures (Buhrmester, 1996). This is supported by evidence that young people's decision making, particularly in 'risky' situations, is more powerfully influenced by peers than any other age group (Blakemore & Robbins, 2012). As adolescents negotiate a move towards autonomy and independence and away from their attachment figures, they are challenged with securing new social positions. Additionally, from an evolutionary perspective, teenagers are reaching reproductive age that brings competition for sexual partners. This increase in peer competition for approval and acceptance, alongside novel concern with being attractive to others creates enormous potential for increased self-consciousness and comparison with others. Adolescents are also now the largest users of social networking sites (Office for National Statistics, 2017). Online platforms where people present a distorted "best" version of themselves provide ample opportunity for young people to compare themselves to others based on an unreliable comparison point.

For adolescents, the interaction between newfound cognitive abilities and an evolving social environment results in them continually comparing themselves to others and evaluating their position as they attempt to establish their own identity (Neff, 2003b). The continual pressures to perform academically, "fit in" with a peer group, and be sexually attractive mean that these social comparisons are often unfavourable (Neff, 2003b), which may result in self-criticism (Gilbert & Irons, 2009).

In essence, the adolescent life phase encompasses a concoction of biological, psychological and social factors that increase individuals' vulnerability to self-criticism and the potential adverse consequences, such as depression.

Mirroring adult populations, a number of studies have found an association between self-criticism in adolescence and undesirable outcomes. Zuroff, Koestner and Powers (1994) employed a longitudinal design to investigate the relationship between self-criticism in early adolescence and later life outcomes. They found that self-criticism at age 12 predicted lower involvement in high school activities, and a range of 'maladjustments' later in life including dissatisfaction in relationships. Several studies have demonstrated a link between self-criticism and clinical presentations including depression and self-harm behaviour in adolescents (Campos, Besser, Morgado & Blatt, 2014; Kopala-Sibley, Zuroff, Hankin & Abela, 2015; Xavier et al., 2016). These findings indicate the need for interventions that address self-criticism in adolescents. A number of researchers (Gilbert & Procter, 2006; Neff, 2003b) view self-compassion as a potential 'antidote' to self-criticism and so a new focus on cultivating self-compassion has begun.

Compassion and Self-Compassion

For decades, research and clinical focus has been on increasing self-esteem to protect against anxiety and depression (Neff, 2009). However, recently there has been a shift away from interest in this concept due to the potential 'dark sides' to high self-esteem, in particular, its strong correlation with narcissism (Neff & Vonk, 2009). Neff (2009) highlighted the issue with self-esteem as the need to feel better than others in order to feel okay about oneself. One proposed alternative to self-esteem is self-compassion, which may lead to similar benefits but with fewer drawbacks.

Compassion is by no means a new concept, existing in Eastern philosophy for centuries. Buddhist practice has emphasised the wellbeing benefits of

developing compassion for the self and others for thousands of years (Neff, 2003b). Western psychology has grasped the potential usefulness of compassion much more recently, with research into this area greatly increasing in the past decade. Key contributors to the field include Paul Gilbert and colleagues in the UK, and Kristin Neff and her research team in the US. Compassion has been defined in various ways, with some suggesting it is an emotion (Goetz, Keltner & Simon-Thomas, 2010), whereas others have defined compassion as a "mindset", a basic mentality (Gilbert, 2010), and a "skill that one can train in" (Gilbert, 2009a). The Dalai Lama (1995) defined compassion as "a sensitivity to the suffering of self and others, with a deep commitment to try to relieve it". Neff (2003b) emphasised the 'non-judgmental understanding' component of compassion that is also directed towards those who have failed or made mistakes. In this view, compassion is not discriminatory, as all people, the self included, are worthy of compassion. Despite differences in definition, most theorists tend to agree that compassion involves noticing suffering and being motivated to act to change this.

Self-compassion is simply viewed as 'compassion turned inwards' and encompasses an ability to treat oneself with kindness and warmth in the face of difficult life situations and personal inadequacies (Neff & McGehee, 2010). Neff (2003b) proposed three elements of self-compassion; (1) self-kindness – being kind towards oneself when facing pain or failure rather than judgment or self-criticism, (2) common humanity – recognising suffering is part of humanity and one's own experiences fit within this, and (3) mindfulness – being aware of painful thoughts and feelings but not suppressing or exaggerating them. Neff (2003b) contextualised this definition by dispelling a number of myths about self-compassion. She highlighted that self-compassion is not being self-centred as it entails recognising interconnectedness with others rather than one being superior or more deserving. Likewise, extending compassion to oneself is not self-pitying. Self-pity is usually characterised by immersion in one's own negative emotions or problems and a

detachment from others who have similar problems. When individuals become absorbed in their own feelings, Neff (2003b) refers to this process as “over-identification”. When combined with failure or perceived inadequacies, this process can give rise to self-criticism and feelings of isolation. Therefore in Neff’s (2003b) view, the three core principles of self-compassion - self-kindness, common humanity and mindfulness - interact to enable individuals to engage with painful experiences in a kind manner that does not result in harsh self-judgments.

Gilbert and Proctor (2006) provided a similar depiction of self-compassion. They defined the term as a genuine concern for one’s wellbeing, an ability to be sympathetic and tolerant of one’s distress, and an empathic understanding of one’s suffering. In line with Neff’s (2003b) clarification on what self-compassion is and what it is not, Gilbert (2010) emphasised that a compassionate approach is a way of ‘engaging with the painful’, rather than avoidance or trying to “soothe it away”. Gilbert’s (2014) work has also documented the science behind self-compassion which forms the psycho-educational component of CFT. His work provides an explanation for the underlying biological constructs of compassion.

Gilbert’s evolutionary view considers two regions of the human brain that he refers to as the “old brain” and the “new brain”. In his book, ‘The Compassionate Mind’, Gilbert (2009b) equates the old brain to the primitive limbic areas which encompass structures including the amygdala and hypothalamus. Neuroimaging evidence suggests humans share these ‘old brain’ neuroanatomy with other animals (Davis & Whalen, 2001). These structures are thought to be responsible for the basic social motivational systems, such as living in social groups, hierarchies and alliances, reproduction-focused behaviour and care for kin, as well as functional emotional systems, including our ability to respond to threat (Gilbert, 2014). Approximately two million years ago, humans’ developed the ‘new brain’ due to vast expansion of the neocortex (Mora-Bermúdez et al., 2016). The ratio of cortex to overall brain size is approximately 80 per cent in humans which is significantly larger

than in our closest living relatives, the apes (Gilbert, 2009b). This dramatic brain expansion is thought to have enabled a new range of cognitive abilities in humans including reasoning, imagining, planning and creating a social sense of self. These 'new brain' competencies allowed large progressions for the human species, for example, in areas of technology, industry, medication, and the arts.

Gilbert's conceptualisation is similar to MacLean's (1990) triune brain theory. This model proposed that the brain consisted of two 'old' regions; the reptilian complex, otherwise known as the basal ganglia thought to be responsible for territoriality and self-protective behaviours, and the limbic system, which was implicated in motivation and emotion, particularly related to reproduction and parenting. Like Gilbert, MacLean viewed the neocortex, specific to mammals and highly developed in humans, as the new brain region. Despite criticism of the triune brain from neuroscientists for oversimplification, CFT has utilised this explanation for the potential clinical benefits in increasing brain understanding in those with limited neuroscientific knowledge. For example, Gilbert explains how the simultaneous interaction between the old brain's emotions and motives and the new brain's increased cognitive capacity leads to what CFT calls the 'tricky brain'. The 'new brain' enables us to keep turning towards suffering (Gilbert, 2009b) long after a physical threat has disappeared, as our brains are capable of continuing a threat through thought processes like rumination. Our capacity for continued 'reflection' can maintain stimulation of threat emotions and associated physiological responses which can lead to mental health difficulties.

Despite this 'design flaw' in our brains, Gilbert (2014) proposes that humans have the capacity for affiliative and caring behaviour that can organise the brain in a way that counterbalances the 'tricky' potential. He suggests the existence of a tripartite emotion system that encompasses: (1) the threat-protection system that detects dangers and can activate defence strategies, (2) the drive system which consists of positive emotions that provide information on availability of rewards and

resources and triggers motivation towards these, and (3) the soothing system, a suite of emotions associated with safeness and contentment (Gilbert, 2014). The latter two systems are separate, as Gilbert (2009a) emphasises that positive feelings associated with contentment are distinguishable from motivational emotions linked with achievement, and resource seeking. The drive system is associated with release of the neurotransmitter, dopamine, whereas the soothing system is thought to be connected to parasympathetic nervous system activity (Gilbert, 2014) including increased levels of the hormone, oxytocin, commonly referred to in the media as the “love hormone”. Clinical observations of individuals who presented with high levels of shame and self-criticism highlighted the difficulty some people experienced in feeling reassured by alternative perspectives generated by cognitive tasks and behavioural experiments in cognitive therapy (Gilbert & Procter, 2006). As previously discussed, highly self-critical people may struggle to self-soothe due to a paucity of memories of being soothed and cared for by others (Gilbert & Irons, 2004; Gilbert et al., 2006). Therefore, CFT aims to use compassionate mind training to assist people in the development of inner experiences of warmth and soothing, using compassion and self-compassion.

It is clear there are overlaps in the various outlooks on compassion and self-compassion. Both Gilbert’s and Neff’s self-compassion models have been influenced by Buddhist teachings. Neff’s theories were developed from a specific branch known as Theravada Buddhism (Neff, Pisitsungkagarn & Hsieh, 2008) whereas Gilbert’s (2009b) work was influenced by the Dalai Lama’s school of Mahayana Buddhism. Therefore, the underpinnings of each approach vary with CFT also being rooted in evolutionary, neuroscience and social psychology models. CFT was developed for use with clinical populations, especially those with chronic and complex mental health problems linked to shame and self-criticism (Gilbert, 2010) whereas Neff’s studies use non-clinical samples with a greater focus on improving wellbeing (Neff, 2003b). Crucially, both approaches acknowledge the potential

widespread benefits of cultivating self-compassion in a range of populations, including the need to develop age-appropriate interventions for adolescents.

Self-Compassion and Adolescence

In order to consider how self-compassion may be beneficial during the adolescent stage, it is necessary to revisit the earlier discussion on self-criticism. Adolescence is a pivotal stage for brain development and a time of extensive social upheaval. The interaction between these domains creates the vulnerability for self-criticism and potential mental health difficulties at this point in life. Taken together with the research on compassion, self-criticism may be reduced by cultivating self-compassion in young people. Neff (2009) proposed that self-compassion may be a central aspect of maturity given the association between self-compassion and age (Neff & Vonk, 2009). Given the numerous challenges for teens, perhaps it is not surprising that self-compassion is least prominent during the adolescent years, however, it may be the phase when self-compassion is most useful (Neff & McGehee, 2010). Self-compassion is also associated with emotional intelligence, namely the ability to regulate one's negative emotions and to see them with clarity (Neff, 2003a), which as previously discussed may be hampered in adolescents due to the changing balance in neuronal networks (Giedd, 2008).

The vast changes in the adolescent brain may give rise to increased self-criticism, however, the ongoing development may also be viewed as the perfect opportunity to influence and shape the changing neuronal connections. Findings from fMRI studies demonstrated a pre-adolescent increase in cortical gray matter prior to the observed synaptic pruning that occurs during adolescence (Giedd et al., 1999). Researchers speculated that this could indicate the criticality of the environment and activities of teens in guiding selective synapse elimination. Therefore, this life stage may be particularly susceptible to intervention, suggesting

that if self-compassion can be increased during this phase it may have longer term effects at a neuronal level.

At the centre of Gilbert's (2010) CFT approach is the concept that feeling cared for and a sense of belonging is essential for wellbeing. When present, this leads to positive affect and is associated with a specific neuro-hormonal profile that includes increased endorphins and oxytocin. Adolescents may have particular difficulty in differentiating their own cognitive concerns from those of others due to a construct specific to this stage of development known as adolescent egocentrism (Elkind, 1967). Teenagers can become wedded to a 'personal fable', a complex of beliefs that encompass the uniqueness of one's own feelings and a sense that others cannot understand this experience. Adolescent egocentrism can also contribute to the sense of an 'imaginary audience' whereby one feels their appearance and behaviour is more central to everyone else's attention than in reality (i.e. the 'spotlight' effect). Neff and McGehee's (2010) findings supported a link between adolescent egocentrism and self-compassion. Specifically, individuals that displayed the personal fable reported lower levels of self-compassion.

The idea of 'common humanity' is central to Neff's (2003b) definition of self-compassion. This feature emphasises that suffering and failure are inevitable parts of life and something all humans experience. As adolescents experience intense self-absorption in the context of limited life experience, they may not have learned that their pain is normal which could contribute to a sense of isolation and increased self-criticism (Neff & McGehee, 2010). Therefore, interventions aimed at increasing self-compassion in young people should include psychoeducation on the common humanity concept to increase understanding of shared teen experiences. This may help to address the personal fable and to reduce fears of social rejection.

Another component of self-compassion is self-kindness (Neff, 2003b). This is often framed as treating the self with a similar kindness to how one would treat a friend. Common experience suggests people find it easier to be compassionate

towards others than themselves. As the value of peer relationships increases in adolescents, the concept of re-directing compassion towards the self as you would towards your friends may be particularly accessible and relevant. Compassion-focused interventions may benefit from harnessing teens' ability to support their friends to apply to times when they are confronted with unsatisfactory aspects of themselves.

Following consideration of how the different components of self-compassion might interact with the changes experienced by adolescents, it is clear that there is potential for self-compassion to be beneficial for this age group. An overarching concept that might capture these advantages is the construct of wellbeing.

Wellbeing

The Positive Psychology movement of the early 2000's provides a backdrop for increased interest in self-compassion and its potential to improve wellbeing. Positive Psychology suggests that the predominant focus in psychological literature on the elimination of mental health difficulties stops short of addressing how to improve human subjective experience (Seligman & Csikszentmihalyi, 2000). In other words, the removal of psychopathological symptoms does not necessarily mean an individual will experience an increase in positive mental health or a satisfactory quality of life. Therefore, this movement has turned its focus to the promotion of wellbeing and personal growth.

Wellbeing is regarded as a complex construct that has far-reaching implications for empirical research, therapy, teaching and many other domains that strive to change humans for the better. In psychological research, there has been no agreed consensus on the definition of wellbeing. However, two general perspectives have emerged; hedonic wellbeing – a focus on happiness and an understanding of wellbeing as pleasure attainment and pain avoidance, and eudaimonic wellbeing –

an emphasis on meaning and self-realisation with wellbeing referring to the degree to which a person is 'fully functioning' (Ryan & Deci, 2001).

The hedonism philosophy equates wellbeing with the pursuit and maximisation of pleasure or happiness over pain and negative mood states (Kahneman, Diener & Schwarz, 1999). This concept overlaps with emotional wellbeing described as "the presence of positive or pleasant affects and the absence of negative or unpleasant affects" (Zessin, Dickhäuser & Garbade, 2015).

On the other hand, eudaimonic wellbeing does not equate subjective happiness with wellbeing but instead is achieved when individuals fulfil or realise one's daimon or true self. The daimon is "an ideal in the sense of being an excellence, a perfection toward which one strives and, hence, it can give meaning and direction to one's life" (Waterman, 1993). The eudaimonic approach is akin to what Ryff and Keyes (1995) referred to as psychological wellbeing. They presented a multidimensional approach which consisted of six aspects of human actualisation: self-acceptance, autonomy, personal growth, life purpose, environmental mastery and positive relatedness.

In summary, wellbeing has been defined in multiple ways and no conclusions have been drawn on a preferred definition. Two broad views have emerged as hedonic wellbeing and eudaimonic wellbeing. These differing perspectives add to the consensus that wellbeing is a multi-faceted construct. The variation in its definition is considered in the following section when interpreting studies investigating the association between wellbeing and self-compassion.

Self-Compassion and Wellbeing

Having considered the concepts of self-compassion and wellbeing, this review now addresses the relationship between them, initially in adults and subsequently in adolescents. The research with adults has been included in this review to provide greater context as there are relatively few adolescent studies. The

evidence with adults is more established with a larger number of studies, larger sample sizes and more rigorous methodology. The protective properties of self-compassion in young people are then explored. Lastly, a discussion is included on the comparative benefits of self-esteem and self-compassion.

Adults

In the past decade, a body of literature has emerged highlighting the association between self-compassion and wellbeing in adult populations (Zessin et al., 2015). This recent meta-analysis found medium to large effect sizes for an association between self-compassion and a range of types of wellbeing, including cognitive wellbeing and positive affect. Psychological wellbeing was most strongly correlated with self-compassion which the researchers speculated was due to the breadth of this construct as it may tap into multiple aspects of managing one's life. The results also highlighted a negative correlation between self-compassion and negative affect. Similarly, MacBeth and Gumley (2012) found a large effect size for the inverse relationship between compassion and psychopathology in an earlier meta-analysis. In summary, in adult research, self-compassion has been linked with various aspects of wellbeing, including positive affect and psychological wellbeing, while also exhibiting protective properties against mental distress.

Adolescents

As in adult research, similar patterns have been found between self-compassion and wellbeing in adolescents. Neff and McGehee (2010) provided evidence for this in their study of adolescents which included a young adult comparison group. They found self-compassion was strongly associated with wellbeing in both groups. Neff and McGehee's (2010) depiction of wellbeing was equated to lower scores on anxiety and depression measures and higher scores on social connectedness.

Other studies have also measured mindfulness and found that this concept and self-compassion were both related to measures of wellbeing including life satisfaction and negative affect, and both functioned as mediators for the other in the pathway to emotional wellbeing (Bluth & Blanton, 2014). The researchers proposed that mindfulness and self-compassion are reciprocally linked and this iterative process promotes emotional wellbeing. This research group replicated their findings in a later study with self-compassion being associated with all wellbeing measures (including perceived stress, negative affect and life satisfaction) except positive affect (Bluth & Blanton, 2015). They also found that older female adolescents were lower in self-compassion than male adolescents of the same age and younger adolescents of either gender. These gender differences in self-compassion were replicated and extended in a larger sample (Bluth, Campo, Futch & Gaylord, 2017) and again self-compassion was found to be associated with all emotional wellbeing measures. This included lower perceived stress, depressive symptoms, anxiety, distress intolerance, and higher life satisfaction. Sun, Chan and Chan (2016) found gender differences in the pathways between different self-compassion components and psychological wellbeing in a group of Hong Kong adolescents. Male participants benefitted most from mindfulness, which positively influenced their autonomy, mastery and life purpose, whereas females gained most benefit from common humanity, which had positive effects in equivalent areas of wellbeing. This study usefully considers the need to integrate gender specificity into compassion-based interventions, however, replication in other countries is required to determine whether these patterns are equivalent across cultures. These studies contribute to a growing evidence for a link between self-compassion and emotional wellbeing in adolescence and preliminary understanding of the trends within this age cohort.

Mirroring adult research, other studies have turned their focus to investigate the inverse relationship between self-compassion and negative indicators of

wellbeing, which may shed light on the protective properties of self-compassion. The first meta-analysis recently published on this topic found a large effect size for the inverse relationship between self-compassion and psychological distress (which encompassed anxiety, depression and stress) in adolescents (Marsh, Chan & MacBeth, 2018). The majority of studies adopted cross-sectional designs, however, Stolow, Zuroff, Young, Karlin and Abela (2016) examined the effect of self-compassion on depressive symptoms in children and adolescents over two time points, spaced three months apart. Higher scores on the positively-worded subscales of the Self-Compassion Scale (SCS; Neff, 2003a), comprising self-kindness, common humanity, and mindfulness, were related to greater decreases in symptoms of depression over time. Unexpectedly, they did not find an association between self-judgment, isolation and over-identification subscales of the SCS or self-criticism, and change in reported depression. This finding contradicted earlier discussed research (Campos et al., 2014; Kopala-Sibley et al., 2015) on the association between self-criticism and depression. Stolow et al. (2016) considered their results in the context of the stress-vulnerability model. The authors proposed that positive aspects of self-compassion remain protective independent of external factors on mental health, whereas negative factors may only influence depression in the presence of other stressors or difficult life situations.

Self-compassion research in adolescents has expanded further into other fields where self-compassion may benefit young people. For example, another area where social comparison and opportunity for self-criticism is rife is within sports. One study examined self-compassion as a potential resource for female adolescent athletes (Mosewich, Kowalski, Sabiston, Sedgwick & Tracy, 2011). They found self-compassion was negatively associated with a range of self-conscious emotions, such as shame, social physique anxiety and shame-free guilt, and was more able to account for these emotional experiences than self-esteem alone. Another study examined the relationship between self-compassion and sense of community in

Turkish adolescents (Akin & Akin, 2014). The authors were interested in sense of community as they viewed it as central to wellbeing, emphasising the membership or feeling of belongingness that accompany this feeling, which seems to closely link with Neff's (2003b) common humanity element of self-compassion. As expected, they found the positive components of self-compassion; self-kindness, common humanity, and mindfulness, were all related to sense of community.

Overall, current research supports a link between self-compassion and wellbeing in adolescents in a variety of settings, however, these studies have not attempted to explain the pathway that links these concepts. Many of the discussed studies have viewed wellbeing as the absence of psychopathological symptoms or have included limited measures of other aspects of wellbeing. Recently, a link was proposed between self-compassion and strengths-based attributes, including resilience and curiosity/exploration (Bluth et al., 2018). The study found that self-compassion was linked with both attributes and that the link between self-compassion and resilience was stronger among males than females. This may indicate that young people who are higher in self-compassion, are also more able to "bounce back" from difficult experiences. This would fit with the definition of self-compassion as being able to treat oneself with kindness in the face of failures. The curiosity dimension may relate to the mindfulness element of self-compassion with a focus on noticing experiences before acting on or over-identifying with them.

Self-Compassion as a Protective Factor

Given the mounting research that supports a relationship between self-compassion and wellbeing and an inverse association with psychopathology, researchers have begun to further explore the protective or buffering effect of self-compassion against negative or stressful experiences. Bluth et al. (2016b) replicated the link between higher levels of self-compassion and greater wellbeing, namely less anxiety, stress and negative affect, and greater life satisfaction and

positive affect. They extended these well-documented findings by also showing adolescents in a high self-compassion group had lower physiological stress responses to a social stress test than those who were low in self-compassion. In the adolescent life stage, a developmental phase characterised by extensive social pressures, self-compassion may be particularly helpful for enabling adolescents to cope with uncontrollable social events that have the potential to adversely affect young people's mood and future social behaviour.

Several studies have demonstrated the protective role of self-compassion in adolescent clinical populations, for example, in reducing self-harming behaviour and its associated risk factors, and in protecting against trauma-related psychopathology outcomes (Xavier, Pinto-Gouveia & Cunha, 2016; Zeller, Yuval, Nitzan-Assayag & Bernstein, 2015). Likewise, a cross-sectional study found that self-compassion moderated the strength of the relationship between maladaptive perfectionism and depression in adolescents and adults (Ferrari, Yap, Scott, Einstein & Ciarrochi, 2018).

Attention has also turned to the possible beneficial role of promoting self-compassion in school contexts. Jativa and Cerezo (2014) found that in adolescents with poor school performance, self-compassion partially mediated the relationship between victimisation, defined as exposure to violence, and psychological maladjustment. Self-compassion also appeared to protect against negative consequences of victimisation. Similarly, another school-based study showed that self-compassion buffered the negative consequences of biased-based bullying in sexual and gender minority adolescents (Vigna, Poehlmann-Tynan & Koenig, 2018). Self-compassion has also been investigated as a buffer for academic-related stress. In a Chinese study using an undergraduate sample, self-compassion was found to negatively mediate the relationship between chronic academic stress and negative affect (Zhang, Luo, Che & Duan, 2016). These findings suggest that developing self-

compassion-centred interventions in the educational context may provide specific benefits to students in school settings.

Self-Compassion and Self-Esteem

The discussed research provides a convincing account of a relationship between self-compassion and wellbeing. As Neff (2011) described it, the 'love affair' between psychology and self-esteem appears to be dwindling following the emergence of the downsides to self-esteem such as narcissism (Neff & Vonk, 2009). However, given the prominence of research on self-esteem and its benefits for wellbeing, it would be premature to 'break up' with this concept without examining the evidence further. Self-esteem appears to increase when we are succeeding, whereas self-compassion may be more influential when we are not (Gilbert, 2009a). Therefore, self-esteem is more relevant in generating favourable social comparisons and self-compassion may override this need as the focus is on noticing our similarities and common humanity with others. An Australian longitudinal study (Marshall et al., 2015) supported this theory in its findings that self-compassion moderated the influence of self-esteem on mental health. Specifically, for those young people who had higher self-compassion, low self-esteem did not impact on mental health over a one-year period, suggesting a potentially potent protective effect. Similarly, in Thai female adolescents, self-compassion was found to moderate the association between body image satisfaction and self-esteem, as the relationship weakened in those with high self-compassion (Pisitsungkagarn, Taephant & Attasaranya, 2013). These research outcomes favour the focus on fostering self-compassion, rather than self-esteem, in adolescents.

Contrastingly, Donald et al. (2018) aptly named their study 'a worthy self is a caring self' following findings that self-esteem predicted changes in self-compassion across a four year study, but not vice versa. They proposed that self-esteem is a

necessary antecedent to the development of self-compassion which contradicts Marshall et al.'s (2015) findings. Evidence from adult populations has found benefits of self-compassion over self-esteem in relation to feelings of self-worth (Neff & Vonk, 2009). Therefore, these discrepancies in this relatively new area of research emphasise the requirement for further investigation in adolescents.

Summary of Self-Compassion and Wellbeing

Like in the adult population, a link has been found between self-compassion and wellbeing in adolescents. The benefits of self-compassion for young people have been demonstrated across a range of contexts including sports and educational settings. Mindfulness has also been investigated as a related factor and evidence supports a reciprocal link with self-compassion. This corroborates Neff's (2003a) inclusion of mindfulness as a component of self-compassion although it raises questions about whether they are separate or overlapping concepts. Evidence suggests self-compassion tends to be lower in females but further research needs to investigate variations in gender differences within the components of self-compassion, such as self-kindness and common humanity. Preliminary investigation into the pathway linking self-compassion and wellbeing suggests strength-based attributes of resilience and curiosity may be important aspects of the mechanism. Self-compassion has also demonstrated a protective function against psychological distress, including reductions in physiological responses in stressful social situations, in self-harming behaviour and in the negative consequences of victimisation. Overall, the current research builds a strong case for developing compassion-based interventions for adolescents.

Compassion-Based Interventions

So, research supports a link between self-compassion and wellbeing in adolescents, which is in line with findings from earlier adult studies. Given the

growing evidence for an array of benefits associated with self-compassion, interventions have recently been developed that focus on cultivating self-compassion in adults, both in clinical and non-clinical populations. At present, research on compassionate interventions for adolescents remains in its infancy. Therefore, this review will now outline the existing evidence, first in an adult context and then will discuss the preliminary adolescent studies. The adult studies are included to demonstrate the range of compassion-focused interventions and the potential for their beneficial impact. However, it is recognised that it might not be possible to generalise these findings to an adolescent population.

Adults

The most eminent compassion-based interventions for adults are Paul Gilbert's (2010) CFT and Kristin Neff's Mindful Self-Compassion (Neff & Germer, 2013). However, a number of other similar interventions have been developed which have been evaluated using randomised controlled trials, including Compassion Cultivation Training (Jazaieri et al., 2013), Cognitively Based Compassion Training (Owaza-de Silva & Negi, 2013), and Cultivating Emotional Balance (Kemeny et al., 2012). Further exploration of these programmes extends beyond the scope of this review. For a more detailed description of the six empirically supported compassion interventions, see Kirby (2017).

Research with adults has shown that self-compassion is a modifiable trait. Interventions that use principles from CFT have resulted in beneficial psychological outcomes including increases in reported self-compassion and reductions in symptoms of psychopathology. A recent meta-analysis (Kirby, Tellegen & Steindl, 2017) identified 21 randomised controlled trials (RCTs) evaluating compassion-based interventions in adult populations. Moderate effect sizes were found for increases in compassion, self-compassion and mindfulness. Moderate effects were also found for reductions in depression, anxiety and psychological distress. These

findings were maintained when compared with the control groups. One study included a brief self-compassion meditation training that led to improvements in body satisfaction and self-compassion, and reductions in body shame in women (Albertson, Neff & Dill-Shackleford, 2015). Additionally, an eight-week 'Mindful-Self-Compassion Program' developed by Neff and Germer (2013), led to large increases in self-compassion, mindfulness and wellbeing, in comparison to a waitlist control, that were maintained at a one-year follow-up.

Many adult studies have recruited undergraduate samples, a group close in age to adolescents, therefore their findings may shed light on useful interventions for younger people. For example, Smeets, Neff, Alberts and Peters (2014) compared a three-week self-compassion intervention for female college students with a time management skill group. The self-compassion intervention led to greater increases in self-compassion, mindfulness, optimism and self-efficacy, and greater decreases in rumination, in comparison to the active control. Importantly, they found it was possible to increase self-compassion (on average by 21%) following a relatively brief self-compassion intervention. In another study with undergraduate students, Breines and Chen (2012) found that self-compassion training, in comparison to three control groups, a self-esteem group, a no intervention group and a positive distraction group, increased self-improvement motivation after making a mistake. Specifically, participants reported greater motivation to avoid repeating a mistake and they dedicated more time to studying for a difficult test following initial failure. Interestingly, Neff, Hsieh and Dejitterat (2004) found self-compassion was associated with more adaptive academic motivational patterns in university students. Self-compassion was positively related to selection of mastery goals when learning and negatively linked with performance-focused goals. This suggested individuals who lacked self-compassion may have tried to enhance their self-worth by exhibiting superior performance to others rather than viewing learning as a self-

improvement opportunity. These findings may have relevance for younger people in school settings who are regularly faced with academic challenges.

Adolescents

As previously discussed, adolescence is a critical developmental period characterised by a range of challenges. Therefore, this life stage is an essential time to promote psychological wellbeing and to prevent the development of mental health difficulties. Research has demonstrated the association between self-compassion and emotional wellbeing in adults and adolescents (Zessin et al., 2015; Marsh et al., 2018). Consequently, cultivating self-compassion may be beneficial in enabling young people to develop resilience and the ability to approach arising difficulties.

At present, few studies have examined the effect of compassion-focused interventions in adolescents. A pilot study of a six-week mindful self-compassion programme for adolescents, 'Making Friends with Yourself' (MFY) showed promising results (Bluth et al., 2016a). Their sample included 34 adolescents and they found increases in self-compassion and lower levels of depression in the intervention group compared with the waitlist control. Additionally, Bluth and Eisenlohr-Moul (2017) investigated adolescents' responses to an extended eight-week MFY course. The study included 47 participants and found a decrease in stress following attendance of the programme, and a non-significant decrease in anxiety or depression. These studies provided the first evidence that an intervention aimed at increasing self-compassion may have beneficial outcomes for teenagers. However, Bluth and Eisenlohr (2017) were limited in their ability to draw conclusions due to their lack of inclusion of a control group.

Reddy et al. (2013) delivered a six-week Cognitive-Based Compassion Training (CBCT) pilot for adolescents in foster care. The study benefited from a larger sample of 70 adolescents, however, they found no differences on psychosocial functioning measures between the CBCT group and a wait-list control.

Qualitative feedback suggested participants benefited from the group in managing daily life stressors, regulating emotion and responding more compassionately towards others. Additionally, they found an association between frequency of meditation practice and self-reported hopefulness, and lowered anxiety. Other interventions have been developed to be delivered through a mobile phone application, presumably as adolescents are the largest users of smart phones (Statista, 2018) therefore being a potentially accessible format. BodiMojo, a mobile intervention, led to increases in self-compassion and appearance esteem relative to a control group (Rodgers et al., 2018). In 2015, a pilot study conducted by Bluth, Roberson and Gaylord investigated the effect of a mindfulness intervention, that included teaching on self-compassion, in healthy adolescents. They found improvements in self-compassion, mindfulness and perceived stress post-intervention. Self-compassion was also negatively related to perceived stress post-intervention highlighting the potential protective role of self-compassion in buffering against distress. However, this study was uncontrolled and only recruited a small sample of 28.

A number of other studies have investigated mindfulness interventions and their impact on self-compassion. Neff (2003b) proposes that self-compassion and mindfulness are closely related concepts, so much so that she included mindfulness in her definition of self-compassion. Adolescents who attended a five-day meditation retreat were found to experience increases in self-compassion, mindfulness and emotional wellbeing post-intervention (Galla, 2016). They used a baseline comparison in which no changes in these measures were detected. Interestingly, within-person increases in self-compassion were more consistently able to predict improvement in a range of wellbeing measures, including depressive symptoms and positive and negative affect, than increases in mindfulness. A small-scale study investigating the impact of a Mindfulness Based Stress Reduction (MBSR) course on 20 Latino adolescents found similar results (Edwards, Adams, Waldo, Hadfield &

Biegel, 2014), with increases in mindfulness and self-compassion, and decreases in perceived stress and depression. However, there was no inclusion of a control group.

Galla (2016) discussed the challenges of implementing mindfulness interventions in school settings. Teachers shared concerns about a lack of time and scheduling difficulties that acted as barriers to developing mindfulness-based programmes. However, Kang et al. (2018) argued for the potential benefits of delivering mindfulness interventions in schools. They highlighted the school environment as an ideal non-clinical context for preventative training like mindfulness to target problematic behaviours before they reach a clinical severity. In a larger study that included 100 participants, a six-week mindfulness training led to greater increases in emotional wellbeing than a non-meditating control group (Kang et al., 2018). They also found that increases in self-compassion were associated with improvements in affect in female but not male students. The current research suggests that self-compassion can be increased in adolescents, and that this may be equally facilitated by interventions that focus on teaching self-compassion skills or mindfulness.

The value of compassion-based approaches has been recognised and initial steps have been taken to integrate the principles into educational settings. Welford and Langmead (2016) introduced a systemic compassion-based initiative that included students, staff and parents, in South Western English schools. Initial findings were positive with schools reporting increases in staff wellbeing and parental engagement, and a decrease in low level disruptive behaviour in students. Formal evaluation of their scheme is underway although they have not yet published their results.

The present findings for compassion-focused interventions in adolescents are promising but limited by small sample sizes, uncontrolled designs and little attempt to identify mechanisms contributing to changes in self-compassion or other

benefits. Therefore, future research must be conducted to address these deficits and to clarify the necessary components of interventions for adolescents that will bring about increases to inner compassion and decreases to self-criticism.

Conclusions

A review of the literature has shown mental health difficulties are increasing in adolescents. Schools are under pressure to support students with these issues yet they are concurrently faced with limited funding and expertise. Prevention-focused interventions may be one avenue to address this mental health crisis in young people. The numerous biological and social changes that adolescents experience can increase vulnerability to self-criticism. This negative form of self-relating has been recognised as a risk factor for psychopathology, therefore, making it a potential target for intervention in adolescents. Researchers have begun to view self-compassion as a modifiable trait that can buffer against self-criticism. This review found that research supports a relationship between self-compassion and wellbeing in adolescents, which mirrored findings in adult populations. Additionally, self-compassion exerted protective properties, including mitigating the effects of stress. These findings point towards the benefits of developing compassion-focused initiatives for adolescents. Several studies investigating the effect of compassion-focused interventions for adolescents have found promising outcomes, including increases in self-compassion and wellbeing measures. However, this preliminary research has mainly included pilot studies that were limited by small sample sizes or uncontrolled designs. Future research is necessary to address the current limitations and to clarify the most effective interventions for cultivating self-compassion and reducing self-criticism in adolescents. Therefore, the empirical study in Part 2 was developed to investigate the effectiveness of two types of compassionate interventions for adolescents when compared with a control group in school settings.

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Part 2: Empirical Paper

Cultivating Self-Compassion and Reducing Self-Criticism in a Brief Intervention for Adolescents.

Abstract

Aims. This study aimed to investigate the effect of a compassion-focused imagery intervention and a compassionate psycho-education intervention on levels of self-compassion, self-criticism and state mood compared with a control condition in healthy adolescents.

Method. Fifty-one participants were randomly allocated to a compassionate imagery and psychoeducation group, a compassionate psychoeducation group or a no-intervention control. The interventions were delivered in three secondary schools in London. State measures of self-compassion, self-criticism, and mood were collected at pre- and post-intervention, and at a two-week follow up. Participants were asked to complete daily homework tasks related to each intervention.

Results. Self-compassion was found to increase with a large effect size following the psychoeducation group but not in the imagery condition. Contrasting patterns were found across groups for different elements of self-compassion. Compassionate behaviour increased in the imagery group with a large effect size but not in the psychoeducation group, and uncompassionate behaviour decreased only in the psychoeducation condition with a medium-to-large effect size. Higher levels of self-compassion were associated with lower levels of self-criticism at baseline, however, no effects were found on self-criticism and state mood following the interventions.

Conclusions. This randomised-controlled study provided evidence for the potential of a brief compassionate psychoeducation intervention to increase self-compassion in adolescents. The results were inconclusive on the impact of compassionate mental imagery but it may be effective at enhancing the 'positive elements' of self-compassion, including self-kindness, mindfulness and common humanity. The absence of an effect on self-criticism suggests the potential existence of different pathways to enhancing self-compassion and reducing self-criticism. Future research is needed to address the shortfalls of this exploratory study, which was limited by a small sample size.

Introduction

The introduction is organised into several sections beginning with a summary of the known brain changes that occur in the adolescent life stage. This is followed by consideration of how these biological developments interact with environmental and social pressures in adolescence to increase vulnerability to self-criticism and subsequently, mental health difficulties. Next, an outline of self-compassion is provided and its potential to improve wellbeing and to combat self-criticism is examined. The literature is then reviewed on compassion-focused interventions, briefly in adults and then in adolescents. Subsequently, the therapeutic technique of compassionate imagery is discussed and considered as a means of developing self-compassion. Finally, the introduction concludes by presenting the aims of the present study and the related hypotheses.

Adolescence

Adolescence is an important developmental stage which involves many biological changes alongside numerous emerging social challenges. Recent research has increased understanding of the major structural brain developments during adolescence, including a shifting balance between frontal and limbic regions and synaptic reorganisation (Blakemore & Choudhury, 2006). Researchers have suggested these changes contribute to altered executive functioning and increased sensitivity to social input (Giedd, 2008; Blakemore & Choudhury, 2006). Executive function encompasses a range of cognitive processes including attention, emotion regulation, decision making and self-awareness (Sawyer et al., 2012). These changes are thought to contribute to increased introspection and social perspective taking abilities (Keating, 1990). These developments may be viewed as advantageous, however, at the time of this neurological upheaval, adolescents also face a changing relational landscape and a continual process of developing their identity as they move towards adulthood. The result is that newfound cognitive

abilities interact with pressures to “fit in” socially, perform academically and concern about being attractive to others, which can lead to unfavourable comparisons with others and increased vulnerability to engage in self-criticism (Neff, 2003b). For a more detailed exploration of the biological and social changes in adolescence, please see Chapter 1 (pp 14-17, 22-24).

The multitude of changes adolescents face has a clear impact on wellbeing, with 16.9% of teenagers reporting mental health difficulties in a recent survey (NHS Digital, 2018). Prevalence rates have been found to increase over the past few decades, which is a concern in the current context of funding cuts to NHS services. This means schools are under immense pressure to support children and adolescents with mental health difficulties. Schools are well placed to intervene due to the substantial contact time with their students, however, they are restricted in implementation due to lack of time, funding and expertise (Children’s Commissioner, 2016). One possibility is turning attention to brief preventative interventions that aim to foster wellbeing and reduce vulnerability to mental health problems. This approach has become popular with the rise of Positive Psychology which aims to extend beyond the reduction of distress to increase positive mental health and wellbeing (Seligman & Csikszentmihalyi, 2000). Kessler et al. (2005) found that 75% of mental health problems were established by the age of 24. This highlights the importance of improving our understanding of risk factors and early intervention, for which adolescence is an opportune period.

Self-Criticism

An important process underlying current and future wellbeing is self-to-self relating, which when problematic, often takes the form of self-criticism. Gilbert and Procter (2006) defined self-criticism as a form of self-harassment that involves self-focused attention and negative self-evaluations. An abundance of research has found self-criticism to be a risk factor for depression and a range of other

psychopathology in adults (Kannan & Levitt, 2013). Blatt, Schaffer, Bers and Quinlan's (1992) study provided support for this relationship in adolescents as they consistently found an association between their self-criticism scale, the Depressive Experiences Questionnaire for Adolescents (DEQ-A), and several measures of depression, including the children's form of the Community Epidemiological Survey of Depression (CES-DC; Radloff, 1977) and the Children's Depression Inventory (CDI; Kovacs, 1982). Similarly, self-criticism has been linked with maladjustments in life, such as lower satisfaction with relationships (Zuroff, Koestner & Powers, 1994) and self-harm behaviour (Xavier, Gouveia & Cunha, 2016).

Gilbert and Irons (2004) proposed an explanation for the pathogenic quality of self-criticism. They suggested highly self-critical individuals experience their external and internal worlds as threatening due to a lack of ability to self-soothe, possibly due to limited experiences of being soothed and cared for by significant others. Several researchers, namely Paul Gilbert and colleagues in the United Kingdom (Gilbert & Procter, 2006) and Kristin Neff (2003b) in the United States, postulated that self-compassion could serve as a remedy for self-criticism, and therefore may be a potential avenue for intervention.

Self-Compassion

No concrete definition of self-compassion exists in the literature. Neff and McGehee (2010) suggest self-compassion is 'compassion turned inward' and comprises an ability to treat oneself with kindness and warmth in the face of difficult life situations and personal inadequacies. Neff (2003b) proposed three elements of self-compassion; (1) self-kindness rather than self-judgment, (2) common humanity, in contrast with isolation and (3) mindfulness versus over-identification with emotional experiences. Similarly, Gilbert and Proctor (2006) suggested self-compassion is a genuine concern for one's wellbeing, an ability to be sympathetic and tolerant of our distress, and an empathic understanding of one's suffering.

Neff's and Gilbert's explanations of self-compassion stem from different philosophies, however, there are overlaps in their definitions and crucially both accounts view self-compassion as an 'antidote' to self-criticism.

Self-Compassion and Wellbeing

Research has suggested that self-compassion is strongly related to psychological wellbeing. Interest in this concept has soared with the increased focus on positive psychology (Seligman & Csikszentmihalyi, 2000) as previously discussed. Zessin, Dickhäuser and Garbade (2015)'s meta-analysis of studies from the past decade found a medium to large effect size for this association in adults. More recently, research interest into the beneficial effects of self-compassion in adolescents has grown. Neff and McGehee (2010) found self-compassion in both adolescents and adults was strongly associated with wellbeing. Bluth et al. (2016b) replicated these findings and found teenagers with high self-compassion also showed a lower physiological stress response to a laboratory social stressor than those who were low in self-compassion. The potential protective nature of self-compassion in adolescents was also supported by a meta-analysis that found a large effect size for the inverse relationship between self-compassion and psychological distress (Marsh, Chan & MacBeth, 2018). These outcomes are in line with Neff's (2003a) finding that self-criticism was negatively correlated with self-compassion as measured by the Self-Compassion Scale (SCS). These studies highlight self-compassion as a potential target for interventions in young people, suggesting that increasing self-compassion in adolescents may foster recovery from adversity in early life and protect against future negative experiences.

Neff's (2003b) definition of self-compassion paved the way for the development of the widely used SCS, which includes six factors. Debate has emerged over the factor structure of the scale with some scholars questioning the inclusion of negative components of self-compassion due to the potential for an

overinflated relationship with psychopathology (Muris, 2016). Neff (2016) defended the validity of the SCS, stating that it is consistent with her definition of self-compassion. Neff argued that reducing it to a bi-dimensional scale, whereby the positively-worded factors represent self-compassion and the negatively-worded factors indicate self-criticism, would result in a collapse of the distinction between key elements of how people respond, understand and pay attention to their suffering. However, she also outlined future directions for research as examining subscale scores separately to further understanding of self-compassion at a more detailed level. She recommended viewing the positive and negative self-compassion subscales as composite scores that indicate 'compassionate' and 'uncompassionate' behaviour, respectively.

Stolow, Zuroff, Young, Karlin and Abela (2016) investigated the effect of self-compassion on depression in adolescents over a three-month time period. Interestingly, they found the 'compassionate' behaviours subscale on the SCS (Neff, 2003a), comprising self-kindness, common humanity, and mindfulness, was associated with reduction in depressive symptoms, whereas the 'uncompassionate' behaviours subscales were not related to change in depression. Gender differences in the benefits of different self-compassion elements have also been found in a group of Hong Kong adolescents, with males benefitting most from mindfulness and females noticing most improvement from common humanity (Sun, Chan & Chan, 2016). These variations suggest the need for further examination of the different subscales of the SCS to better understand the mechanisms that lead to improvements in wellbeing and reduction in distress.

Compassion-Focused Interventions

Interventions aimed at cultivating self-compassion in adults have been developed in clinical (Compassion-Focused Therapy; Gilbert, 2010) and non-clinical populations (Mindful Self-Compassion; Neff & Germer, 2013). Results of a recent

meta-analysis indicated moderate effect sizes for the impact of compassion-focused interventions on increases in self-compassion and decreases in psychological distress, in adults (Kirby, Tellegen & Steindl, 2017). Smeets, Neff, Alberts and Peters (2014) compared a self-compassion intervention for college students with a time management skill group. The self-compassion intervention led to greater increases in self-compassion, and greater decreases in rumination, compared with the control group. The authors recommended replicating their intervention with adolescents to target this crucial developmental stage.

At present, there are few studies that have investigated the effectiveness of compassion-based interventions in a younger population. Despite the inevitable challenges adolescents face, this period of neuroplasticity and developmental growth may offer a "window of opportunity" when cultivation of adaptive coping skills may be most beneficial (Bluth, Mullarkey & Lathren, 2018). A pilot study of a six-week mindful self-compassion programme for adolescents showed promising results for enhancing self-compassion and reducing depression, however its sample size was only 34 (Bluth, Gaylord, Campo, Mullarkey & Hobbs, 2016a). A subsequent slightly larger study that included 47 participants extended this intervention and also found reductions in stress and increases in resilience (Bluth & Eisenlohr-Moul, 2017). A number of mindfulness programmes have also been trialled with adolescents with some demonstrating improvements in self-compassion although this sample was also small with only 28 participants (Bluth, Roberson & Gaylord, 2015). Additionally, none of these studies included a control group and the prominent focus on mindfulness in some means interpretation is not directly comparable to other compassion interventions.

Welford and Langmead (2016) adopted the compassion-focused approach to apply principles systemically across English schools by targeting students, staff and parents. Preliminary findings included reports of improved staff wellbeing and less disruptive behaviour in students, however, formal results of their study have not

yet been published. Evidence for compassionate approaches with adolescents is promising but limited by small samples and uncontrolled designs, therefore, further research is needed to develop effective interventions for this group.

Compassionate Imagery

One of the main techniques used in Gilbert's (2010) CFT for clinical populations is compassionate imagery. Imagery is now used in a variety of psychotherapeutic approaches including Cognitive Behavioural Therapy and Psychodynamic therapy (Singer, 2006). CFT proposes the existence of two cognitive pathways, one that is self-critical and one that is self-kind, which inhibit one another (Gilbert & Irons, 2004). The self-critical pathway may be dominant in individuals who have had few experiences of receiving warmth and kindness from other people. Lee (2005) suggested supporting individuals to generate self-soothing memories followed by practice using these images, may result in a retrieval advantage in the context of self-criticism.

Several studies have investigated the effects of compassionate imagery interventions. Gilbert and Procter (2006) found reductions in self-criticism, depression and anxiety, and an increase in self-soothing ability in individuals who attended a 12-week Compassionate Mind Training. One-off compassion-focused imagery (CFI) interventions have demonstrated some beneficial effects (Kelly, Zuroff, Foa & Gilbert, 2010; Ascone, Sundag, Schlier & Lincoln, 2017). However, these studies' outcomes were limited. For example, in one, the control condition was equally effective, and in the other, effects on self-criticism were not evident, possibly due to the brevity of these interventions. In a longer CFI intervention, participants reported benefiting from the training, however the decrease in self-criticism was not significant (Gilbert & Irons, 2004). Due to the exploratory nature of current studies on compassionate imagery, further research is needed to determine its effectiveness by including control groups and using larger samples.

Findings from functional magnetic resonance imaging (Lutz, Brefczynski-Lewis, Johnstone & Davidson, 2008) uncovered brain changes linked with practising imagining compassion for others, specifically changes in the frontal cortex, that enhanced individuals' empathic responses to social stimuli. This research supports the theory that compassionate meditation can lead to distinct neurobiological changes that can enhance sensitivity to distress. Rockliff, Gilbert, McEwan, Lightman and Glover (2008) found low self-critics experienced an increase in heart rate variability and a reduction in cortisol levels in response to CFI, possibly indicating a self-soothing effect, however, those with high levels of self-criticism displayed the opposite effect. This corresponds with studies that have shown highly self-critical individuals find it difficult to create compassionate images (Gilbert, Baldwin, Irons, Baccus & Palmer, 2006).

Common experience suggests many individuals are often much harsher and critical towards themselves than they would be toward those they care about or even toward other unfamiliar people. Consequently, Falconer et al. (2014) used virtual reality (VR) technology to assist participants in viewing themselves giving and receiving their own compassion using a perspective shift paradigm. This method required participants to first practise providing compassion towards a young person and then to imagine they were on the receiving end of their 'own' compassion. Observation and practice of compassionate responses reduced self-criticism. Additionally, the VR embodiment experience, which is a technique that creates the illusion that the virtual body is actually the participant's body, increased self-compassion. However, when Holden (2015) contrasted the VR approach with traditional mental imagery, they were found to be equally effective at increasing self-compassion and reducing self-criticism in adults. This may have been due to the use of a non-clinical sample. Previous research has found that highly self-critical individuals are less able to generate compassionate imagery, perhaps due to

missing internal representations following a lack of compassionate figures in childhood (Gilbert et al., 2006).

Existing research has demonstrated that compassionate imagery has led to improvements in self-compassion and self-criticism in adult populations. However, the impact of this type of intervention has not been investigated in adolescents. To my knowledge, no studies have attempted to deliver a compassionate imagery intervention to adolescents in a group format. However, there are existing studies that have included group mindfulness exercises for adolescents. For example, Reddy et al. (2013) discussed how they were able to teach mindfulness skills in group sessions to children in foster care who also had socio-behavioural difficulties.

State Mood

The discussed imagery studies (Falconer et al., 2014; Holden, 2015) also measured positive and negative affect. Despite these studies not finding an effect following their intervention, it might be possible for decreases in self-criticism to reduce negative affect and for increases in self-compassion to enhance positive affect. Past studies also included adult participants and so the present study included these measures to investigate this phenomenon in adolescents.

Research Aims

Currently, few studies have investigated the effect of compassion-focused interventions in adolescents and preliminary research has been limited by small sample sizes and no control groups. Likewise, research has not investigated the effect of the imagery component in compassion-focused interventions by comparing with an equivalent intervention. The present study aimed to investigate whether two compassion-focused interventions, one psycho-education alone and the other with an additional imagery component, are beneficial for adolescents, compared with a control group. Another aim was to determine whether the imagery intervention was

any more effective at improving self-compassion and reducing self-criticism compared with the compassionate psychoeducation intervention. The compassionate imagery will include the perspective shift element used by Holden (2015), thus providing further opportunity to explore the effectiveness of this imagery methodology.

Hypotheses

Each hypothesis has been labelled to aid the reader's understanding in future sections.

1. In line with previous research (Neff, 2003a), individuals who have low levels of self-compassion at baseline are expected to have high levels of self-criticism (H1).
2. It is hypothesised that there will be a greater increase in self-compassion and positive affective states and a greater reduction in self-criticism and negative affective states in both intervention groups compared with the control group (H2).
3. Given that imagery is a central tenet to CFT and has been shown to increase self-compassion, it is hypothesised that there will be greater improvements in self-compassion and self-criticism in the imagery group than in the psycho-education group (H3).
4. Similarly, it is expected that there will be a greater increase in the positive self-compassion ('compassionate behaviour') subscale score and a greater decrease in the negative self-compassion ('uncompassionate behaviour') subscale score in both intervention groups compared with the control group. The self-judgment score which makes up a third of the uncompassionate behaviour score is also expected to decrease in the intervention groups. These changes are hypothesised to be greater in the imagery group than in the psycho-education group (H4).

Method

Design

This research was an exploratory randomised control study that used a 3x3 (conditions x time) group-comparison mixed design. Participants who met the inclusion criteria were randomly allocated to one of three conditions: (1) a psycho-education group, (2) a psycho-education group with an additional imagery component or (3) a control group. The observations of self-compassion, self-criticism and state mood were conducted at three time points (pre-, post-intervention and two-week follow-up). The study was jointly designed and co-facilitated by another Clinical Psychology doctorate student (see Tweedale, 2019).

Participants

Participants were 51 healthy adolescents (39 female, 12 male) sampled from years 12 and 13 in three London secondary schools. The inclusion criteria were that participants were 16-18 years old and attending one of the included schools (see Ethical Considerations below). Participants were excluded if they reported currently engaging with psychological therapy for a mental health difficulty. Of the participants, 59% were 16 years old, 33% were 17, and 8% were 18 years old. Participants reported a range of ethnicities, including White British (27%), any other White (14%), Asian/Asian British (14%), and Black/Black British African (12%). A number of other ethnicities made up less than 6% each of the sample**.**

Power Analysis

No previous studies have investigated the effectiveness of a compassionate imagery intervention in adolescents. The majority of studies investigating the effectiveness of compassionate imagery interventions in adults have been exploratory and have not included a control group (Gilbert & Proctor, 2006; Gilbert & Irons, 2004). Kelly et al. (2010) investigated the effectiveness of a brief

compassionate imagery intervention and reported a small-to-medium effect size, however this was aimed at smoking cessation in adults. Smeets et al. (2014) found a significant increase in self-compassion in young adults following a self-compassion focused intervention in comparison with a time management control. A recent study found similar results following a mindful self-compassion intervention in adolescents (Bluth and Eisenlohr, 2017). Both studies reported large effect sizes, however, the interventions did not investigate the imagery component.

As this is an explorative study, a balance was sought between feasibility and clinical interest. The statistical programme, G*Power3.1.5 (Faul, Erdfelder, Buchner and Lang, 2009), was used to calculate sample size for a mixed-ANOVA based on a small to medium effect size of Cohen's f=.17 for the interaction between time and condition (with alpha set at .05 and beta set at .8, number of groups was three and number of measurements was three) which suggested a minimum total sample size of 72.

Ethical Considerations

Ethical approval for this study was sought and obtained from the University College London (UCL) Research Ethics Committee (REC) (see Appendix B). All participants were provided with an information sheet about the study (see Appendix C), and were given the opportunity to ask questions, before being asked to provide consent online. The UCL REC's guidance (n.d.) states that young people aged 16-18 with sufficient understanding are able to provide consent to participate in research independently of their parents and guardians. Therefore, parental consent was not sought. However, the British Psychological Society (2001) best practice for working with 16-18-year-olds recommends encouraging young people to discuss participation with parents. We also provided parent information sheets (see Appendix D) to aid this discussion. One school requested parental consent in line with their own policy. This was obtained using signed paper slips which were

returned to the researcher at the first session. Informed consent was collected online for all participants (see Appendix E). All measures were considered innocuous. Participants were also informed they had the right to withdraw from the study at any time without giving a reason. Data from the study was anonymised and kept confidential. Participants were sent a debrief email after the study ended and results were emailed to students who requested a copy (see Appendix N).

Measures

Self-Compassion Scale (SCS) (Neff, 2003a)

This 26-item self-report questionnaire measures self-compassion across six factors; self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Participants rate responses to items, such as 'I try to be loving towards myself when I'm feeling emotional pain', on a five-point scale, ranging from '1= almost never' to '5 = almost always'. The SCS demonstrated good concurrent validity, convergent validity and discriminative validity (Neff and McGehee, 2010). Neff (2003a) reported that the internal consistency of the SCS was .92 and test-retest reliability was .93. Several studies have validated the use of the SCS with adolescents (Cunha, Xavier and Castilho, 2016; Muris, Meesters, Pierik and de Kock, 2016). Additionally, the internal consistency reliability of the self-judgment subscale alone was .77. The scoring for the SCS was computed by calculating means of subscale item responses and the total was obtained as the mean of all six subscale means, in accordance with Neff's (2003a) scoring instructions. Higher scores reflect higher levels of self-compassion.

Depressive Experiences Questionnaire for Adolescents (DEQ-A), shortened version (Fichman, Koestner and Zuroff, 1994)

This is a 20-item self-report questionnaire, which includes items that measure dependency and self-criticism in adolescents. In this study, we only used the eight

self-criticism items. Participants rate responses to statements, such as 'I often find that I fall short of what I expect of myself', on a four-point scale, ranging from 'really true of me' to 'not at all true of me'. The internal reliability of the 8-item self-criticism scale was acceptable (α = .65) and it was strongly related to full-length scale scores (r = .77) (Fichman, Koestner and Zuroff, 1994). A total DEQ-A self-criticism score was obtained by firstly coding reverse items, and then summing the eight scores. Lower scores reflect higher levels of self-criticism.

International Positive and Negative Affect Schedule Short Form (I-PANAS-SF) (Thompson, 2007)

This is a 10-item self-report questionnaire that measures state positive and negative mood. Participants rate responses to different affects, for example 'upset' and 'attentive', on a five-point scale (1= not at all, to 5 = very much so). The I-PANAS-SF demonstrated good internal consistency with Cronbach's alphas of .78 for the Positive Affect (PA) scale, and .76 for Negative Affect (NA) scale (Thompson, 2007). A score was calculated for each scale by adding the individual item scores.

Frequency of homework completion

Participants in intervention groups were asked to follow a link that was emailed to them each day to complete the homework task. Completion rates were recorded.

Acceptability of interventions

At the end of the three-session interventions, participants were asked to complete a feedback questionnaire that included Likert scale items that asked about how interesting, useful, and applicable the sessions were and how likely they would be to recommend the sessions. Some qualitative feedback was collected on which aspects of sessions they found most useful, how the sessions could be improved and how they found the imagery practice (see Appendix H).

Additional measures

As this study was a joint project, three other measures were also collected (see Tweedale, 2019).

Participants in the imagery condition were also asked to complete the following measures during the sessions and as part of the daily homework tasks:

Imagery vividness

This questionnaire was based on the Vividness of Visual Imagery Questionnaire (Marks, 1973) and adapted to be applicable to imagery in this study (see Appendix G). It asks participants to rate how much they were able to imagine aspects of the imagery, such as 'see the facial expressions of the image' and 'receive compassion' on a five-point scale which ranges from, 1 = 'perfectly clear and vivid as real seeing' to 5 = 'no image at all, you only "know" you are thinking of the object'. Lower scores reflected greater imagery vividness.

Focus

Participants were also asked to rate their ability to stay focused during the imagery task on a five-point scale ranging from 1 = 'I wasn't able to focus at all during the task' to 5 = 'I was able to focus for the duration of the task'.

Procedure

Development of Materials

A focus group was held at one of the schools with 14 year 12 students (female = 11, male = 3). The purpose was to gain feedback on the recruitment plan, for example the acceptability of the poster, and the relevance of psycho-education materials for their cohort, including television characters used to demonstrate key concepts. Consent was obtained from students prior to their participation.

Psycho-education materials and session content (see Appendix I) for the intervention groups were developed by the researchers and based on Neff's and Gilbert's self-compassion research. Information on adolescence was incorporated from recent research, including Blakemore and Choudhury's (2006) paper. Materials were reviewed by a researcher in the field of self-compassion and amended based on her feedback. The script used in the imagery exercise was previously developed from CFT theory (Gilbert, 2010) and adapted from versions used in previous research (Falconer et al., 2014; Holden, 2015) for use with adolescents. Firstly, participants were asked to imagine being compassionate towards a friend rather than a young girl, as adolescents are likely to be more able to relate to peers given that they rate these relationships highly (Buhrmester, 1996) and are strongly influenced by peers (Blakemore & Robbins, 2012). Imaginary scenarios were also adapted based on feedback from participants who attended the focus group to include relevant examples for teenagers, such as imagining a friend is upset because they have not done as well in their exams as their peers or as they have received nasty text messages from others in the year group.

Participant Identification and Recruitment

Schools were recruited through researchers' personal links. The study was advertised by posters displayed in schools (see Appendix J) and teachers were asked to disseminate information about the study during assemblies and to their classes. Recruitment aimed to target students who identified as self-critical. We attended each school to run an information session on the study outside of class times in two schools and during a compulsory assembly in one school. The information session explained the rationale for the study, the potential benefits and drawbacks of taking part and an overview of what participation would involve. As an incentive for participation, students were informed that they would be entered into a prize draw for One4All shopping vouchers (valued between £10 and £50) if they

took part. Students were given the option to sign up to the study at the information session or to email the researchers within several days. Students who were unable to attend the information session were asked to email the researchers who sent them information sheets and asked them to opt in if they wanted to take part. Once the deadline for signing up had passed, volunteers were randomly allocated to one of the three conditions. Random allocation was completed using an online programme called the Research Randomizer Version 4 (Urbaniak & Plous, 2013). An email was sent to participants informing them which group they had been assigned to with further instructions on how to complete consent and baseline measures. Flow of participants through the study is shown in Figure 1.

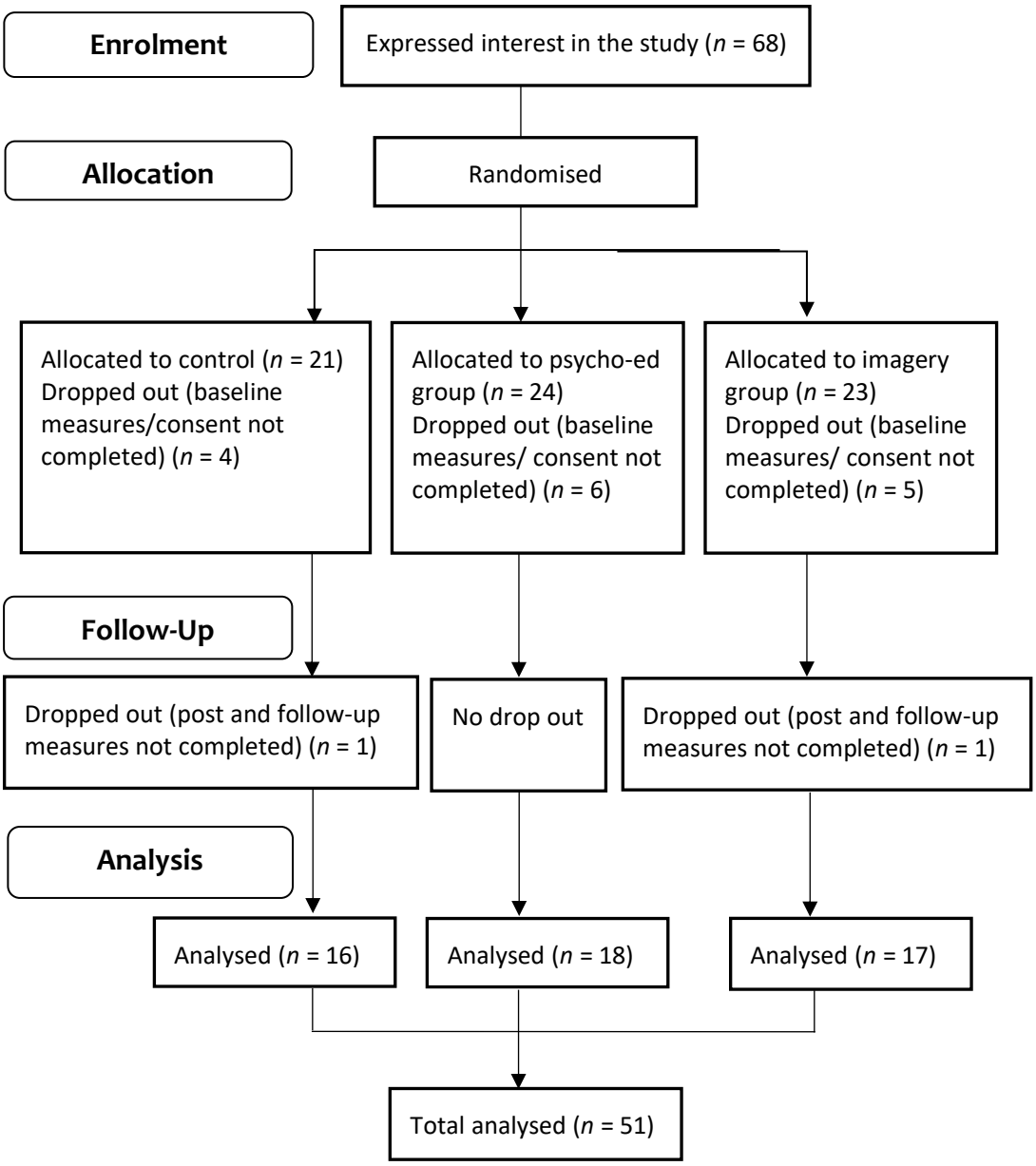

Figure 1. CONSORT diagram of the randomised recruitment process.

Testing procedure

Demographics information on gender, age and ethnicity was collected in person at baseline from all participants. The participants were asked to complete a battery of standardised measures on the online electronic data capture tool, REDCap (Harris et al., 2009). REDCap is a mature, secure web application for building and managing online surveys and databases which was accessed through UCL. The two experimental groups completed these at four points during the study;

pre-intervention, after the second and final sessions of the intervention and at a two-week follow-up.

The control group was a non-active control. Participants in this condition were not required to attend any self-compassion sessions or to complete any other tasks. However, participants were asked to complete the same questionnaires as the experimental groups at three matched time points; 'pre-intervention', 'post-intervention' and 'follow-up'. These time points corresponded to the times the intervention groups were completing the measures.

Participants in the experimental groups were asked to attend a once weekly session for three weeks for up to an hour duration in a classroom located in their school. The intervention group sessions were run concurrently on the same day in each school. To clarify, in one school the timings were that the imagery session took place from 1-2pm followed by the psychoeducation group session from 2-3pm. Text messages were sent to participants to remind them to attend. The sessions included psycho-education on self-compassion, self-criticism, social comparison and difficulties associated with adolescence (see Appendix I). Participants who missed a session were provided with a paper or electronic copy of the session materials, the content was briefly summarised by the researcher and they were given the opportunity to ask questions about missed content. Participants were also asked to complete a daily five- to 10-minute homework task. The task for participants in the psycho-education group involved applying their learning from the session, for example, categorising statements into one of the three emotion systems from Gilbert's CFT model (2010) (see Appendix K). Gilbert's (2014) emotion system model is composed of the threat-protection system which is responsible for detecting and protecting against dangers, the drive system which encompasses positive emotions associated with rewards for resources, and the soothing system which involved a set of emotions linked with safeness and contentment.

The imagery group was asked to do a 12-minute perspective shift, compassionate imagery task towards the end of each session. The guided imagery exercise was played on MP3 players through individual earphones (see Appendix L for an example imagery script). In the first session, the researcher explained the rationale for imagery practice and read through the instructions with the group. Instructions for the imagery in each session were also provided on paper (see Appendix M). Each week the imagery task involved a different scenario. For example, in week one, participants were instructed to imagine a friend was upset because they did not do as well as their peers in their exams. The second and third imagery scenarios were conducted in the same way, however, the scenario changed slightly. Participants were then asked to imagine saying a three-step compassionate response to their friend with the aim of reducing distress. The three stages of the response were validation, redirection of attention and compassionate memory activation. Afterwards, they were instructed to imagine themselves in their friend's position receiving compassion from the self. The daily homework task in this group was to practise the imagery using a shortened seven- to eight-minute clip that was emailed to them. Around six months after the intervention ended, a summary of the results of the study (see Appendix N) was emailed to primary school contacts and to participants that indicated they wanted this information.

Statistical Analysis

Analysis was conducted using SPSS Statistics, Version 25 (IBM Corp, 2017). The data was assessed for normality using skewness and kurtosis indices, and the Shapiro-Wilk's test which is recommended with smaller sample sizes (Razali & Wah, 2011). These observations along with visual inspection of histograms raised concerns about the normality of some of the data. However, transformations performed on the data were unable to address the non-normality concerns. Similarly, one to two data points in some sets of data were identified as

outliers using box and whisker plots. As the sample size was small, these data points are more likely to be valid within a larger sample (i.e. we could not be confident of their anomaly). It was decided not to remove or winzorise these data points. Additionally, ANOVA analyses are considered to be robust to violations of normality (Schmider, Ziegler, Danay, Beyer & Bühner, 2010) and due to a lack of a non-parametric statistical alternative to a mixed ANOVA, it was decided to proceed with this analysis. However, results should be interpreted with caution.

The merged data across the three groups at baseline was assessed for normality and met the required assumptions for parametric testing. Hypothesis 1 was addressed by conducting a Pearson's correlation between self-compassion and self-criticism.

Baseline comparisons were conducted using one-way ANOVAs to identify any differences between groups on all pre-intervention data. The remaining hypotheses were investigated using the following statistical analyses. Mixed 3x3 ANOVAs were run to determine any effect of time and any interaction between time and condition for each dependent variable; SCS total, SCS positive subscale, SCS negative subscale, SCS self-judgment subscale, DEQ-A, PANAS positive subscale and PANAS negative subscale. Time was entered as a within-subjects variable and group was included as a between-subjects variable. Effect sizes were computed for the mixed ANOVAs using partial eta squared, where .01 is a small effect, .06 a medium and .14 a large effect (Cohen, 2013).

Results

Participant Characteristics

Overall, 51 participants completed the intervention as shown in Figure 1 (CONSORT diagram). However, the numbers included at each stage of analysis varied due to several factors which are outlined in subsequent sections. The demographic information for participants in each group are presented in Table 1. All

groups were predominantly female, which was partly due to the inclusion of one girls' school. The majority of participants were 16 years old and a one-way analysis of variance (ANOVA) showed there were no significant differences in age between groups, $F(2,50)=.57$, $p=.569$.

Table 1.
Demographic Data of Participants by Group.

Group	*n*	Gender (*n*, %)	Age (n, %)
Control	16	F 14 (88%)	16 (7, 44%)
			17 (8, 50%)
			18 (1, 6%)
Imagery	17	F 11 (65%)	16 (10, 59%)
			17 (6, 35%)
			18 (1, 6%)
Psychoeducation	18	F 14 (78%)	16 (13, 72%)
			17 (3, 17%)
			18 (2, 11%)

Relationship between Self-Criticism and Self-Compassion

It was predicted that individuals who were high in self-criticism would be low in self-compassion (H1). A Pearson's correlational analysis was conducted to investigate this relationship on the whole sample at baseline (n = 46). Five participants were removed from the analysis due to their responses being the same for all 26 items on the SCS, which raised concerns about validity. Scores on the self-compassion measure (SCS) were found to be positively related to scores on the self-criticism measure (DEQ-A) ($r=.39$, $p=.008$). Lower scores on the DEQ-A were indicative of higher self-criticism. Therefore, this association showed those who reported higher levels of self-compassion scored lower in self-criticism. These results provide support for the first hypothesis (H1). Additionally, scores on the DEQ-A were also found to be positively related to the 'negative' subscale of the SCS ($r=.36$, $p=.014$) and the self-judgment subscale ($r=.49$, $p=.001$). This indicated

higher levels of self-criticism were related to higher levels of uncompassionate behaviour and self-judgment.

Group Differences at Baseline

A series of one-way ANOVAs found that there were no significant differences in baseline measures (self-compassion, self-criticism and mood states) between the three groups although some were approaching significance (see Table 2). Participants were only included in these analyses if they had completed measures at all three time points in order to provide an accurate representation of the data used in the main ANOVA.

Table 2.
Baseline Scores and One-Way ANOVAs to Detect Differences Between Groups.

	n	*M (SD)*	*F*	*p*
SCS Total	C: 16	2.83 (.34)	2.76	.077
	I: 9	2.65 (.65)		
	P: 13	2.42 (.48)		
SCS Compassionate subscale	C: 16	3.05 (.52)	1.87	.169
	I: 9	2.78 (.79)		
	P: 13	2.63 (.51)		
SCS Uncompassionate subscale	C: 16	2.61 (.32)	2.74	.079
	I: 9	2.53 (.66)		
	P: 13	2.20 (.51)		
SCS Self-Judgment subscale	C: 16	2.73 (.68)	2.74	.079
	I: 9	2.56 (.68)		
	P: 13	2.14 (.68)		
DEQ-A	C: 16	20.13 (3.48)	1.78	.181
	I: 13	19.77 (3.32)		
	P: 14	17.93 (3.77)		
PANAS positive	C: 16	14.88 (4.21)	2.34	.110
	I: 13	15.38 (3.18)		
	P: 14	12.29 (4.57)		
PANAS negative	C: 16	11.00 (4.50)	.62	.541
	I: 13	12.85 (5.27)		
	P: 14	11.29 (4.25)		

Note. C=control, I=imagery, P=psychoeducation.

Self-Compassion, Self-Criticism and State Mood

Next, a series of 3 (group) x 3 (time) mixed ANOVAs were used to examine any differences in changes in self-compassion, self-criticism and state mood, between the three groups (H2, H3 & H4). As this was an exploratory study, pairwise comparisons, which have more power, were conducted for each analysis even in the absence of a significant interaction.

All of the variables were assessed for normality of data. The majority of data was found to be normally distributed. However, several concerns emerged with the pre- SCS scores in the control and psychoeducation group, the post- negative SCS subscale in the imagery group, the follow-up negative SCS subscale in the imagery group, the pre- positive SCS subscale in the imagery group, the follow-up DEQ-A score in the imagery group, the post- negative PANAS score in the psychoeducation group, and the follow-up negative PANAS score in the imagery and psychoeducation groups. A number of transformations were attempted to address deviations from normality, including square root and inverse transformations to reduce skewness and kurtosis. However, likely due to small sample size, this led to further problems in other variables. Despite this, as previously discussed, ANOVA analyses are recognised as robust to deviations in normality (Schmider et al., 2010) and there were no violations to sphericity which would be more problematic. However, the results in this study should be interpreted with caution.

Self-Compassion

As previously mentioned, five participants were removed from all self-compassion analyses due to concerns about validity of their responses on the SCS. Separate analyses were carried out for overall self-compassion score, the positive, or 'compassionate' behaviour subscale, the negative, or 'uncompassionate' behaviour subscale, and the individual self-judgment subscale. For total self-compassion score, there was no main effect of condition, $F(2, 35)=.293$, $p=.748$, or

time, $F(2, 34)=1.79$, $p=.182$. However, there was a significant interaction between time and condition, $F(4,70)=4.13$, $p=.005$, with a large effect size ($\eta_{2p}=.19$) (see Figure 2).

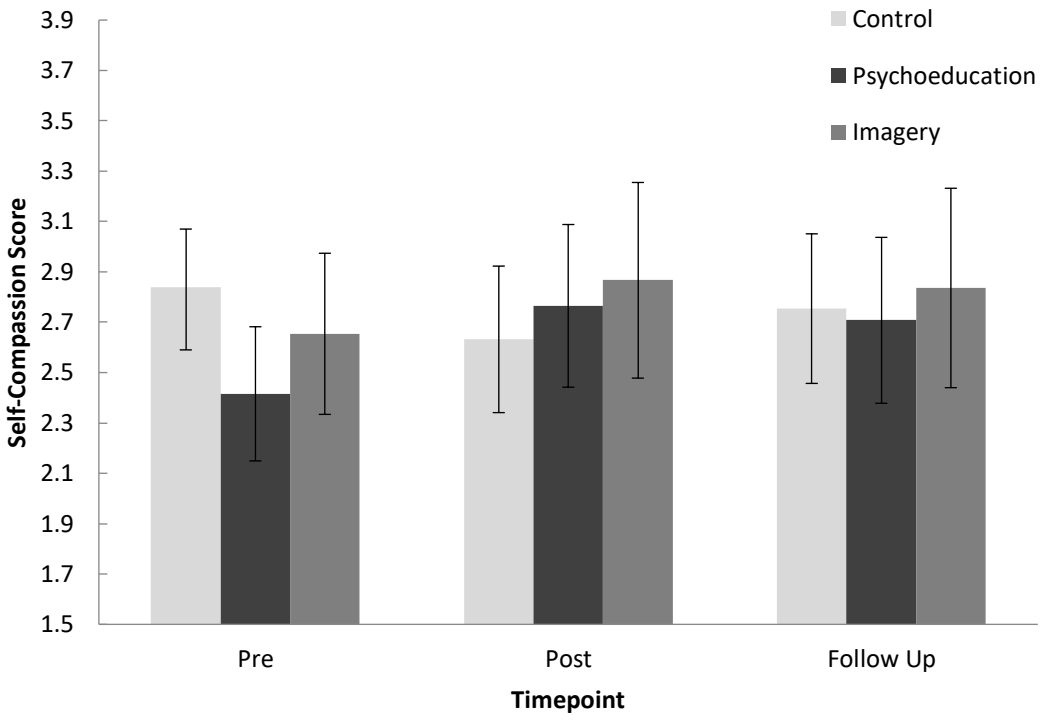

Figure 2. Mean total self-compassion scores across the three time points for each group. Error bars represent 95% confidence intervals.

Bonferroni corrected post-hoc comparisons indicated significant differences in the psychoeducation group self-compassion scores between pre- (M = 2.42, SD = .48) and post-intervention (M = 2.76, SD = .70), $p=.007$, 95% CI for the paired differences [-.62, -.08), Cohen's d =.92. The difference between pre- and follow-up in the psycho-education group was not significant, but indicated a trend in the same direction (M = 2.71, SD = .73), $p=.073$, 95% CI for the paired differences [-.61, .02). There were no significant differences in self-compassion scores in the control or imagery groups. This result partly supports the hypothesis (H2) that there would be an increase in self-compassion in the psychoeducation group compared with the

control group. However, contrary to prediction, the increase seen in the imagery group did not meet statistical significance.

For the compassionate behaviour subscale, there were no main effects of condition, F(2, 35)=.83, *p*=.443, or time, *F*(2, 34)=1.33, *p*=.279. There was a significant interaction between time and condition, *F*(4,70)=4.18, *p*=.004, with a large effect size (η_{2p}=.19), as shown in Figure 3.

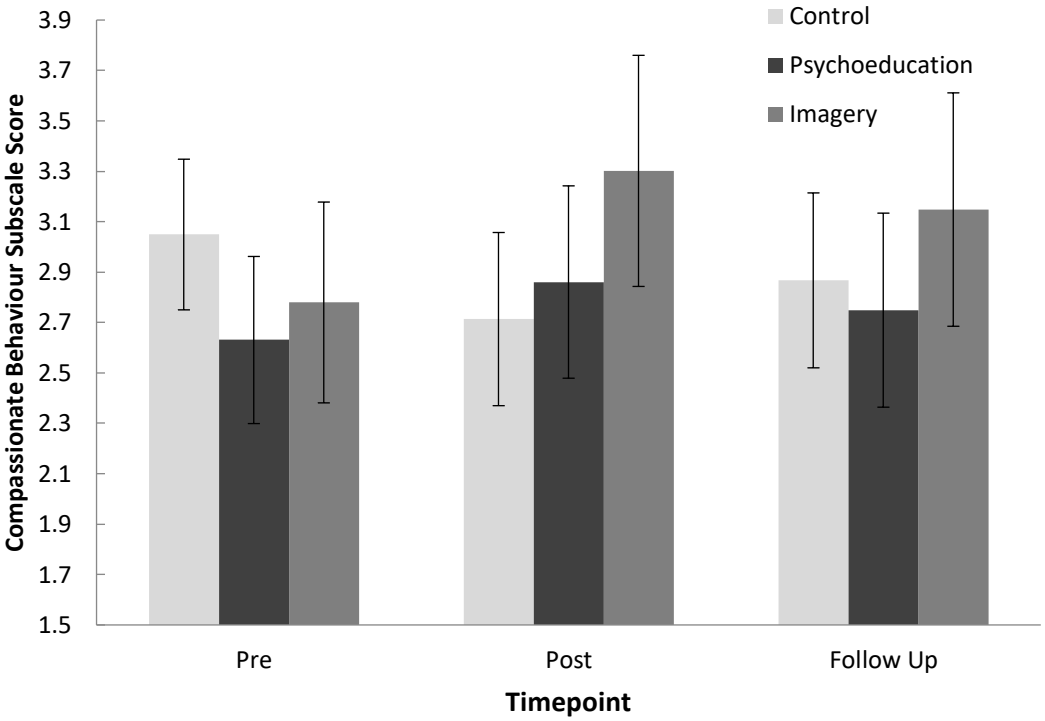

Figure 3. Mean compassionate behaviour subscale scores across the three time points for each group. Error bars represent 95% confidence intervals.

Post-hoc comparisons, corrected for using Bonferroni adjustment, indicated that the compassionate behaviour subscale score in the control group significantly decreased between pre- (M = 3.05, SD = .52) and post-intervention (M = 2.71, SD = .49), *p*=.042, 95% CI for the paired differences [.01, .66], Cohen's *d* =.64, however, no changes were detected between pre-intervention and follow up. In the imagery group, scores significantly increased between pre- (M = 2.78, SD = .79) and post-

intervention (M = 3.30, SD = .83) (*p*=.014), 95% CI for the paired differences [-.96, -.09], Cohen's *d* =1.00, however this change was not sustained at follow up. No differences were found in scores in the psychoeducation group. These results partially support the hypothesis that the positive aspects of self-compassion will increase in the intervention groups compared with the control (H4). However, in contrast to the overall self-compassion score, these findings display the opposite pattern, with those in the imagery group increasing in 'positive' aspects of self-compassion and those in the psychoeducation group experiencing no change. It is possible this effect has been elevated by the control group experiencing a decrease in compassionate behaviour.

For the uncompassionate behaviour subscale, there was no main effect of condition, *F*(2, 35)=.185, *p*=.832, or time, *F*(2, 34)=1.26, *p*=.298. The interaction between time and condition indicated a trend, however, this did not reach significance, *F*(4,70)=2.31, *p*=.066, as shown in Figure 4.

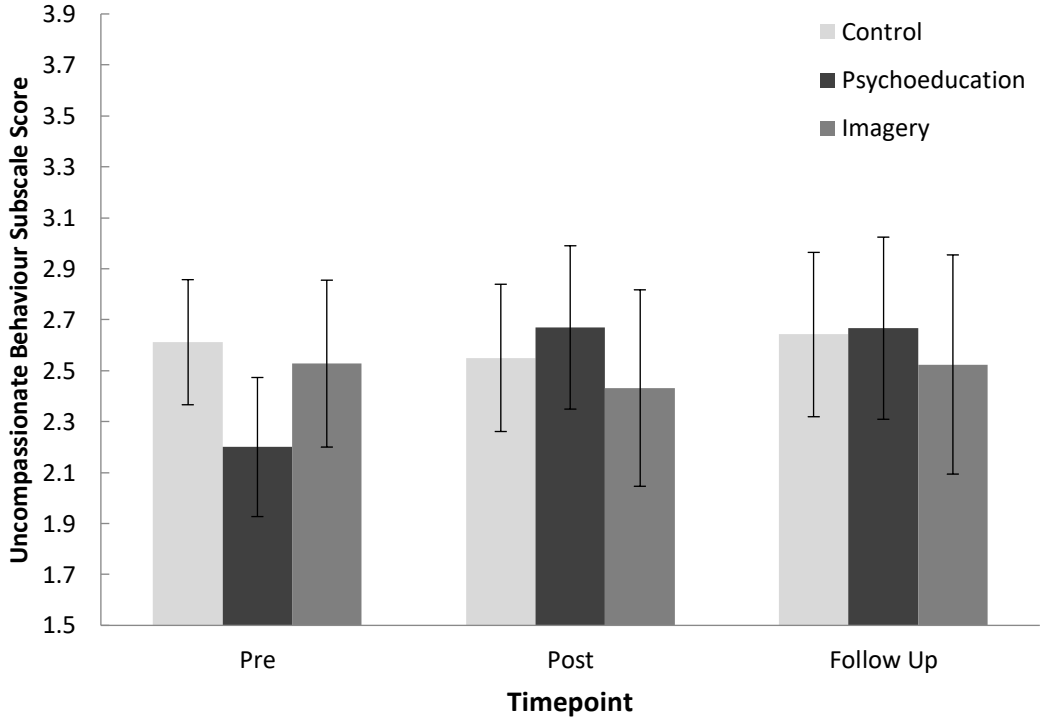

Figure 4. Mean uncompassionate behaviour subscale scores across the three time points for each group. Error bars represent 95% confidence intervals.

Scores on the ‘negative’ subscale are reverse scored, therefore, higher scores reflect lower levels of uncompassionate behaviour. Bonferroni corrected post-hoc comparisons indicated significant decreases in uncompassionate behaviour in the psychoeducation group between pre- (M = 2.20, SD = .51) and post-intervention (M = 2.67, SD = .70), p=.005, 95% CI for the paired differences [-.82, -.12), Cohen’s d =.94, and pre- and follow-up (M = 2.67, SD = .81), p=.029, 95% CI for the paired differences [-.90, -.04], Cohen’s d =.77 (see Figure 4). No significant changes were detected in the control or imagery groups. These results were in line with the total self-compassion score, showing improvements in the ‘negative’ aspects of self-compassion in the psychoeducation group, but not in the imagery group, relative to the control (H4).

The self-judgment subscale of the SCS was also analysed using a mixed ANOVA. This revealed a time by group interaction, F(4,70) =3.02, p=.023, with a large effect size (η_{2p}=.15) (see Figure 5). There were no significant effects of time, F(2,34) =.11, p=.896, or condition, F(2,35) =.08, p=.920.

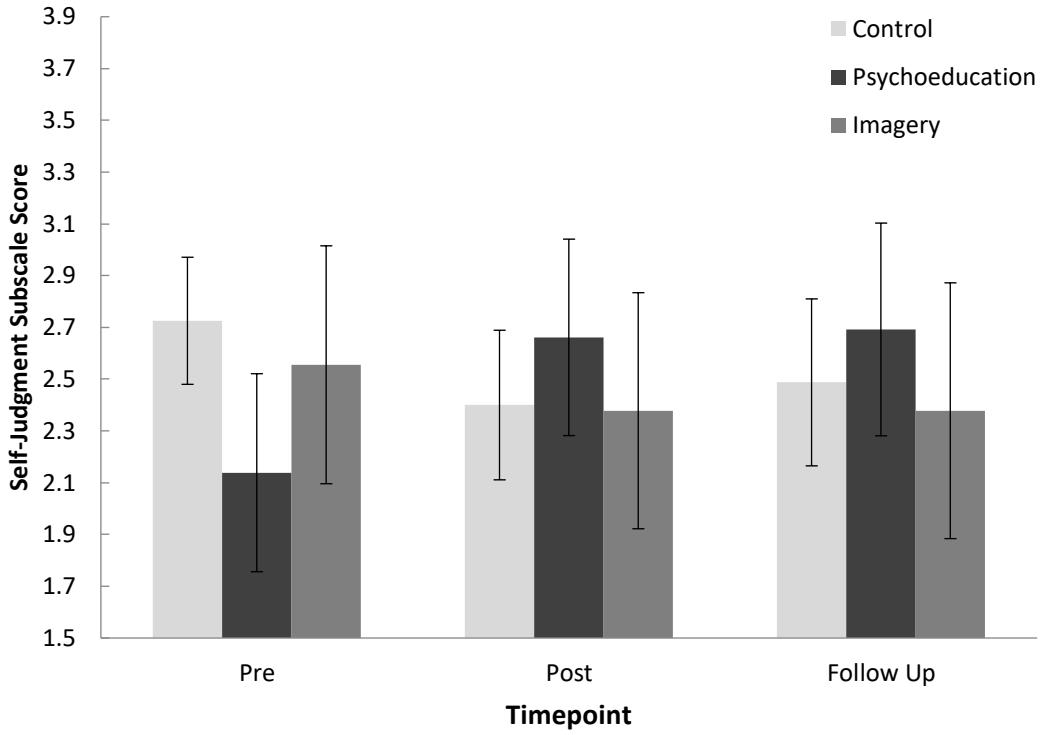

Figure 5. Mean self-judgment subscale scores across the three time points for each group. Error bars represent 95% confidence intervals.

The self-judgment subscale makes up one third of the uncompassionate behaviour subscale, however, it was analysed separately as it has clear parallels with the concept of self-criticism. Scores on this subscale are reverse scored, therefore, higher scores reflected lower levels of self-judgment. Bonferroni corrected post-hoc comparisons indicated significant decreases in self-judgment in the psychoeducation group between pre- (M = 2.14, SD = .68) and post-intervention (M = 2.66, SD = .68), p=.016, 95% CI for the paired differences [-.97, -.08), Cohen's d =.82, and pre- and follow-up (M = 2.69, SD = .87), p=.026, 95% CI for the paired differences [-1.06, -.05], Cohen's d =.77 (see Figure 5). There were no significant changes in scores in the control and imagery groups. Similarly to overall self-compassion and the uncompassionate behaviour, reductions in self-judgment were found in the psychoeducation group, but not in the imagery, again providing partial support for the initial hypothesis (H4).

In summary, the results partially supported hypothesis 2 in that self-compassion increased in the psychoeducation group following the intervention. However, this change was not observed in the imagery group. Therefore, hypothesis 3, which predicted there would be a greater increase in self-compassion in the imagery group compared with the psychoeducation and control group was not supported. Finally, hypothesis 4 was partially supported in that compassionate behaviour increased in the imagery group but not in the psychoeducation group, and contrastingly uncompassionate behaviour decreased in the psychoeducation group but not in the imagery. This pattern was also reflected in self-judgment which decreased only in the psychoeducation group.

Self-Criticism

For self-criticism, an ANOVA found no significant effects of time, $F(2,39) = .255$, $p = .776$, or condition, $F(2,35) = .627$, $p = .540$, and no interaction was found, $F(4,80) = 1.46$, $p = .222$. Further post-hoc comparisons found no significant differences. Therefore, the hypotheses that self-criticism would decrease in both intervention groups (H2) and to a greater extent in the imagery group (H3), relative to the control, were not supported by these results.

State Mood

The two subscales of the PANAS, positive and negative, were analysed separately using two ANOVAs. For the positive subscale, there were no significant effects of condition, $F(2,40) = 2.40$, $p = .104$, and no interaction was found, $F(4,80) = .88$, $p = .478$. The effect of time indicated a trend although it was not significant, $F(2,39) = .3.05$, $p = .059$. Further post-hoc comparisons found no significant differences. Similarly, for the negative subscale, there were no significant effects of condition, $F(2,40) = .50$, $p = .612$, or time, $F(2,39) = 1.11$, $p = .341$. Additionally, there was no interaction found, $F(4,80) = 1.50$, $p = .210$. Following the intervention,

decreases in negative affect were present in psycho-education (pre- M = 11.29, SD = 4.25, post- M = 9.29, SD = 5.48) and imagery groups (pre- M=12.85, SD = 5.27, post- M=10.77, SD=4.19), however, these changes did not reach significance in pairwise comparisons (*p*=.264). These results do not offer support for the hypothesis (H2) that positive affect would increase and negative affect would decrease in the two intervention groups, compared with the control. Therefore, it follows that the prediction (H3) that this change would be of a greater magnitude in the imagery group was also not supported.

Vividness and Focus Data

The vividness and focus measures collected in the imagery group were analysed by another researcher in her thesis (see Tweedale, 2019).

Intervention Feasibility and Acceptability

As this was an exploratory study of a novel self-compassion intervention for adolescents, data was also collected on the feasibility of the intervention being run in schools and how acceptable it was to participants. These aspects were addressed by consideration of attendance rates to the imagery and psychoeducation group sessions, completion rates of home practice tasks and by collecting feedback using a questionnaire.

Intervention Attendance

Attendance rates were high across both intervention groups with all participants attending at least two out of three sessions (Table 3).

Table 3.
Intervention Attendance Rates in Each Group.

		Sessions attended (*n*, %)		
	n	3	2	1
Imagery	17	16 (94%)	1 (6%)	0
Psychoeducation	18	14 (78%)	4 (22%; 1 missed S1, 3 missed S3)	0

Note. S=Session.

Home Practice Completion

Participants were encouraged to complete daily home practice tasks for the week after each session. The mean completion rate for the psychoeducation group was 40%, whereas for the imagery group it was only 19%. However, there was a wide variability in completion between participants. Eight participants (47%) in the imagery and two participants in the psycho-education (11%) did not complete any home practice tasks. These findings suggest the home practice tasks, particularly the imagery exercises, may not be acceptable to adolescent participants.

Intervention Feedback

Participants in the imagery and psychoeducation groups were asked to complete Likert scale questions on how interesting, useful and applicable the sessions were and how likely they would be to recommend it to another young person. Responses were favourable across all aspects as shown in Table 4.

Table 4.
Participant Responses on the Intervention Feedback Questionnaire.

	Rating (*n*, %)				
	1 (not at all)	2	3	4	5 (very)
Interesting	0 (0%)	1 (3%)	2 (6%)	18 (51%)	14 (40%)
Useful	0 (0%)	0 (0%)	9 (26%)	17 (49%)	9 (26%)
Applicable	0 (0%)	0 (0%)	6 (17%)	17 (49%)	12 (34%)
	1 (extremely unlikely)	2	3	4	5 (extremely likely)
Likelihood of recommending	0 (0%)	0 (0%)	6 (17%)	15 (43%)	14 (40%)

Overall, the results showed that higher levels of self-compassion were associated with lower levels of self-criticism at baseline, providing support for hypothesis 1. The second hypothesis (H2) was partially supported as self-compassion increased in the psycho-education group following the intervention. However, contrary to prediction, this pattern was not observed in the imagery group, thus hypothesis 3 was not supported by the results. Self-criticism, positive affect and negative affect did not change in either intervention group which contradicted these elements of hypothesis 2 and 3. Contrasting outcomes were found in relation to hypothesis 4. Compassionate behaviour increased in the imagery group but not in the psychoeducation group and uncompassionate behaviour decreased in the psychoeducation group but not in the imagery. Similarly, self-judgment decreased in the psychoeducation group only.

Discussion

The overall aims of this exploratory study were to determine whether a compassion-focused psychoeducation intervention was beneficial for adolescents and whether an equivalent group with an additional imagery component provided any further advantage. The key areas of interest were on changes in self-compassion, self-criticism and state mood, when compared with a control group.

The discussion considers the results in relation to initial hypotheses, first focusing on the association between self-compassion and self-criticism, and then examining changes that occurred following the interventions. As this was a novel self-compassion intervention for adolescents, acceptability is also addressed. Finally, the limitations and future implications of this exploratory study are considered.

Relationship between Self-Compassion and Self-Criticism

Evidence for the protective role of self-compassion against self-criticism and psychological distress in adults and adolescents has been growing (Marsh et al., 2018). Researchers have gone as far as to say that self-compassion acts as an antidote to self-criticism (Neff, 2003b; Gilbert & Procter, 2006). The results of the current study found a moderate negative correlation between self-criticism and self-compassion, therefore supporting the hypothesis that those who have low levels of self-compassion have higher levels of self-criticism. This finding replicates Neff's (2003a) outcome, however, the correlation was less strong in this study. This may be explained by the smaller sample size, which is likely to lead to more variable and thus divergent results. This finding provides potential support for the protective nature of self-compassion, although it is not possible to ascertain the direction of the effect.

Self-Compassion

The hypothesis which predicted there would be a greater increase in self-compassion in both intervention groups compared with the control group, was only partially supported. Self-compassion increased in the psychoeducation group following the intervention, with conventional effect size indicating a large change over time. However, the small increase in self-compassion observed in the imagery group did not reach significance. In the psychoeducation group, overall SCS score increase was .34 (out of a possible 5) which is comparable to increases found in

studies of brief mindful compassion interventions in adolescents (Bluth et al., 2016a; Bluth et al., 2015) although reliable comparison may be limited as these studies used a short version of the SCS. This suggests that the three-week psychoeducation intervention in the present study is able to cultivate self-compassion as effectively as six-week compassion interventions, therefore, indicating a briefer approach may be sufficient and more easily accommodated into busy school timetables. Notably, the current intervention appears less effective than more intensive interventions that led to a 1.13 increase in self-compassion in adults (Neff & Germer, 2013). In the current study, the improvement only approached significance at follow-up suggesting it may not have been sustained in the longer term.

The literature on the benefits of compassionate imagery is in its infancy with some evidence of improvements in self-compassion (Holden, 2015; Gilbert & Irons, 2004) whereas others have found improvements but in different outcomes, such as smoking cessation (Kelly, Zuroff, Foa & Gilbert, 2010). The absence of an effect on self-compassion in the imagery group in this study is at odds with the emerging evidence that even one-off imagery interventions can be beneficial (Holden, 2015). Before considering this further, discussion of the findings related to the different components of self-compassion is necessary to gain a clearer picture.

Neff (2016) recommended further research to examine the SCS subscale scores to improve our understanding of self-compassion mechanisms. Another prediction was that the intervention groups would experience increases in the positive compassion elements, namely self-kindness, mindfulness and common humanity, and decreases in the 'uncompassionate behaviour' subscale, comprising self-judgment, over-identification and isolation, compared with the control. Interestingly, we observed opposite patterns in the imagery and psycho-education groups. Compassionate behaviour increased following the imagery intervention, with a large effect size, but this change was not present in the psychoeducation group.

However, it should be noted that this change was not sustained at follow-up and the effect may have been elevated as the control group experienced a significant decrease in compassionate behaviour.

Contrastingly, uncompassionate behaviour decreased only in the psychoeducation group after the intervention, demonstrated by a large effect size, and was sustained at follow-up, with a medium conventional effect size. Consideration of this pattern suggests that the imagery intervention may be particularly adept at enhancing self-kindness, mindfulness and common humanity. This theory seems to fit with Lee's (2005) suggestion that imagery contributes to development of self-soothing ability. However, a retrieval advantage in self-critical contexts may require practice over time. Additionally, this result has important implications for adolescent mental health when considered in the context of Stolow et al.'s (2016) findings. This research group found only the positively worded compassionate behaviours were associated with a decline in depressive symptoms over time, whereas uncompassionate behaviours and self-criticism were not. Stolow et al. (2016) situated their findings in the vulnerability-stress interaction, suggesting the vulnerability factors of uncompassionate behaviour and self-criticism activate depressogenic effects in the presence of stress, whereas the positive elements of self-compassion protect against depression independently of stress. The present study suggests a possible existence of different pathways to the 'positive' and 'negative' elements of self-compassion, however, there may be other explanations for the contrast in these findings.

As both intervention groups received the same psychoeducational content, the lack of improvement in uncompassionate behaviour and overall self-compassion in the imagery group demands consideration. One possibility was that despite researchers' efforts to standardise sessions, more time was available to present and discuss the material in psychoeducation sessions than in the imagery sessions due to the imagery exercise requiring additional time. Furthermore, the home practice

task differed between the groups. The psychoeducation group were asked to do different tasks each week including noticing examples of self-compassion or social comparison, and categorising statements into the three emotion regulation systems outlined in CFT (Gilbert, 2014). The imagery group were asked to practise a shorter version of the imagery exercise. Firstly, it is possible that the 'noticing' tasks in the psychoeducation group helped to consolidate session content, thereby increasing effectiveness of the material. Secondly, home practice completion rates were significantly higher in the psychoeducation group compared with the imagery group (40% vs 19%) which may also have contributed to the increased benefit experienced by the psychoeducation group participants.

Self-Criticism

Contrary to prediction, no changes were found in self-criticism following either compassion-focused intervention. This is surprising given previous research has found a large relationship (r=.67) between self-criticism and the uncompassionate behaviour subscale on the SCS in adolescents (Stolow et al., 2016). The present study found a similar relationship between baseline scores on the self-criticism measure (DEQ-A) and the negative SCS, however, of a smaller magnitude (*r*=.36). The self-judgment subscale on the SCS is arguably closest to the concept of self-criticism and it was also found to be significantly related to self-criticism (*r*=.49). This suggests there are similarities between these constructs. Therefore, it would be reasonable to expect a comparable pattern of results but this was not the case. Scores on the self-judgment subscale decreased in the psycho-education group following the intervention and this improvement was maintained two weeks later. There is no agreed consensus on the acceptability of Cronbach's alpha score as a measure of internal reliability, however, several researchers have recommended the use of questionnaires with a score between 0.70 and 0.95 (Tavakol & Dennick,

2011). The DEQ-A scored slightly below this threshold with a Cronbach's alpha of .65. Therefore, the internal consistency is potentially problematic meaning self-criticism scores may not be reliable. It may be helpful for future studies to include an alternative measure of self-criticism to further examine change in this construct.

Consideration of the literature may also help us to understand the absence of a change in self-criticism. Research has frequently found an inverse relationship between self-compassion and self-criticism (Neff, 2003a), however, few studies have investigated changes in self-criticism following a compassion-focused intervention. In adults, changes in self-criticism following brief compassionate interventions have often been small and failed to reach significance (Gilbert & Irons, 2004) or self-criticism has only been investigated as a moderating factor (Kelly et al., 2009). Changes in self-criticism have not previously been investigated in studies of compassion-based approaches with adolescents. It is possible that different processes are involved in increasing self-compassion than in decreasing self-criticism. As self-critical processes are thought to originate in early life experiences (Gilbert & Irons, 2009), it may be a well-established phenomenon that requires a more intensive intervention to facilitate change. This theory is supported by Gilbert and Procter's (2006) study evaluating 12-week Compassionate Mind Training that resulted in significant reductions in self-criticism in a clinical adult sample. Therefore, it may be that a longer compassion-focused intervention is required to lessen self-critical relating in adolescents.

In addition, the present study recruited a non-clinical sample of adolescents and participants were not selected based on their state self-criticism. Research evidence on the effectiveness of CFT has found that its effects were moderated by self-criticism, specifically finding that highly self-critical individuals experienced greater improvements than those low in self-criticism (Leaviss & Uttley, 2015). Therefore, benefits may have been limited by non-clinical levels of self-criticism in the current sample. On the other hand, research has also found that those with high

levels of self-criticism experience greater difficulty in generating compassionate imagery (Gilbert et al., 2006) meaning greater improvements in this domain would be expected in healthy adolescents. Therefore, further research is necessary to clarify the procedures that lead to reductions in self-criticism in adolescents.

State Mood

Decreases in negative state mood were present in both intervention groups following the sessions, however, this change failed to reach statistical significance. No other changes in affect were found, therefore, the hypothesis that the intervention would increase positive mood and decrease negative mood was not supported. These findings were in line with other imagery studies that used the perspective shift paradigm with adults as they also found no effect on positive or negative affect (Falconer et al,, 2014; Holden, 2015). Promising results have emerged from adolescent studies of compassionate interventions investigating the impact on anxiety and depression (Bluth et al., 2016a; Bluth & Eisenlohr-Moul, 2017), which tend to take account of mood over a longer period of time. State mood can be influenced by many factors and therefore, this suggests short-term changes in self-compassion are not powerful enough to alter state affect which is in line with other studies of brief self-compassion programmes (Smeets et al., 2014).

Acceptability

Adolescents undergo vast brain changes in this developmental stage, many of which impact on executive functioning that encompasses attention, organisation, future planning and response inhibition (Giedd, 2008). Alterations to these functions mean that ability to engage with, sustain attention and focus on a novel intervention may be difficult. Therefore, assessing the acceptability of interventions with adolescents is particularly important.

Acceptability of the interventions was determined by attendance data, quantitative feedback data and home practice completion rates. All participants that started the sessions attended at least two sessions with only one (6%) missing an imagery session and four (22%) missing a psychoeducation session. The sessions took place outside of class time, during a lunch break or 'free period', therefore, attendance rates are indicative that the sessions were highly acceptable to adolescents. Similarly, feedback collected at the end of the three sessions was largely positive with over 70% of participants rating the interventions highly on how interesting, useful and applicable they were and on the likelihood they would recommend to a peer. Contrastingly, completion rates of home practice tasks suggested this element of the intervention was less acceptable to adolescents. The psychoeducation group average completion was 40% and the imagery group was 19%. Generally, completion rates for between-session tasks in adolescents are low (Bluth et al., 2016a; Johnson, Burke, Brinkman & Wade, 2016), but higher homework compliance in therapeutic interventions is often associated with better outcomes, at least in clinical populations (Simons et al., 2012; LeBeau, Davies, Culver & Craske, 2013).

A possible explanation for poor completion in the imagery group was the duration of the imagery exercise. It was approximately 12 minutes during sessions and seven-to-eight minutes as home practice. Qualitative feedback from teens in Bluth et al.'s (2016) study support this explanation with adolescents disclosing that the home practice was too long and not part of their routine so they often failed to remember to complete it. Given that adolescents experience alterations to their executive functioning due to substantial brain changes in this phase, they may have limited ability to sustain attention for prolonged periods of time and thus may benefit from shorter cognitive tasks. Alternatively, Reddy et al. (2013) found that adolescents are able to engage in longer mindfulness tasks but that the duration of these practices needs to be gradually increased over time. Therefore, starting with a

shorter in-session exercise and only slightly extending the duration over time might have been more effective. However, adolescents in Year 12 and 13 also have competing demands for their time with continual academic work to complete and therefore brevity and ease of access of any home tasks might be particularly important. The current study did take measures to help participants remember by sending daily email reminders, however, students may benefit from a more accessible format such as a mobile phone application with reminders.

Limitations

The current findings should be considered in view of the limitations of this exploratory study. Firstly, the sample comprised healthy 16-18 year olds and was predominantly female. Therefore, it is not possible to generalise the findings to a clinical population, across genders or to younger adolescents. The sample was relatively diverse in terms of reported ethnicities, with 27% reporting White British, 14% any other White, 14% Asian/Asian British and 12% Black/Black British African, however, this is not likely to be a proportional representation of the British population and differences in benefits across ethnicities were not investigated. Likewise, data was not collected on socioeconomic status but schools were recruited from affluent areas in London. Therefore, results may not be generalisable to adolescents from disadvantaged backgrounds. There was also a relatively short follow-up period of two weeks due to the time constraints of the research, which limits insight into the maintenance of effects and detection of delayed effects.

Secondly, despite involvement of three schools, the study did not manage to recruit the desired sample size and therefore was underpowered. Consequently, the results must be interpreted with caution as the smaller sample size is likely to cause greater variability in confidence intervals and there were some issues with normality of the data. In addition to this, problematic completion of the 26-item SCS (Neff, 2003a) resulted in the need to remove participants from the analysis which mostly

affected the imagery group. Therefore, the paucity of effects following the imagery group, and possibly in self-criticism, may be explained by a lack of power.

It is also important to comment on the measurement limitations as all outcomes were obtained using self-report questionnaires. This inevitably leads to potential issues of social desirability, acquiescence and misunderstanding of information. Neff (2003a) also highlighted the difficulty with assessing individual self-compassion levels as many individuals have limited awareness of their own emotional experiences. For those who avoid negative affect using the unconscious process of repression, measurement may be even less accurate, and these issues are likely to apply equally to the measurement of self-criticism.

Group interventions are useful at increasing participation, however, no studies to my knowledge, have utilised this format to facilitate compassionate imagery exercises with adolescents. Previous research that used the perspective shift paradigm with adults was completed individually with participants (Holden, 2015; Falconer et al., 2014). This provided opportunity for participants to rehearse the compassionate imagery with the researcher. In this study, it was only possible for the researcher to read over the instructions with the group. Firstly, this minimises opportunities for participants to practise and ask questions about the process. Secondly, participants were asked to complete the imagery exercise with their eyes closed in the group setting. Research has demonstrated that it is possible to successfully implement group mindfulness-based exercises with young people, even in children with socio-behavioural difficulties living in foster care (Reddy et al., 2013). However, adherence to mindfulness exercises in this study was not assessed. In the present study, data was collected on participants' experiences of vividness of the imagery and ability to focus during the task, but it was difficult to assess compliance with this intervention. Students were observed to struggle with concentration during this exercise and it is also possible that they were distracted or influenced by their peers' behaviour.

Finally, due to the three condition groups being run in each school, there was also a potential for contamination effects whereby students share aspects of the intervention with participants in other groups. This might have diluted the effect, particularly if those in the control group were exposed to material from the intervention groups. Participants in intervention groups were asked not to discuss the content of sessions outside of the group until after the intervention had ended. However, it cannot be guaranteed that participants adhered to this request. Future research could run the same group in one school, for example, run three imagery groups in one school, to minimise the risk of contamination. However, this would also impact on the representativeness of the sample and schools might not be as willing to take part if they are allocated only as a control.

Future Implications

Research

This research is one of the first randomised controlled studies that provides evidence for self-compassion being a modifiable skill in adolescents. These findings are pertinent to the Positive Psychology movement, which focuses on improving wellbeing and life satisfaction beyond the removal of psychopathology (Seligman & Csikzentmihalyi, 2000). However, further research is required to address the limitations of this exploratory study. Most importantly, replication with a larger sample size would help to draw more concrete conclusions on any benefits of the interventions. Due to the sample being predominantly female, it was not possible to investigate gender differences in the elements of self-compassion as previously explored in Hong Kong adolescents (Sun et al., 2016). Future studies would benefit from targeting recruitment to include a larger proportion of male participants to be able to examine gender differences.

In relation to measurement, the inclusion of interview assessment of self-compassion would allow improvement on using solely self-report measures.

However, this may be difficult to achieve in a research setting. The 26-item SCS may not be acceptable to adolescents due to its length and so future research may benefit from using the short version of the self-compassion scale (SCS-SF; Raes, Pommier, Neff, & Van Gucht, 2011) which has been used in other adolescent self-compassion studies (Bluth et al., 2016; Bluth & Eisenlohr-Moul, 2017). Future studies would also benefit from examining the impact of the interventions in other areas, including stress, anxiety and depression, which would likely offer insight into more important changes than by measuring state mood. Future research may also be interested in investigating school-based outcomes such as learning motivation and coping with academic failure.

Finally, this study has shed light on the potentially divergent pathways to 'positive' and 'negative' components of self-compassion. Analysis of change in the different subscales of the SCS should be included in future studies investigating compassion-focused interventions to further clarify whether different processes are involved.

Clinical

It is not possible to draw firm conclusions on the implications of the current findings for clinical practice due to the inclusion of a non-clinical sample. However, the results may be useful to consider alongside clinical judgment. Firstly, psychoeducation on self-compassion, self-criticism, social comparison and adolescence may be as, if not more effective, at improving self-compassion in young people than compassionate imagery exercises.

As self-compassion has been found to protect against psychopathology and other maladjustments (Marsh et al., 2018), its potential as a target for preventative interventions is clear. The present study suggests that even a brief, three-session, psychoeducational intervention may be a feasible way of improving self-compassion

in adolescents. Increasing resilience is an important feat in a group who are highly vulnerable to mental health difficulties.

Conclusions

In summary, the present randomised controlled study indicates that a brief self-compassion psychoeducation intervention in schools is acceptable to adolescents and leads to increases in self-compassion. It is not possible to draw clear conclusions about the effectiveness of the imagery intervention but it may have a greater effect on the 'positive' aspects of self-compassion, including self-kindness, mindfulness and common humanity. Contrary to prediction, no changes were detected in self-criticism following this intervention. Future research is needed to address the limitations of this exploratory study, predominantly by increasing the sample size, in order to uncover the most effective interventions for increasing self-compassion and reducing self-criticism in adolescents.

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Part 3 Critical Appraisal

Reflections on Research in Schools, Research with Adolescents and Acceptability of the Intervention

Introduction

This appraisal provides a critical reflection on Part 2 of Volume 1 of this doctoral thesis. Firstly, the challenges and opportunities associated with conducting research in schools are considered in the context of this study and more widely across the literature. Secondly, reflections are shared on engaging adolescents in research and some of the difficulties encountered. The acceptability of the compassion-focused intervention is then discussed based on qualitative feedback collected from participants at the end of the sessions. Suggestions are posed for future research in schools and with adolescents based on learning from this project. Finally, my concluding reflections are included on the research as a whole.

Research in Schools

Plummer et al. (2014) likened school-based research to putting on a theatre production in that it must follow a step-by-step approach from involvement of a 'cast' that facilitate it, to incorporating feedback from the 'critics' and a cyclical process of refining the production or study procedures. On reflection of this process, I think a staged approach, with careful attention to relationships, was vital in the success of this research. Firstly, my reflections will focus on challenges and how some of these problems were resolved and then the unique opportunities of school-based research are discussed.

Challenges

We managed to recruit three schools to this project all through existing researcher connections. Without these established relationships, it would likely have been difficult to gain access to schools as a research setting. This became clear in our attempt to recruit a fourth school through more indirect connections. We contacted eight more schools but either received no response or were informed that the school was unable to accommodate our study due to schools already supporting

other research projects. This challenge mirrors the experience of other researchers (Oates & Riaz, 2016) who suggested that 'accessing the field' was the most challenging task of the research. Despite the necessity of gaining access, they argued the work involved in this step is often overlooked, and can be particularly challenging for 'early researchers' who may have less confidence and resources available to establish these links. So, existing connections with schools can be enormously helpful although there are other factors that contribute to gaining access.

Research has highlighted the vital importance of engagement and involvement of the primary school contact, often principals or heads of years (Plummer et al., 2014). On reflection, the researchers' training in Clinical Psychology, a profession whose relational skills are fundamental to their role, was likely beneficial in cementing these connections. Harrell, Bradley, Dennis, Frauman and Criswell (2000) stated that the study explanation provided to principle contacts is critical in securing access. As psychologists, we are trained to adapt our communication to meet the needs of different groups of people. We recognised the importance of pitching the study in a brief but accessible and informative format to staff. Before approaching schools, we firstly considered schools' likely current challenges and needs. Schools are under immense pressure to manage mental health difficulties with little funding and support, and concurrent high thresholds for NHS services (Children's Commissioner, 2016). Therefore, we positioned ourselves in a 'helper' role, offering research with the potential to prevent the development of mental health problems in adolescents. As this was an exploratory research, it was necessary to strike a balance between highlighting potential benefits for participants and schools, and ensuring schools were aware of the novelty of the study. We were also aware of the time and commitment needed from schools and so in line with Alibali and Nathan's (2010) guidance for working with schools, we were mindful to 'give something back'. As another incentive and display of our appreciation, we

offered to share our knowledge and expertise by providing talks on Clinical Psychology at careers' events in the schools. Schools were grateful of this contribution with two inviting us back to provide presentations several months after the intervention ended.

The first round of approaching schools was carried out in the preceding school year and almost one year ahead of the intervention and data collection. In the second attempt to recruit schools, there was less time available and we proposed running the intervention a month later. This likely contributed to the lack of responses from schools, suggesting that advance planning is crucial. The schools involved shared that this was essential for organisation of school timetables to accommodate sessions and to evaluate capacity for research projects. In addition, the planning phase and engagement of primary contacts required multiple visits to schools ahead of the intervention. This also provided ample opportunity to discuss the methodology with our primary school contacts which greatly increased our understanding of the recruitment process and workability of the intervention procedure in the school setting. For example, in one school, the sixth form head shared his view that students rarely seemed to notice posters displayed on boards around the schools and so this would not likely be an effective way of sparking interest. Instead, he suggested that promotion of the study in form classes by teachers would reach the widest audience. This was a helpful strategy, however, I think we could have increased its success by also meeting with teachers. A study that implemented a mindfulness intervention in schools emphasised the importance of teachers' perception of the usefulness of the research given their influential role on students (Broderick & Frank, 2014). Alibali and Nathan (2010) also recommended communication with teachers as their participation is more likely if they choose to be involved rather than being instructed by a school principal.

Schools are under immense pressure to meet academic goals. Therefore, today most schools do not permit students to miss class time for research purposes

(Alibali & Nathan, 2010). This creates a challenge in finding time during the school week to run an intervention and to maintain participant attendance due to students having to 'give up' their own time. Consequently, a major difference in school-based research and laboratory-controlled studies is the reduced control of the physical and social conditions (Plummer et al., 2014). In all schools, the sessions were run either over lunch hours or in an enrichment period, which is a dedicated slot for the promotion of life-skills in many UK sixth forms. Ultimately, this impacted on attendance and particularly on participants arriving at sessions on time. This was stressful when running a novel intervention within a confined time slot. Alibali and Nathan (2010) highlighted the need for patience and flexibility in this work, which was particularly evident in these moments. The imagery intervention was most adversely affected by participants' lateness which led to the session sometimes being rushed which may have contributed to the paucity of findings in this condition. In one of the schools, students arrived late for the first session and several individuals attended a different session from the one they had been allocated to. This resulted in needing to postpone beginning the intervention until the following week. Therefore, it is essential to factor in additional time and flexibility when implementing school-based research. With hindsight, shortening the imagery intervention would have been beneficial and allowed for inevitable disruptions.

Pilot running the intervention and measure completion was another important step in the research process, akin to the 'rehearsals, rehearsals, rehearsals' phase of Plummer et al. (2014)'s theatre analogy. We recruited several kind trainees from our cohort to be mock participants in a trial run of all sessions of the intervention. This was hugely valuable for managing timing and consolidation of the materials. One aspect that I had not anticipated in this stage was that facilitating a group intervention in schools as an outside researcher places you in a difficult position when managing participant behaviour. In their compassion-based school research, Welford and Langmead (2016) commented on the importance of clear

boundaries for increasing the sense of security in schools. I noticed that as a researcher, rather than a teacher, I did not have the authority to reprimand participants, particularly as they were present in a voluntary capacity. At times, some students were behaving in a disruptive manner to the sessions. It may have been helpful to discuss this further with our primary school contacts and to agree a way of managing this in the group context.

An important, but frequently neglected, stage of school-based research is sharing the results of the study with those involved (Alibali & Nathan, 2010; Plummer et al., 2014). We emailed results to primary school contacts and to participants that opted for this communication (see Appendix N). Schools and participants expressed their gratitude on receiving this update. Additionally, we shared psychoeducation materials with schools who stated that they would use these in life skill teaching. This experience showed me that sharing results is an essential part of completing the research cycle in schools. The primary research contacts in schools were also fundamental to making the research possible. We shared our appreciation of their enthusiasm and consistent involvement in the study by buying them a thankyou card and chocolates. As researchers, we have a responsibility to facilitate the links between schools and future research. Other researchers have also recommended that this small gesture of gratitude is not to be overlooked (Alibali & Nathan, 2010; Plummer et al., 2014).

Opportunities

Despite the inevitable challenges in conducting school-based research, there are numerous advantages to studies taking place in the school setting. Firstly, schools offer access to a large number of potential participants which may not be easily reached in other contexts due to young people's reliance on parents or other adults to accompany them to unfamiliar areas. Alibali and Nathan (2010) emphasised schools as familiar and natural settings for students compared with

‘strange’ laboratory environments. Therefore, another strength of the current research is the increased ecological validity that the school setting provided. Alibali and Nathan (2010) also highlighted the often increased diversity of school samples which are more likely to represent the wider area. This was reflected in the demographics of our sample which encompassed a range of ethnicities.

Fazel, Hoagwood, Stephan and Ford (2014) outline the benefits of providing mental health interventions in schools given that it facilitates the capture of an entire population of children. They stated that schools are turning towards a three-tiered model, which combines universal interventions aimed at the whole school, selective interventions tailored for children at higher risk of developing mental health difficulties and indicated interventions for children with existing clinical symptoms. The current research on cultivation of self-compassion in adolescents may fit within both the universal and selective interventions, which may be particularly attractive due to the potential for prevention of mental health difficulties.

Conclusions

At first, approaching and attempting to conduct research in schools can feel like an overwhelming task. My experience highlighted that the inevitable challenges in school-based research demand consideration but with careful planning, enthusiasm and flexibility, it is possible to overcome these difficulties (Plummer et al., 2014). Gaining access can be the most difficult hurdle, which is a prerequisite for running a study. This process can be facilitated by using personal links with schools, where possible, and approaching schools well in advance. Additionally, forming a relationship with the primary school contact, usually a head or deputy head member of staff, is essential for ensuring success of the research. Flexibility and a calm approach are crucial for troubleshooting issues as they arise in classroom contexts and finally, ‘giving something back’ to schools by sharing your own skills and displaying your appreciation is an important, but frequently overlooked stage in the

research. Overall, these steps are a small price to pay for the benefits of working in this environment. Namely, research in schools allows access to a large group of potential participants, increased generalisability due to the natural setting for young people and an ideal location for developing preventative interventions that promote mental health and wellbeing.

Research with Adolescents

Once access to the school settings was achieved, the subsequent hurdle was engaging adolescents in the research. The vast biological and social changes during adolescence are outlined in Part 1 (pp 14-17, 22-24) and in Part 2 (pp 49-50). This developmental stage can increase vulnerability to the development of mental health difficulties but it also serves as an optimum point for intervention to develop resilience. Therefore, research is crucial in adolescence to increase understanding of the most effective ways to protect young people from future psychopathology. However, the complexity of this life stage can mean engaging adolescents in research is challenging.

Recruitment into and retention of participants in adolescent research is notoriously difficult (Steinbeck, Baur, Cowell & Pietrobelli, 2009). Like many studies, the current research was unable to reach the desired number of participants despite our multi-site approach. There were numerous factors that may have contributed to this. Firstly, like all participants, adolescents have competing time demands, particularly during the school day when they are under pressure to achieve academically. Secondly, it is important to consider the developmental influences on adolescent participation. Adolescents may struggle to anticipate the longer-term consequences of their participation in research due to differential maturation of neuronal networks that impact on reward processing and executive function abilities, including future planning (Verdejo-Garcia et al., 2010). Likewise, research may not directly benefit the individual meaning reward perception may be low. As previously

discussed in Part 1 (pp 23), the construct of adolescent egocentrism, in which young people have difficulty separating their own concerns from those of others, coincides with a central focus on ego development and increased autonomy. Therefore, adolescents may be less likely to engage in tasks that do not offer an immediate personal reward. One way we tried to address this was by entering participants into a prize draw for shopping vouchers, however, we were also careful to avoid overselling this benefit at risk of coercion. Contrastingly, adolescents often are unfairly stereotyped as uninterested and self-centred when in fact wider experience does not fit this representation (Roker, Player & Coleman, 1999). Take, for example, the recent 'Extinction Rebellion' movement for climate change which has been driven by a Swedish teenager. This, and many other examples of prosocial adolescent behaviour demonstrate adolescent altruism, and particularly the willingness of young people to devote their time to a wider social cause.

Peer behaviour is another factor that can affect adolescent engagement (Lamb, Puskar & Tusaie-Mumford, 2001). Research has shown adolescents are more strongly influenced by peers than any other age group (Blakemore & Robbins, 2012). This was evident at many points across the study. At the information session, students were observed to opt in to the study following a friend's interest. Students also asked to take information sheets for friends who were unable to attend which resulted in several students contacting us independently of the information session. Therefore, this can be advantageous to recruitment. However, the same is true when one member of a peer group declines to take part. We noticed several students in the same friendship groups that signed up initially did not attend the sessions.

Traditional research is unlikely to appeal to adolescents' interests without age-appropriate adaptation of communication and activities (Steinbeck et al., 2009). We took multiple steps to shape the study for an adolescent group. Firstly, in the material development stage of the research, we ran a focus group in one of the

schools. This was vitally important in gaining examples of relevant television programmes and celebrities to use within psychoeducation materials. Carona, Moreria and Silva (2016) shared that adolescents may have difficulty in relating the relevance of an intervention, such as mindfulness exercises, to their daily difficulties. They stated that age-related metaphors were an effective way of bridging this gap between theory and practice. Throughout the sessions, we used examples from television programmes to convey ideas, such as Anne Hathaway's character in *The Devil Wears Prada* to demonstrate social comparison. If more time was available, it may have helped to increase the involvement of adolescents in producing these materials. However, it would also be important to suitably reimburse adolescents for their time which would require additional funding.

An understanding of the research process is also essential for eliciting enthusiasm and cooperation of adolescents (Lamb et al., 2001). We were aware of the importance of the content and delivery of the information about the study when recruiting participants. We attended each school in person to provide an information session to potential participants. We took measures to capture adolescents' interest by carefully thinking about the language used, presenting key information simply and clearly, and we embedded a video and graphics interchange formats (GIFs) into the PowerPoint to make it more engaging. Steinbeck et al. (2009) noted that promising results are emerging for studies that adopt adolescent-friendly protocols, including internet and SMS facilities. Using videos and GIFs in the information session and during sessions appeared to be effective at gaining students' attention. The present study also used an online platform to collect all measures, which participants could access from their phones. Additionally, text message reminders were sent on the day of sessions and daily emails were sent to prompt participants to complete their home practice tasks. Informal participant feedback highlighted the benefits of this communication as many stated they may have forgotten to attend without the reminders. This could have been further improved if home practice tasks

were readily available on a phone application, however, development of this was beyond the scope of this research.

Researcher characteristics have also been flagged as crucially important when working with adolescents. Lamb et al. (2001) stated that the research team should be familiar with adolescent behaviours and Logsdon and Gohmann (2008) found that young people responded well to friendly, enthusiastic and clear communication which outlines the pros and cons of taking part. As Trainee Clinical Psychologists, the researchers have received training on working with a variety of groups of people, including children and adolescents. However, I was apprehensive about this aspect of the research as I had limited experience of working with adolescents prior to running the intervention. Despite this, I was able to engage the group by adapting my communication, aiming to embody a compassionate approach in line with the intervention and using my past experience of managing group dynamics in therapeutic contexts. Without this training and previous experience, it may be difficult for researchers who are unfamiliar in working with adolescents. Therefore, those running interventions with young people should be selected based on this experience or receive additional training.

Research into compassion-focused interventions for adolescents is in its infancy. Running this study also was a useful opportunity to observe the applicability of this approach with this age group. One aim of the focus group was to obtain feedback on the relatability of social scenarios, in which a friend was upset due to a difficult experience, for the imagery exercise. General feedback shared by adolescents was that they would have difficulty in being compassionate towards a friend in the scenario due to its lack of severity. To demonstrate, when given the scenario “your friend is upset because they weren’t invited to a social event that many others are going to”, responses were mostly focused on whether they had been invited rather than on their friend’s distress. These observations may demonstrate the construct of egocentrism known to take place in the adolescent

phase. This cognitive experience may have a detrimental impact on the perspective shift paradigm in the imagery exercise which requires adolescents to firstly be compassionate towards a friend. Therefore, future research may benefit from examining other types of compassionate imagery that do not rely on this process. Contrastingly, another explanation for the dismissive approach of some adolescents in the focus group was again due to peer influence and eliciting a reaction in others. Students were observed to laugh and agree with the first student's comment.

Another observation during the imagery exercise was participants' difficulty in remaining focused. The recording was approximately 12 minutes in duration. On reflection, this was a long time to expect adolescents to be able to maintain concentration for, especially when they might have had no previous experience of imagery or mindfulness tasks. Additionally, many students attended during their lunch break and so they also might have had to focus on cognitive tasks throughout the school day with no breaks. Consideration of the adolescent developmental phase highlights the potential difficulty adolescents may have with attention due to the shifting balance between frontal and limbic brain regions (Giedd, 2008). Therefore, if we were to repeat this study, I would shorten the duration of the imagery exercise to under 10 minutes. Notably, the home practice imagery task was around 7-8 minutes, however, participants may have been 'put off' trialling this version due to the longer duration in the session. A similar problem was noticed in completion of the 26-item Self-Compassion Scale (Neff, 2003). Data from five participants was removed due to invalid completion of this measure. These participants appeared to have clicked the same answer for all 26 items suggesting the length of the measure was unacceptable to adolescents. Rice, Bunker, Kang, Howell and Weaver (2007) recommended that investigators carefully consider the number and type of measures used as children can feel burdened by large amounts of required data or have difficulty in reading questionnaires. This issue highlighted the importance of piloting the measures with your sample prior to running the study.

I would recommend future research uses the shortened version of the SCS (Raes, Pommier, Neff & Van Gucht, 2011).

Conclusions

Research with adolescents brings unique challenges. Recruitment and engagement are notoriously difficult which is likely affected by a combination of developmental factors including changing brain processes, and social factors including the influence of peers. Multiple adaptations were made to the study to increase its applicability to adolescents including the addition of age-appropriate examples, based on adolescent feedback, to psychoeducation materials, and the incorporation of technology, such as the use of videos. Researcher characteristics, including experience working with adolescents, are also important for increasing engagement. The current researchers' training in clinical psychology was advantageous in adapting communication to this age group. Despite attempts to maximise relevance to this age group, the desired sample size was not achieved. Notably, of the 68 students that expressed interest in taking part, 51 completed the study, and all participants attended at least two of the intervention sessions. These outcomes suggest that these adaptations may have reduced attrition, however, more focus on initial recruitment was required. This study also provided useful information on the applicability of a compassion-focused intervention for young people. For example, adolescents appeared to have difficulty focusing on the imagery task for the duration of the recording. Therefore, it is recommended that future research trials a shorter version. In conclusion, flexibility and creativity is required in research with adolescents, with a particular focus on adapting interventions and research methodology to be age appropriate and relevant.

Acceptability of the Intervention

As the study was investigating the effect of a novel compassion-focused intervention, we also collected written feedback (see Appendix H) from participants at the end of the intervention sessions. There were a number of open-ended questions that asked about the most useful aspects, things that could be improved on and experience of the imagery task. Qualitative analysis of the responses obtained was beyond the scope of the empirical paper. However, informal reflections are included in this appraisal to provide a flavour of the participants' experiences. Overall, responses were positive suggesting the intervention was acceptable to participants. This was in line with the quantitative feedback data outlined in the empirical paper.

Useful Aspects

Many participants commented that the most useful aspect of sessions was learning about the adolescent brain with some highlighting the benefit of links to real life examples. This suggests the inclusion of examples relevant to adolescence was useful for participants' understanding. Quotes included:

> **"**Learning about the chemistry/evolution of the brain helped put things in perspective."

> "I liked learning about the changes in the human brain during adolescence. Also how the human brain has evolved since the dawn of time."

> "The scientific side of the sessions, it provided rational reasons for why I might feel a certain way and it was very reassuring."

> "The discussion aspects were very useful and the analogies as well."

Improvements

The most common suggestion to improve the sessions was to increase the number of interactive components in sessions as demonstrated in the following quotes:

> “Making the sessions interactive with activities that actually involves communicating or challenging peers.”

> “Maybe a bit more interactivity but it was already amazing.”

Interestingly, in line with previous discussion on the optimum ways to engage adolescents, several participants indicated increased text reminders would be useful for home practice tasks. We were reluctant to send daily SMS reminders for three weeks due to the invasiveness of this approach. However, it may be the case that receiving numerous daily phone alerts is a normal experience for most adolescents meaning this is a welcome method of increasing adherence.

> “If there was another way of doing the home task because it's hard to remember to check emails daily (if they were put on 'show my homework')”

> “If possible, send reminder texts for the daily task.”

Feedback on the duration of sessions was mixed, therefore, maintaining an hour-long session may be the best solution without further exploration of this element.

> “Less long.”

> “Maybe a little bit shorter.”

“Even more information (even though we didn't have much time).”

“Maybe if we had some more time for things? Probably isn't in your control but it would be helpful!”

Imagery Task

Responses about the experience of the imagery exercises were mixed. Many commented that it was ‘interesting’ although some outlined the difficulty in completing this task. Interestingly, several participants noted that this improved over time with practice. It would be interesting to further investigate whether practice influenced experience and effectiveness of the imagery task.

Positive.

“The visualisation and imagery tasks as they help me to understand how to be more compassionate to myself.”

“Interesting and useful on a consistent basis.”

“They were very relaxing and calming.”

“Easier as the sessions went by as my focus improved.”

Negative.

“I found the imagery task stressful as it was difficult to concentrate.”

“I found it quite difficult to experience or give self-compassion through imagery.”

"I found it intriguing but difficult. But it did get a bit easier with practice."

Concluding Reflections

This critical appraisal has addressed the main challenges experienced in conducting school-based research and in engaging adolescents in the research process. I have outlined some of the difficulties faced during the implementation of this study, shared details of the attempts to address them and considered wider experiences of this in the literature. For me, the main lesson learned from this appraisal is that challenges are intrinsic to school research and work with adolescents. However, these are often predictable and with careful planning and flexibility, obstacles can be overcome. This process is facilitated by adapting approaches to be appropriate for adolescents, development of relationships with school staff and importantly, maintaining an enthusiastic approach to the work. I hope that this is encouraging to other researchers who wish to work in these areas and that some of these recommendations can streamline this process.

Despite focusing on the challenges of research in schools and with adolescents, I thoroughly enjoyed the process and particularly the interaction with young people. Many of the participants were interested, curious and contributed enthusiastically during the intervention which made it a pleasurable and rewarding experience to deliver these sessions. Developing and running this study highlighted the complexity of the research process, which involved continual decision-making and thoughtfulness at each stage from the wording used in emails to primary school contacts to the development of age-appropriate psychoeducation materials. Finally, running this project jointly with another trainee, was hugely beneficial when approaching the described challenges as it often allowed discussion and consideration of methodological dilemmas. In addition, it was an incredible source of support when managing the occasional stressful moments.

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Appendices

Appendix A

Researchers' Contributions to the Joint Project

This thesis project was run jointly with Zoe Tweedale.

Zoe's title: A self-compassion intervention for healthy adolescents: Can it enhance self-compassion and reduce social comparison?

Riona's aims: My research was examining the effect of two compassion-focused interventions on self-criticism, self-compassion and state mood, in healthy adolescents.

Zoe's aims: Zoe's study was investigating whether there is a link between passive social media use and increased negative social comparison. She was also examining the effect of a brief self-compassion intervention on levels of social comparison and self-compassion.

The study was jointly designed with exception of the selection of measures which differed between the two projects. In terms of research governance, we completed the ethics application and data protection together. Zoe mostly worked on the risk assessment whereas I applied for funding. Zoe developed the consent forms and I created the information sheets.

Zoe took the lead in initial recruitment of schools through her personal links. Zoe and I worked on setting up the online research platform, REDCap, together although often worked on separate sections of this programme. Zoe developed the psycho-education materials for sessions one and three, whereas I designed the session two materials. I developed the imagery task including adapting the script for adolescents, recording the audio instructions and designing the instruction sheets. I also developed the psycho-education inter-session tasks.

We jointly promoted the study in one school and delivered one information session independently in the other two schools. Similarly with running the study, we shared the facilitation evenly by running three intervention groups each (two in separate schools and one in a school we both attended). We each took responsibility for collecting in session data, and for sending the measures and reminders for the groups we facilitated.

After the intervention, we jointly cleaned the data. We completed some of the preliminary analysis of the overall self-compassion scores jointly but all other analyses were completed separately.

Finally, the research proposal, literature reviews, write up of the empirical paper and the critical appraisal were all completed independently.

Appendix B

Ethical Approval

UCL RESEARCH ETHICS COMMITTEE
OFFICE FOR THE VICE PROVOST RESEARCH

23rd April 2018

Dr John King
Department of Clinical, Educational and Health Psychology
UCL

Dear Dr King

Notification of Ethics Approval
Project ID/Title: 12373/001: A brief compassion-focused workshop for adolescents

I am pleased to confirm in my capacity as Joint Chair of the UCL Research Ethics Committee (REC) that the data collection element of your study has been approved by the UCL REC until **23rd June 2019**.

Ethical approval is subject to the following conditions:

Notification of Amendments to the Research
You must seek Chair's approval for proposed amendments (to include extensions to the duration of the project) to the research for which this approval has been given. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing an 'Amendment Approval Request Form'
http://ethics.grad.ucl.ac.uk/responsibilities.php

Adverse Event Reporting – Serious and Non-Serious
It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator (ethics@ucl.ac.uk) immediately the incident occurs. Where the adverse incident is unexpected and serious, the Joint Chairs will decide whether the study should be terminated pending the opinion of an independent expert. For non-serious adverse events the Joint Chairs of the Ethics Committee should again be notified via the Ethics Committee Administrator within ten days of the incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Joint Chairs will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

Final Report
At the end of the data collection element of your research we ask that you submit a very brief report (1-2 paragraphs will suffice) which includes in particular issues relating to the ethical implications of the research i.e. issues obtaining consent, participants withdrawing from the research, confidentiality, protection of participants from physical and mental harm etc.

In addition, please:

- ensure that you follow all relevant guidance as laid out in UCL's Code of Conduct for Research: http://www.ucl.ac.uk/srs/governance-and-committees/resgov/code-of-conduct-research
- note that you are required to adhere to all research data/records management and storage procedures agreed as part of your application. This will be expected even after completion of the study.

With best wishes for the research.

Yours sincerely

[redacted]

Dr Lynn Ang
Joint Chair, UCL Research Ethics Committee

Cc: Riona Tweed & Zoe Tweedale

Appendix C

Volunteer Information Sheet

LONDON'S GLOBAL UNIVERSITY

VOLUNTEER INFORMATION SHEET

UCL Research Ethics Committee Approval ID Number: 12373/001
Project Title: Cultivating Self-Compassion
Department: Clinical, Educational and Health Psychology, University College London
Researchers: Riona Tweed (riona.tweed.14@ucl.ac.uk) Zoe Tweedale (zoe.tweedale.13@ucl.ac.uk)
Principal Researcher: Dr John King (john.king@ucl.ac.uk)

We would like to invite you to take part in a Clinical Psychology doctorate research project. Before you decide to take part, it is important you understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish before giving consent. Ask us if there is anything that is unclear or if you would like more information. Thank you for reading this.

What is the project's purpose?
Self-compassion is defined as treating oneself with kindness and warmth in the face of difficult life situations or negative self-perceptions. Research has found a link between self-compassion and wellbeing. Low self-compassion has been found to be related to self-criticism, mental health difficulties, and other factors including negative social comparison associated with social media use. However, growing evidence suggests self-compassion can be increased. This has been shown in compassion-focused interventions for adults. The aim of this study is to investigate whether compassion-focused activities influence self-compassion, self-criticism and negative social comparison in adolescents.

Why have I been chosen?
We are looking for approximately 90 healthy males and females, who are not currently engaging with psychological therapy, between the ages of 16 and 18.

Do I have to take part?
It is up to you to decide whether to take part or not. If you decide to take part, you will be given this information sheet to keep and asked to complete a consent form online. Your information is kept in confidence and your data will not be personally identifiable. You can withdraw at any time without giving a reason and without it affecting any benefits that you are entitled to.

What will happen to me if I take part?
You will be randomly allocated to one of three groups as outlined below:
1. A self-compassion information group
2. A self-compassion information and guided mental imagery group
3. Questionnaires alone

In groups 1 and 2, you will be asked to attend a session once weekly for three weeks. Before attending the first session, you will be asked to complete a consent form and several questionnaires online. These questionnaires will be repeated online before each session and two weeks after the final session. The questionnaires should take you 10-15 minutes to complete each time. The sessions will last for up to one hour and will take place in your school. The groups will include around 10 individuals. There will be small group activities but there will be no requirement to speak out in front of the group. In both groups, we will provide information on compassion, self-compassion, self-criticism and social comparison. In group 2, you will also hear an audio recording that will guide you to imagine interacting compassionately with a friend who is distressed.

In groups 1 and 2, after each session you will be asked to complete a daily homework task online for up to 10 minutes based on the content of the session. You will receive an automated email reminding you to do this.

In group 3, you will be asked to complete a consent form and several questionnaires online. These questionnaires will be repeated at two further time points; three weeks and five weeks after the first set. The questionnaires should take you 10-15 minutes to complete each time.

After completing these steps, we will provide you with debriefing information. You will be entered into a prize draw for One4All gift vouchers. There are 14 prizes ranging in value between £10 and £50.

What are the possible disadvantages and risks of taking part?
The tasks and questionnaires used in this study are not expected to be distressing for participants. However, if at any stage you wish to stop the experiment then you may do so. If you experience distress related to the study, please inform one of the researchers. If the researchers are concerned about your wellbeing they will link you in with the school pastoral team to ensure you are supported.

What are the possible benefits of taking part?
Whilst there are no immediate benefits for those participating in the project, you will learn about self-compassion and its importance. It is also hoped this work will contribute to the development of new psychological treatments.

Will my taking part in this project be kept confidential?
All the information we collect about you during the course of the research will be kept strictly confidential. You will be assigned a unique participant number so that your data is not personally identifiable. All information will be collected and stored in accordance with the Data Protection Act 1998. Only the investigators will have access to data from the study. You will not be able to be identified in any related reports or publications. Confidentiality will be respected as far as possible, unless there is evidence of potential harm to participants or others. In this instance appropriate members of the school pastoral team will be informed.

What will happen to the results of the research project?
The results of the study will be presented in two Doctorate of Clinical Psychology theses. We will disseminate results to the schools taking part and provide information on how to access these findings online.

What if there is a problem?
If you have a concern about any aspect of this study, you should speak to:

Riona Tweed and Zoe Tweedale (Trainee Clinical Psychologists) Email: riona.tweed.14@ucl.ac.uk and zoe.tweedale.13@ucl.ac.uk	Dr John King (Clinical Psychologist and Senior Lecturer at UCL) Email: john.king@ucl.ac.uk

You should direct any complaints about your treatment during the study to Dr John King. If you are not satisfied with the handling of your complaint, you can contact the Chair of the UCL Research Ethics Committee (ethics@ucl.ac.uk).

Data Protection Privacy Notice
The data controller for this project will be University College London (UCL). The UCL Data Protection Office oversees UCL activities involving the processing of personal data (for example, your name, mobile number and ethnicity). The UCL Data Protection Officer can be contacted at data-protection@ucl.ac.uk.

Your personal data will be only be processed for use in this research study. The legal basis that would be used to process your personal data will be performance of a task in the public interest. The legal basis used to process special category personal data (ethnicity) will be for scientific research or statistical purposes.

Your personal data will be processed so long as it is required for the research project. Personally identifiable information will be stored securely and deleted one year after the study has ended. Anonymised research data will be stored for up to 10 years after the study has ended.

If you are concerned about how your personal data is being processed, please contact UCL in the first instance at data-protection@ucl.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner's Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/

Thank you for reading this information sheet and for considering taking part in this research study.

Appendix D

Parent Information Sheet

LONDON'S GLOBAL UNIVERSITY

PARENT/GUARDIAN INFORMATION SHEET

UCL Research Ethics Committee Approval ID Number: 12373/001
Project Title: Cultivating Self-Compassion
Department: Clinical, Educational and Health Psychology, University College London
Researchers: Riona Tweed (riona.tweed.14@ucl.ac.uk) Zoe Tweedale (zoe.tweedale.13@ucl.ac.uk)
Principal Researcher: Dr John King (john.king@ucl.ac.uk)

We would like to invite your son or daughter to take part in a Clinical Psychology doctorate research project. 16-18-year-old individuals are able to provide consent to take part in research. However, we would recommend they discuss their decision to take part with their parent(s) or guardian(s). To facilitate this discussion, we are providing this information sheet for parents. Before a student decides to take part, it is important they understand why the research is being done and what participation will involve. Please contact us if there is anything that is not clear or if you would like more information. Thank you for reading this information sheet.

What is the project's purpose?
Self-compassion is defined as treating oneself with kindness and warmth in the face of difficult life situations or negative self-perceptions. Research has found a link between self-compassion and wellbeing. Low self-compassion has been found to be related to self-criticism, mental health difficulties, and other factors including negative social comparison associated with social media use. However, growing evidence suggests self-compassion can be increased. This has been shown in compassion-focused interventions for adults. The aim of this study is to investigate whether compassion-focused activities influence self-compassion, self-criticism and negative social comparison in adolescents.

Why has my son/daughter been chosen?
We are looking for approximately 90 healthy males and females, who are not currently engaging with psychological therapy, between the ages of 16 and 18.

Do they have to take part?
Participation is voluntary and not linked to your son/daughter's academic study. If he/she decides to take part, they will be given this information sheet to keep and asked to complete a consent form online. Participants can withdraw at any time without giving a reason and without it affecting any benefits that they are entitled to.

What will happen to my son/daughter if they take part?
Participants will be randomly allocated to one of three groups as outlined below:

1. A self-compassion information group
2. A self-compassion information and guided mental imagery group
3. Questionnaires alone

In groups 1 and 2, participants will be asked to attend a session once weekly for three weeks. Before attending the first sessions, participants will be asked to complete a consent form and several questionnaires online. These questionnaires will be repeated online before each session and two weeks after the final session. The questionnaires should take participants 10-15 minutes to complete each time. The sessions will last for up to one hour and will take place in school. Sessions are extra-curricular and will be arranged as far as possible in time outside formal lessons. The groups will include around 10 individuals. In both groups, we will provide information on compassion, self-compassion and other topics including self-criticism and social comparison. In group 2, participants will also hear an audio recording that will guide them to imagine interacting compassionately with a friend who is distressed.

In groups 1 and 2, after each session participants will be asked to complete a daily online homework task for up to 10 minutes based on the session content.

In group 3, participants will be asked to complete a consent form and several questionnaires online. These questionnaires will be repeated at two further time points; three weeks and five weeks after the first set. The questionnaires should take the participant 10-15 minutes to complete each time.

After completing these steps, participants will be provided with debriefing information and entered into a prize draw for *One4All* vouchers. There are 14 prizes ranging in value between £10 and £50.

What are the possible disadvantages and risks of taking part?
The tasks and questionnaires used in this study are not expected to be distressing for participants. However, if at any stage students wish to stop the experiment then they may do so. If participants experience distress related to the study, we ask that they inform one of the researchers. Any participant who raises concerns about their wellbeing will be linked in with the school pastoral team to ensure they are supported.

What are the possible benefits of taking part?
Whilst there are no immediate benefits for those participating in the project, they will learn about self-compassion and its importance. It is also hoped that this work will contribute to the development of novel psychological treatments.

Will my son/daughter's part in this project be kept confidential?
All information collected about participants during the course of the research will be kept strictly confidential. Participants will be assigned a unique number so their data is not personally identifiable. All information will be collected and stored in accordance with the Data Protection Act 1998. Only the researchers will have access to data from the study. Participants will not be able to be identified in any related reports or publications. Confidentiality will be respected as far as possible, unless there is evidence of potential harm to participants or others. In this instance, appropriate members of the school pastoral team will be informed.

What will happen to the results of the research project?
The results of the study will be presented in two Doctorate of Clinical Psychology theses. We will disseminate results to the schools taking part and provide information on how to access these findings online.

What if there is a problem?
If you have a concern about any aspect of this study you should speak to:

Riona Tweed and Zoe Tweedale (Trainee Clinical Psychologists)
Email: riona.tweed.14@ucl.ac.uk and zoe.tweedale.13@ucl.ac.uk

Dr John King (Clinical Psychologist and Senior Lecturer at UCL)
Email: john.king@ucl.ac.uk

Participants should direct any complaints about their treatment during the study to Dr John King. If they are not satisfied with the handling of their complaint, they can contact the Chair of the UCL Research Ethics Committee (ethics@ucl.ac.uk).

Data Protection Privacy Notice
The data controller for this project will be University College London (UCL). The UCL Data Protection Office oversees UCL activities involving the processing of personal data (for example, your name, mobile number and ethnicity). The UCL Data Protection Officer can be contacted at data-protection@ucl.ac.uk.

Your personal data will be only be processed for use in this research study. The legal basis that would be used to process your personal data will be performance of a task in the public interest. The legal basis used to process special category personal data (ethnicity) will be for scientific research or statistical purposes.

Your personal data will be processed so long as it is required for the research project. Personally identifiable information will be stored securely and deleted one year after the study has ended. Anonymised research data will be stored for up to 10 years after the study has ended.

If you are concerned about how your personal data is being processed, please contact UCL in the first instance at data-protection@ucl.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner's Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/

Thank you for reading this information sheet.

Appendix E

Consent Forms (Control and Intervention Groups)

LONDON'S GLOBAL UNIVERSITY

CONSENT FORM FOR ADOLESCENTS

Please read the statements below after reading the information sheet.

Cultivating Self-Compassion in Adolescents

Department of Clinical, Educational and Health Psychology

Researchers: Riona Tweed, *Trainee Clinical Psychologist*
riona.tweed.14@ucl.ac.uk
Zoë Tweedale, *Trainee Clinical Psychologist*
zoe.tweedale.13@ucl.ac.uk

Principal Researcher: Dr John King, *UCL Senior Lecturer*
john.king@ucl.ac.uk

Data Protection Officer: Lee Shailer
Contact Details: data-protection@ucl.ac.uk

This study has been approved by the UCL Research Ethics Committee (Project ID Number: 12373/001)

I confirm that I understand that by ticking each box below I am consenting to this element of the study. I understand that it will be assumed that unticked boxes mean that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may not be considered eligible for the study.

		Tick Box
1.	I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction. I agree to take part in: - A set of online questionnaires at three time points over the next 5 weeks	
2.	I consent to the processing of my personal information (name, email address, mobile number, age, gender and ethnicity) for the purposes explained to me on the information sheet. I understand that my information will be handled in line with all applicable data protection legislation.	

3.	**Use of the information for this project only:** I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.	
4.	I understand that my information may be subject to review by responsible individuals from the University for monitoring and audit purposes.	
5.	I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.	
6.	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
7.	I understand the benefits of participating.	
8.	I understand that the data will not be made available to any commercial organisations. It will only be reviewed by the researchers undertaking this study.	
9.	I understand that I will not be directly compensated for this research, but I will be entered into a prize draw for One4All vouchers.	
10.	I confirm that I understand the conditions needed to be a suitable participant as detailed in the Information Sheet and explained to me by the researcher(s).	
11.	I confirm that: (a) I am 16-18 years old (b) I am not currently having psychological therapy.	
12.	I agree that the researchers may contact a member of the pastoral team within the school if I raise any concerns about my own wellbeing or any other student in the school with the research team.	
13.	I am aware of who I should contact if I wish to make a complaint.	
14.	**Use of information for this project and beyond** I am happy for the data provided to be stored securely at UCL: - Personal identifiable data (name, email address, mobile number) would be stored for up to 1 year before being destroyed. - Anonymised research data would be stored for up to 10 years before being destroyed.	

If you have agreed to the above conditions and consent to participate, please click on the “next” button.

LONDON'S GLOBAL UNIVERSITY

CONSENT FORM FOR ADOLESCENTS

Please complete this form after you have read the Information Sheet, heard an explanation about the research and had an opportunity to ask any questions.

Cultivating Self-Compassion in Adolescents

Department of Clinical, Educational and Health Psychology

Researchers: Riona Tweed, *Trainee Clinical Psychologist*
riona.tweed.14@ucl.ac.uk
Zoë Tweedale, *Trainee Clinical Psychologist*
zoe.tweedale.13@ucl.ac.uk

Principal Researcher: Dr John King, *UCL Senior Lecturer*
john.king@ucl.ac.uk

Data Protection Officer: Lee Shailer
Contact Details: data-protection@ucl.ac.uk

This study has been approved by the UCL Research Ethics Committee (Project ID Number: 12373/001)

Thank you for considering taking part in this research. Riona and/or Zoe will explain the project to you before you agree to take part. If you have any questions after reading the Information Sheet or listening to the explanation, please ask Riona or Zoe before you decide whether to take part. You will be given a copy of the Information Sheet and Consent Form to keep and refer to at any time.

I confirm that I understand by ticking each box below I am consenting to this element of the study. I understand that it will be assumed that unticked boxes mean I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may not be considered eligible for the study.

		Tick Box
1	I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction. I agree to take part in: - Three self-compassion information sessions - Associated questionnaires at 4 time points - Brief homework tasks	

2	I consent to the processing of my personal information (name, email address, mobile number, age, gender and ethnicity) for the purposes explained to me on the information sheet. I understand that my information will be handled in line with all applicable data protection legislation.	
3	**Use of the information for this project only:** I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.	
4	I understand that my information may be subject to review by responsible individuals from the University for monitoring and audit purposes.	
5	I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.	
6	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
7	I understand the benefits of participating.	
8	I understand that the data will not be made available to any commercial organisations. It will only be reviewed by the researchers undertaking this study.	
9	I understand that I will not be directly compensated for this research, but I will be entered into a prize draw for One4All vouchers.	
10	I confirm that I understand the conditions needed to be a suitable participant as detailed in the Information Sheet and explained to me by the researcher(s).	
11	I confirm that: (c) I am 16-18 years old (d) I am not currently having psychological therapy.	
12	I agree that the researchers may contact a member of the pastoral team within the school if I raise any concerns about my own wellbeing or any other student in the school with the research team.	
13	I am aware of who I should contact if I wish to make a complaint.	
14	**Use of information for this project and beyond** I am happy for the data provided to be stored securely at UCL: - Personal identifiable data (name, email address, mobile number) will be stored for up to 1 year before being destroyed. - Anonymised research data will be stored for up to 10 years before being destroyed.	

If you have agreed to the above conditions and consent to participate, please click on the “next” button.

Appendix F

Welcome Email to Participants

Subject: Cultivating Self-Compassion Study

Hello,

Thank you for your interest in our study. You may have recently attended our information session or heard about this study from a friend and got in touch with us. We are just emailing to make sure you have a copy of the information sheets for you and your parent/guardian (see attached).

Please take some time to read the information sheet. We would encourage you to discuss your decision to take part with your parent/guardian. OR Please discuss your decision to take part with your parent/guardian and ask them to complete the attached consent form if they have not already done this.

We will be in touch soon with details of the group you have been allocated to.

In the meantime, if you have any questions please do not hesitate to contact us.

Best wishes,

Riona & Zoe
riona.tweed.14@ucl.ac.uk
zoe.tweedale.13@ucl.ac.uk

Appendix G

Vividness and Focus Questionnaires for the Imagery Group

Participant No:

Confidential

Imagery Vividness Questionnaire

Please rate how much you were able to:

1)	Hear the voice of the image	◯ Perfectly clear and vivid as real seeing ◯ Clear and reasonably vivid ◯ Moderately clear and lively ◯ Vague and dim ◯ No image at all, you only "know" that you are thinking of the object/person
2)	See the facial expressions of the image	◯ Perfectly clear and vivid as real seeing ◯ Clear and reasonably vivid ◯ Moderately clear and lively ◯ Vague and dim ◯ No image at all, you only "know" that you are thinking of the object/person
3)	Visualise the gestures of the image	◯ Perfectly clear and vivid as real seeing ◯ Clear and reasonably vivid ◯ Moderately clear and lively ◯ Vague and dim ◯ No image at all, you only "know" that you are thinking of the object/person
4)	Picture the image interacting with you	◯ Perfectly clear and vivid as real seeing ◯ Clear and reasonably vivid ◯ Moderately clear and lively ◯ Vague and dim ◯ No image at all, you only "know" that you are thinking of the object/person
5)	Give compassion	◯ Perfectly clear and vivid as real seeing ◯ Clear and reasonably vivid ◯ Moderately clear and lively ◯ Vague and dim ◯ No image at all, you only "know" that you are thinking of the object/person
6)	Receive compassion	◯ Perfectly clear and vivid as real seeing ◯ Clear and reasonably vivid ◯ Moderately clear and lively ◯ Vague and dim ◯ No image at all, you only "know" that you are thinking of the object/person

Imagery Focus Questionnaire

Please think about how you found doing the imagery task today and answer the below question.

1)	How easy did you find it to stay focused during the imagery task?	◯ 1 I wasn't able to focus at all during the task ◯ 2 ◯ 3 ◯ 4 ◯ 5 I was able to focus for the duration of the task

Appendix H

Psychoeducation and Imagery Group Feedback Questionnaires

Cultivating Self-Compassion – Feedback Questionnaire

1. **Please rate how you found the sessions in terms of:**

   a. **How interesting you found them**

   1 2 3 4 5

   Not at all interesting Very interesting

   b. **How useful you found them**

   1 2 3 4 5

   Not at all useful Very useful

   c. **How applicable the sessions were to you**

   1 2 3 4 5

   Not at all applicable Very applicable

2. **How likely would you be to recommend these sessions to another young person?**

   1 2 3 4 5

   Extremely unlikely Extremely likely

3. **What aspects of the sessions did you find most useful?**

   _____

   _____

4. **How do you think we could improve the sessions?**

   _____

   _____

5. **Any other comments about the sessions or home practice tasks**

   _____

   _____

Cultivating Self-Compassion – Feedback Questionnaire

1. **Please rate how you found the sessions in terms of:**

   a. **How interesting you found them**

   1 2 3 4 5

   Not at all interesting Very interesting

   b. **How useful you found them**

   1 2 3 4 5

   Not at all useful Very useful

   c. **How applicable the sessions were to you**

   1 2 3 4 5

   Not at all applicable Very applicable

2. **How likely would you be to recommend these sessions to another young person?**

   1 2 3 4 5

   Extremely unlikely Extremely likely

3. **What aspects of the sessions did you find most useful?**

   _____

   _____

4. **How do you think we could improve the sessions?**

   _____

   _____

5. **Please comment on how you found the imagery practice in session**

   _____

   _____

6. **Any other comments about the sessions or home practice tasks**

   _____

   _____

Appendix I

Electronic Link to Psychoeducation Materials and Session PowerPoints

https://drive.google.com/drive/folders/1hkAA28p_QOvvc4MNdw4XfRy0unG80JF9

Appendix J

Recruitment Poster

UCL

Do you often compare yourself to others? Do you feel that what you do isn't good enough?

If so, you may be interested in our psychological study

The study will involve taking part in tasks, including online questionnaires and/or 3 group sessions of up to an hour and brief practice tasks at home.

All participants taking part will be entered into a prize draw to win a **One4All voucher**, which can be used at many high street and online retailers.
There are **14 prizes** ranging from **£10 to £50**.

If you are in **Year 12 or 13** and are interested, please come to an information session on:

Date: Friday 14th September
Time: 14:15-14:45
Location:

If you can't make it, please email Zoe Tweedale or Riona Tweed

Zoe.tweedale.13@ucl.ac.uk
Riona.tweed.14@ucl.ac.uk

This project is supervised by Dr John King, Senior Lecturer, UCL

Appendix K

Example Psychoeducation Home Practice Task

Home Practice Task

We would like you to do a brief daily task related to today's session. Each day you will receive an email in the morning with a unique link that will allow you to log onto a website to complete this task.

We will show you three self-talk phrases that you need to categorise into the three emotion systems (threat, drive and soothing). Below is an example. Write your guesses down.

Which system do you think is biggest in each of these self-talk phrases?

Phrase	System
"I am going to work really hard to try and get a B in my Maths exam"	
"What's the point in going to that party? Nobody will want me there anyway."	
"Well I didn't make the football team this year, but I did try my best and I was out of training due to an injury so it's okay."	

Appendix L

Example Imagery Script (Female Version)

Part 1

This exercise usually is easiest if you close your eyes. If that doesn't feel comfortable then you can softly focus your eye gaze on the floor.

Imagine the room you are sitting in now and you are alone. What can you see? What colour are the walls? Are there windows in the room? Which side of the room are the windows on? What can you see ahead of you? What is to your left? What is to your right? Take some time to familiarise yourself with the surroundings.

Imagine that your friend is sat on a chair opposite you. Try to bring the image of your friend to your mind, noticing the colour of her hair, her hairstyle and the colour of her eyes. Notice what your friend is wearing.

Your friend is really upset and crying. Her body is hunched up and facing down, she is looking down and holding her hands up to cover her face. Her head moves up and down slightly as she cries.

When you are ready, in your head say the first step of your compassionate response. (Pause)

Imagine your friend is absorbing what you have said, thinking about it and processing it. Imagine that she responds by moving her hands down, away from her face but she continues to cry.

Now imagine saying the second step of your compassionate response. (Pause)

Imagine your friend is absorbing what you have said, thinking about it and processing it. Imagine that she begins to sit upright a little, raises her face upwards a little and stops crying.

Now imagine saying the third step of your compassionate response. (Pause)

Imagine your friend is absorbing what you have said, thinking about it and processing it. Imagine that she responds by sitting upright and lifting her head up to look at you.

Part 2 - Embodiment phase for 'friend'

We are now going to ask you to perform some mental imagery tasks to help you get ready for the next stage of the experiment. In this part, we would like you to imagine that you are now your friend that you just imagined comforting. We will refer to this version of you as 'friend you'. Take a moment to imagine this.

Try to visualise yourself as if you are watching yourself from outside your body. First, create an image in your mind's eye of the room around you, remembering that you are now sat in

your friend's position. Imagine the room around you. Take your time to create and observe this picture in your mind.

Imagine that you are looking to your left. What can you see? Now, imagine what you could see if you were looking to your right. Imagine looking up.... and now down. Now imagine extending your arms out to your sides and moving them up and down, slowly as if you are flying. Imagine watching yourself doing this in the mirror.

Take a moment to visualise extending your arms out to either side again. Imagine looking at your right hand, as you move it up and down in your mind's eye.

Now imagine doing the same, but with your left hand. Imagine looking up at the ceiling above you, and then down towards your body, looking at your feet. Look back at yourself in the imaginary mirror again and picture yourself stepping forward with your right foot and back again. And now picture yourself doing the same with your left foot.

This time, imagine looking down at your right foot and taking a step forward. Then step back. And now do the same with your left foot.

Now spend a few moments visualising yourself doing some of these movements again in your mind's eye.

Part 3 – taking the perspective of your friend

Continue to imagine yourself as your friend. Imagine that you have not done as well as your peers in your exams and are feeling upset. Imagine that you are now sitting in your friend's position opposite compassionate you. In a moment you are going to imagine yourself responding compassionately towards 'friend you'.

When you are ready imagine compassionate you saying: "It feels awful when you don't do as well as everyone else in your exams. It's really upset you, hasn't it?"

Take some time to absorb and respond to what has been said to you.

Now imagine compassionate you saying: "Sometimes when we are sad it's helpful to think of someone who really cares about us." Again, take some time to absorb and respond to this.

Finally, imagine compassionate you asking: "Can you think of someone who loves you or is kind to you? What might they say to you now that would make you feel better?" Take your time to absorb and respond to this.

You have now come to the end of the task. When you are ready open your eyes and take off the headphones.

Appendix M

Imagery Exercise Instruction Sheet

Mental Imagery Task Instruction Sheet Week 1

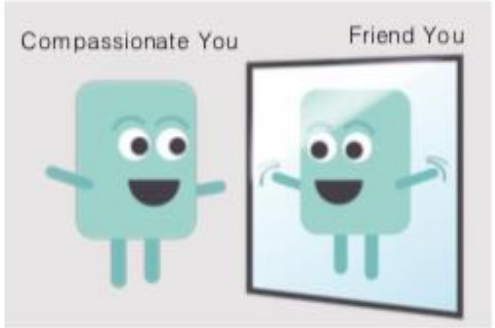
You are about to take part in a mental imagery (MI) task that will take approximately 10 minutes. Before you start it is essential that you read the information below carefully. If you have any questions, please don't hesitate to ask the researchers.

Context
We would like you to imagine the following situation: Your friend is upset because they feel they did not do as well as their peers in their exams.

Your task is to imagine interacting compassionately with your friend, by talking to him or her in your head. When you have done this, you will be asked to imagine experiencing your compassionate interaction from your friend's perspective. During the task, you will be seated, with your eyes closed and wearing headphones. You will hear audio instructions to guide you in imagining the scenario.

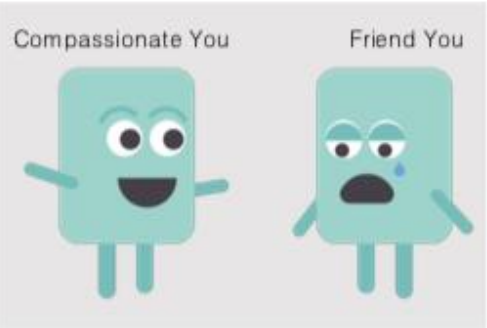
Stage 1

You will be asked to imagine the room around you. Then you will be asked to imagine your friend is seated opposite you and to interact with and comfort your friend by talking to him or her in your head. This may seem simple but many people have never been taught how to give compassion and may initially feel a little awkward doing this. Research suggests that when trying to comfort someone in this way there are three essential steps. See next page for the three-stage compassionate response.



Stage 2

The second stage involves imagining a change of perspective, from your perspective ('compassionate you') to your friend's perspective ('friend you'). You will then be asked to complete similar imagery tasks as before to familiarise yourself with the third stage of the experiment.



Stage 3

In the final stage, you will imagine experiencing your compassionate responses from your friend's perspective. We will refer to the first version of you who comforted your friend as 'compassionate you' and the other version of you sitting in your friend's position as 'friend you'.

Responding to Compassion

Research shows that when recovering from being upset, people are likely to stop crying, remove their hands away from their faces, lift their head up and then finally sit upright and make eye contact with you when they are fully comforted. However, people respond to compassion in different ways and for some this may be a slow process.

The Three-Stage Compassionate Response

Below are several sentences that you can say in your head to comfort your friend. Please take a few moments to remember these sentences. You do not need to remember them word for word, an approximate version is fine but please try to follow the script as closely as possible.

1. Validation: "It feels awful when you don't do as well as everyone else in your exams. It's really upset you, hasn't it?"

2. Redirection of Attention: "Sometimes when we are upset it's helpful to think of someone who really cares about us."

3. Memory Activation: "Can you think of someone who loves you or is kind to you? What might they say to you now that would make you feel better?"

When talking to your friend we would like you to **talk slowly, softly, and compassionately (in your mind)**. It is important that you **try not to rush your sentences**. Please practise repeating these phrases compassionately in your mind.

People vary in their ability to remain focused on imagery tasks and their ability to vividly imagine pictures in their mind. Please try your best and we will ask you at the end of the task to rate your focus and imagery vividness during the task.

Appendix N

Results Summaries (for Participants and Schools)

Cultivating Self-Compassion Study: Results

Our Aims

In this study, we included three groups. There was a control group and two experimental groups; a psycho-education group that attended three workshops on self-compassion, and an imagery group that received the same psycho-education and completed a self-compassion imagery task.

Hypothesis 1

We were interested in whether the imagery group would be more effective than the psycho-education at:

- increasing self-compassion
- decreasing self-criticism
- decreasing negative social comparison
- improving mood.

Hypothesis 2

We also investigated whether there was a relationship between social media usage and negative social comparison. Previous research has suggested those who engage in passive use (using sites to look at others' profiles/posts) are more likely to make negative social comparisons than those who engage in active use (posting, commenting and sharing material).

Hypothesis 3

For participants in the imagery group, we predicted that those who reported greater vividness of imagery and ability to focus would experience a greater improvement in their self-compassion and social comparison.

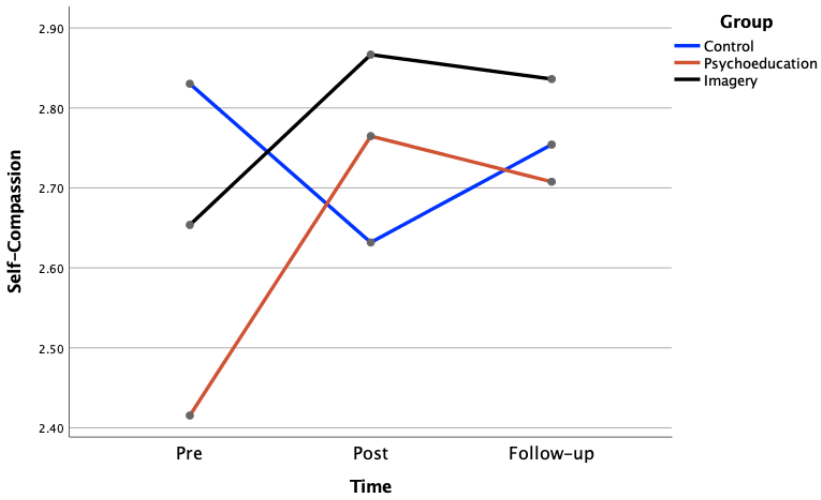
Results

Hypothesis 1

Counter to our predictions, the imagery group was not more effective at improving self-compassion, self-criticism, negative social comparison or mood. However, the psycho-education group did experience increases in self-compassion compared to the control group. The graph below shows the mean self-compassion scores for each group over the three time points (pre-, post- intervention and follow-up).

The Self-Compassion Scale measures different components of self-compassion, including positive (mindfulness, common humanity, self-kindness) and negative elements (isolation, overidentification with feelings, self-judgment). Interestingly, the

imagery group enhanced the positive components, but didn't affect the negative aspects of self-compassion compared to the control group.



Additionally, in the psycho-education group, negative social comparison scores decreased over time from pre-intervention to follow-up.

Hypothesis 2
There was no significant relationship found between passive social media use and negative social comparisons.

Hypothesis 3
Participants who reported greater imagery vividness showed a greater reduction in their levels of negative social comparison. A similar relationship was found between imagery vividness and improved self-compassion, but this did not quite reach statistical significance. No relationship was found between ability to focus and self-compassion or social comparison change.

Limitations
We were unable to recruit the number of participants we had hoped for and fewer students attended the imagery group which may have affected the statistical analysis. This may mean that compassionate imagery is beneficial but we would need a larger sample to test this further.

Implications
Our findings suggest that delivering our self-compassion psycho-education intervention can have beneficial effects on self-compassion and social comparison in adolescents. We are unable to draw strong conclusions about the effectiveness of the imagery intervention but it may be more effective at enhancing positive elements of self-compassion. Finally, how vividly an individual can generate compassionate imagery is related to these improvements.

Many thanks again for all of your time and effort in making this research project possible.

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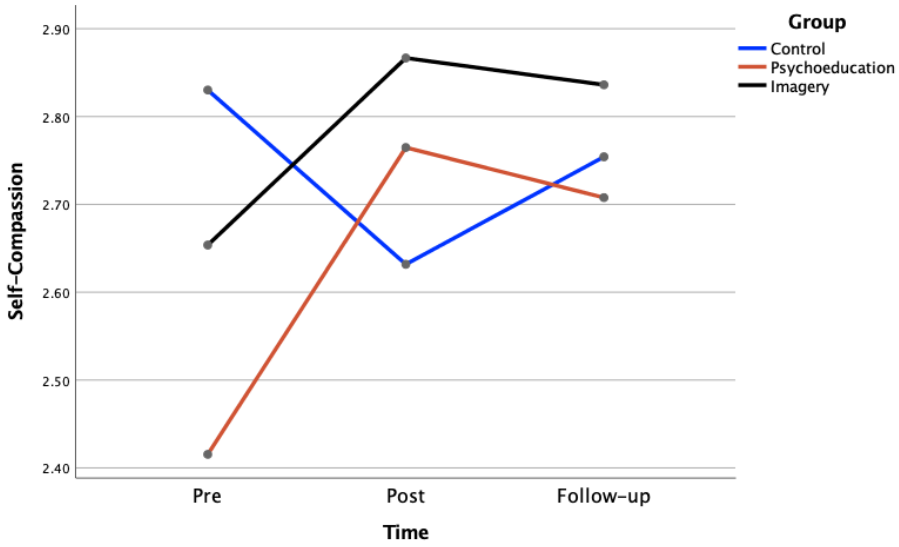

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Acceptability of the Intervention
Participants provided feedback on how interesting, useful and applicable sessions were to them. The majority rated sessions highly on these factors and would recommend it to others. Many participants provided qualitative feedback that the most interesting aspects of the sessions was learning about adolescent brain development and how this relates to their experiences of adolescence (e.g. increased vulnerability for self-criticism and negative social comparison).

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Implications
This three week compassion-focused intervention appears to be acceptable to adolescents. Our findings suggest that delivering our self-compassion psycho-education intervention can have beneficial effects on self-compassion and social comparison in

adolescents. We are unable to draw strong conclusions about the effectiveness of the imagery intervention but it may be more effective at enhancing positive elements of self-compassion. Finally, how vividly an individual can generate compassionate imagery is related to these improvements.

Many thanks again for all of your time and effort in making this research project possible.