

UNIVERSITY OF  
BIRMINGHAM



THE  
JUBILEE CENTRE  
FOR CHARACTER & VIRTUES

# GRATITUDE AND RELATED CHARACTER VIRTUES

RESEARCH REPORT

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# Jubilee Centre for Character and Virtues

The Jubilee Centre for Character and Virtues is a unique and leading centre for the examination of how character and virtues impact on individuals and society. The Centre was founded in 2012 by Professor James Arthur. Based at the University of Birmingham, it has a dedicated team of 30 academics from a range of disciplines, including: philosophy, psychology, education, theology and sociology.

With its focus on excellence, the Centre has a robust and rigorous research and evidence-based approach that is objective and non-political. It offers world-class research on the importance of developing good character and virtues and the benefits they bring to individuals and society. In undertaking its own innovative research, the Centre also seeks to partner with leading academics from other universities around the world and to develop strong strategic partnerships.

A key conviction underlying the existence of the Centre is that the virtues that make up good character can be learnt and taught. We believe these have largely been neglected in schools and in the professions. It is also a key conviction that the more people exhibit good character and virtues, the healthier our society. As such, the Centre undertakes development projects seeking to promote the practical applications of its research evidence.



# Gratitude and Related Character Virtues

## Research Report

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'LOVE AND COMPASSION ARE NECESSITIES,  
NOT LUXURIES. WITHOUT THEM  
HUMANITY CANNOT SURVIVE.'

Dalai Lama

# Foreword

## Professor Andrew Peterson

The idea that schools in Britain should pay explicit and focussed attention to the cultivation of young people's character has received significant attention from government and educators in recent years. It is no overstatement to say that the work of the Jubilee Centre for Character and Virtues at the University of Birmingham has been central to placing character education on the policy agenda for schools. Through exploring and strengthening character virtues in Britain, the Centre has led the way in illustrating the value of combining theoretical and empirical research in order to shed light on the nature of virtues, how they might be cultivated, and how they can feature in the work of the public professions and, indeed, within our everyday lives. Central to the now large corpus of research reports and papers by the Jubilee Centre, continue to be fundamental, and related, questions about the precise meaning of virtues and the ways in which virtues can be cultivated through education and schooling.

The title of this new research report – *Gratitude and Related Character Virtues* – makes clear that this is a study that seeks not to study specific virtues in isolation. Rather, it gets to grips with the not altogether clear relations between certain virtues. As the authors remind us in the introduction to the report, a better understanding of 'virtue clustering' holds important potential for education and educators.

Clearly, there are *prima facie* reasons for thinking that certain virtues may be connected with other virtues. When we think about the compelling character traits of someone whom we admire – or, indeed, when we ask young people to do so – it is often the case that we do point to more than one such trait. We might, for example, say

that a loved grandparent was kind, generous and caring. Similarly, while we may admire someone for exhibiting one specific virtue above all others – the courage of the Victoria Cross recipient, the loyalty of a close friend who has supported us through troubled times, or the compassion of the aid worker relieving the suffering of others – it would be difficult to maintain that they hold only this specific virtue alone.

However, while some leading scholars of character have identified groups or families of virtues, there is a lack of available empirical research to explain precisely which virtues are related or how they so relate. This provides educators seeking to cultivate virtues within young people with several crucial questions. Amongst these are how young people might develop precise understandings of individual virtues while also viewing related virtues as in some sense connected, as well as whether and how educating for one particular virtue might also cultivate such related virtues.

It is this latter question which underpins the aims of this report. In exploring the potential relationship between two other-regarding virtues – gratitude and compassion – the authors test the hypothesis that there is some form of mutual relationship between them. In addition, the authors also explore whether any relationship can be identified between the direct cultivation of gratitude and compassion and the indirect development of perseverance and wellbeing. Informed by a review of existing literature on the relationship between other-regarding virtues, the report details findings obtained from pre- and post-intervention tests conducted before and after five-week teaching interventions with lower secondary students focussing on either gratitude or compassion. Supplementing these

tests are data obtained through mind-maps in which students detail their conceptual understanding of the two virtues. As far as I am aware, this is the first empirical study to scrutinise the possible relation between the cultivation of gratitude and compassion.

This is a report which is honest and thought-provoking. It is also instructive for future studies. Three things struck me as particularly significant. First, that comprehending relations between virtues requires a clear understanding of the specific, individual virtues at play. As the authors note, it is important that educators 'take steps to ensure that students are able to discriminate between virtues, knowing what is special about and characteristic of particular strengths of character'. Second, that interventions may be more effective in situations where teachers have discretion and flexibility to tailor the resources to the needs of their particular contexts and class/es. Here, the authors suggest that materials provided to schools are best viewed as a 'toolbox' to be drawn upon rather than a 'recipe' to be followed. Third, based on the inconclusiveness of elements of the findings, is the suggestion that teaching interventions would benefit from being extended over a period longer than the five-week intervention employed in this study. Taken together, these proposals reinforce the principle that to be effective character education practices need careful and sustained commitment on behalf of educators, commitment underpinned by a deep awareness of both context and students. For this reason, amongst others, this is a report to be welcomed, and which should be read widely by educators interested in educating for character.

**Professor Andrew Peterson**  
Canterbury Christ Church University

'ONE LOOKS BACK WITH APPRECIATION TO THE BRILLIANT TEACHERS, BUT WITH GRATITUDE TO THOSE WHO TOUCHED OUR HUMAN FEELINGS. THE CURRICULUM IS SO MUCH NECESSARY RAW MATERIAL, BUT WARMTH IS THE VITAL ELEMENT FOR THE GROWING PLANT AND FOR THE SOUL OF THE CHILD.'

**Carl Jung**

# Executive Summary

The purpose of this research project was to elucidate the nature of relationships between virtues, both theoretically and empirically. This project formed part of the larger mission of the Jubilee Centre for Character and Virtues to work in partnership with schools and professional bodies on projects that promote and strengthen good character within the contexts of family, schools, and communities in the UK.

A literature review conducted at the outset of the project explored the interrelationships between the five virtues of forgiveness, humility, generosity, gratitude, and compassion. A theoretical analysis of these virtues, labelled 'the allocentric quintet', identified that there had been no examination to date of the relations between gratitude and compassion. These two virtues therefore became the focus of the school-based study that forms the empirical component of this research project.

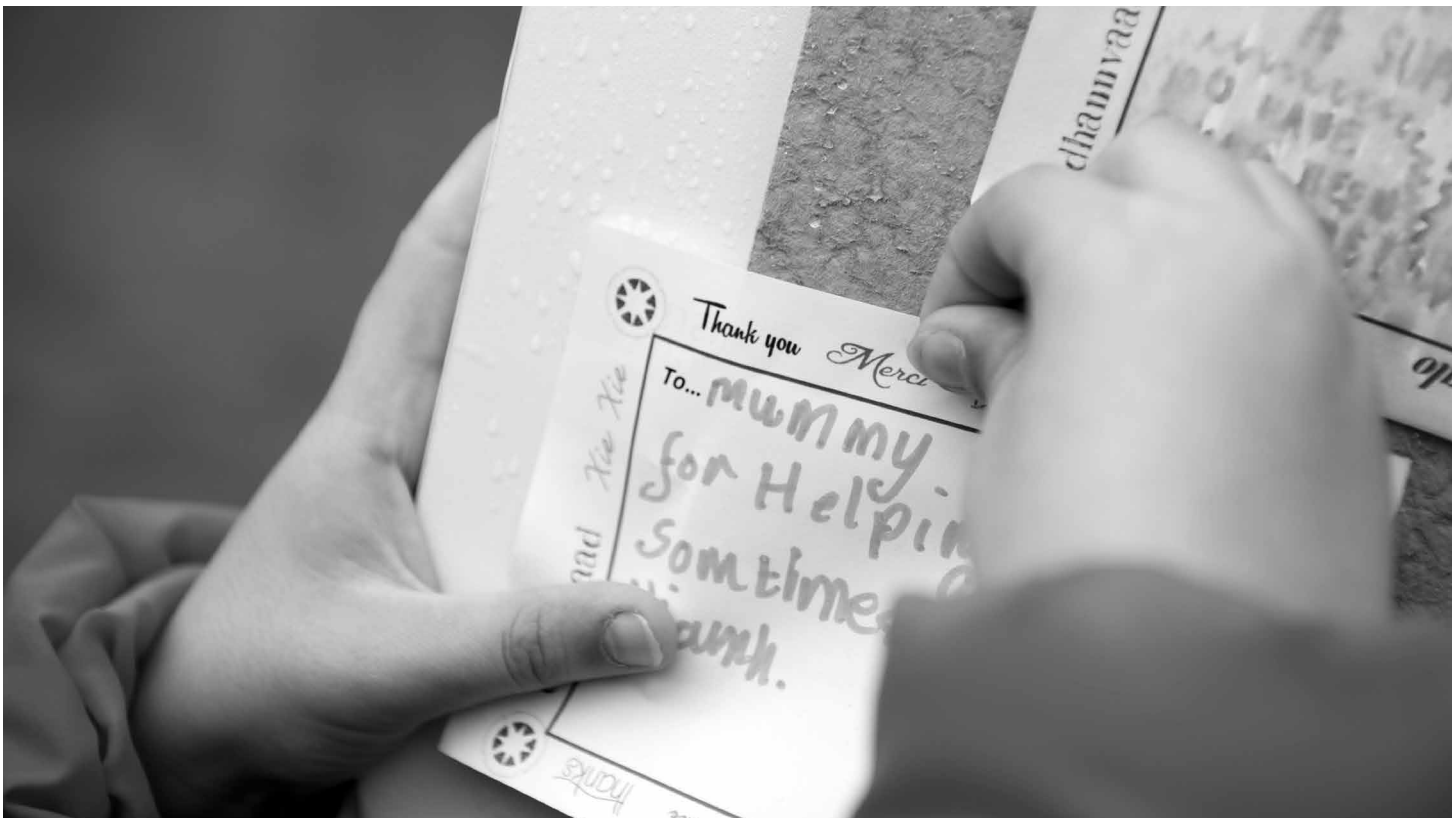
An original five-week educational intervention was implemented with the view to corroborate assumed relationships between the virtues, to see if promoting one of these virtues led to increments in the other. In addition to testing this hypothesis, the research aimed to contribute towards character and virtues development in schools, producing an intervention handbook for teachers, which is readily available for download<sup>1</sup>.

### *Key findings and implications*

The research project broke new ground in its ambitions and scope, adopting a school-based intervention design in the interests of providing a more ecologically valid methodology than the induction studies often used to explore relationships between other virtues of the 'allocentric quintet'. The findings from this preliminary examination, which incorporated both a pilot and a replication study, provide some support for the hypothesis that the virtues of compassion and gratitude may mutually reinforce one another. Data pertaining

to whether an intervention primarily targeted to promote either compassion or gratitude could result in the indirect promotion of the performance virtue of perseverance were inconclusive – so too were data relating to the effect of the interventions on wellbeing. Further research using different delivery modalities, a longer timeframe, and focussing on individual students rather than aggregate cohort data would shed further light on these matters.

The current project laid down conceptual foundations for the empirical examination of interrelations between virtues, by creating a specific intervention focussed on promoting the virtues of compassion and gratitude in the classroom. The theoretical significance of the project lies in the valuable work carried out in thinking through the design and form of an intervention study to examine the mutual interrelationship of virtues. This model could be adapted for studying other potentially reinforcing strengths of character.



<sup>1</sup> These resources are available to download at [www.jubileecentre.ac.uk/gratitudeandcompassion](http://www.jubileecentre.ac.uk/gratitudeandcompassion)



# 1 Purpose of the Report

This project was principally designed to deepen our understanding of how the moral virtues of gratitude, compassion, forgiveness, generosity, and humility relate to one another; the project examined these linkages both conceptually and empirically. The conceptual underpinnings of this endeavour are considered in a paper (Gulliford and Roberts, under submission), written under the auspices of the project, while the empirical dimension of the project took the form of a secondary school intervention study examining the relationship between two of the moral virtues listed above: gratitude and compassion. Following the Jubilee Centre's typology of virtues, as set out in *A Framework for Character Education in Schools* (Jubilee Centre, 2017), the project also examined how the other-regarding moral virtues of gratitude and compassion relate to the *performance* virtue of perseverance, as well as to wellbeing.

The primary research question the project sought to answer was whether a five-week intervention designed to cultivate *either* gratitude or compassion directly would have the *indirect* effect of also increasing the other non-targeted virtue. Based on the literature review, it was hypothesised that students engaged in a gratitude intervention would demonstrate increments in reported gratitude at post-intervention, relative to a waiting-list

control group. Likewise, students taking part in the compassion intervention would demonstrate increases in cognitive and affective empathy (the central emotional and cognitive components of the virtue of compassion) in comparison with controls. Would taking part in the compassion intervention also promote gratitude and vice versa? Such a finding would corroborate the theoretical and conceptual connections between these virtues as revealed by the literature review, and discussed in the forthcoming paper by Gulliford and Roberts (under submission).

A secondary research question was whether the gratitude and compassion interventions would also increase virtues that are *not* other-regarding moral virtues, such as the performance virtue of perseverance, which was measured pre- and post-intervention as a 'comparator virtue'. It was hypothesised that both gratitude and compassion interventions would show less effect on perseverance than on each other. The effect of taking part in either a gratitude or compassion intervention on self-reported wellbeing was also examined.

With some exceptions, recent work on cultivating human strengths has tended to focus on promoting qualities such as optimism, gratitude, or resilience *individually*. Positive

psychologists, especially, have tended to contribute to knowledge about human strengths in specific domains. However, given that life-situations tend to call forth from us a variety of strengths at any given time, there is much to be said for cultivating strengths and virtues together (Gulliford, 2017). Moreover, certain virtues have more in common than others, and members of such 'virtue clusters' might mutually reinforce one another.

The practical legacy of this research continues a reinvigorated focus upon character and virtues development in schools, with particular reference to promoting the other-centred moral virtues of compassion and gratitude. The intervention materials developed as part of this empirical study were well received by both teachers and students and provide a bank of tangible resources to help cultivate gratitude and compassion, specifically, in young people.

'AS WE EXPRESS OUR GRATITUDE, WE MUST NEVER FORGET THAT THE HIGHEST APPRECIATION IS NOT TO UTTER WORDS, BUT TO LIVE BY THEM.'

**John F. Kennedy**



## 2 Background

### 2.1 THE UNITY OF THE VIRTUES AND 'VIRTUE CLUSTERING'

The tendency to study human excellences individually is a relatively modern preoccupation. The ancient philosophers, including Plato, Aristotle and the Stoics, upheld the idea, in some form or another, that human virtues are so assimilated that to possess one virtue, somehow entails having them all. This did not mean that each person possessed *all* the human excellences to the same degree – this would not even have been entertained in the highly segregated society of the day. The idea of the 'unity' (or 'reciprocity') of the virtues took different forms. For Aristotle, the unity of virtues inhered in practical wisdom (*phronesis*), because each virtue necessarily implicates practical wisdom for its accomplishment (Nicomachean Ethics, 1145a2). As such, all human excellences share this common ground and are at least potentially integrated in an ideally virtuous person.

While the notion of the complete unity or reciprocity of all virtues might seem something of a stretch empirically – people embody some virtues to a far greater degree than they do others – one can clearly discern 'family resemblances' between virtues; this leads one to suspect that people manifesting one of the virtues in a given 'cluster' would be more likely to exhibit other virtues from the same group. The Jubilee Centre's own virtue taxonomy (Jubilee Centre, 2017), which groups virtues into four categories – intellectual virtues (such as critical thinking and reasoning), moral virtues (like compassion, honesty and gratitude), civic virtues (such as citizenship and service), and performance virtues (like perseverance and resilience) – testifies to a common judgement that it makes sense to classify virtues into 'types'.

It is often beneficial to create sub-categories within these broader classifications, or locate virtues across the boundaries of two (or even more) virtue types. For example, the well-known VIA classification consists of six overarching virtue categories: wisdom/knowledge, courage, humanity, justice, temperance, and transcendence (Peterson

and Seligman, 2004). To illustrate, according to the VIA, forgiveness is a strength that exhibits the virtue of temperance, but it could be argued that it might be better conceived as a virtue of humanity. A case could be made here, therefore, for locating forgiveness across the boundaries of these two virtue types.

'Virtue clustering' can be conceived and empirically scrutinised in a range of ways. One could base groupings on theoretical associations of family resemblance, or on empirically derived clusters based on factor analysis. A number of studies have attempted to corroborate the theoretical structure of the VIA by means of such factor analyses. Notably, none have found a six-factor solution that would support the original categorisation of the VIA taxonomy (Macdonald, Bore and Munro, 2008; Shryack *et al.*, 2010; McGrath, Greenberg and Hall-Simmonds, 2017; McGrath, 2015).

McGrath and Walker (2016) found a four-factor solution in youths aged 10–17, describing intellectual strengths, strengths of self-control, and two interpersonal factors reflecting general engagement and what they called 'other-directedness'. McGrath, Greenberg and Hall-Simmonds (2017) derived a factor they labelled 'caring' that echoes this same quality in adults. Thus the conceptual distinction between moral virtues like compassion and gratitude and virtues of self-management like perseverance, which underpins the design of the empirical element of the current research, receives some support from factor analyses of the VIA.

In the current research project, however, relations between different virtue clusters were examined by a different method. The empirical approach used here sought to confirm assumed relationships between virtues by an experiment (an intervention study), in which two supposedly related virtues were promoted to see whether the effect of targeting *one* of these virtues led to increments in the other, non-targeted virtue. A virtue that was not hypothesised to be part of this cluster (the virtue of perseverance) was measured both before and after the intervention for comparison. The current study therefore brought together conceptual analysis and

empirical investigation with the purpose of enlarging understanding of interconnections between virtues.

The cluster of virtues that were the primary focus of this study were labelled 'allocentric virtues,' meaning that they share a *focus on others* (from the Greek, *allos* meaning other). The virtues that make up this cluster are the moral virtues of forgiveness, humility, generosity, compassion, and gratitude. The privileging of 'the other' can be seen in all these virtues. For instance, when one forgives one places the offender at the forefront of concern, overriding the desire for revenge or retaliation with a concern for a wrongdoer's rehabilitation and restitution into the community.<sup>2</sup> The virtue of humility unseats the self from the limelight – from its undue focus on vainglorious and inflated projects and self-important comparisons. Generosity is the quality of being kind and unselfish and flows from a willingness to give to others freely and liberally. The Latin roots of the word 'compassion' (*suffering with*) suggest a similar shift of focus from self to other. Finally, the virtue of gratitude calls for an individual to see themselves as recipients of gifts from a source beyond themselves. The self is not the sole agent through which good things are brought about in our interconnected human lives.

These virtues were identified as making up the 'allocentric quintet' and it was proposed that the five virtues of the cluster work reciprocally to both strengthen virtue and attenuate vices like narcissism and self-importance (Gulliford and Roberts, under submission). The mutual relations between these virtues are especially apparent in the case of forgiveness where one needs compassion – and might benefit from humility – to forgive someone. Forgiveness, an extraordinarily *generous* response to wrongdoing, is likely to be potentiated by gratitude for *having been* forgiven one's own moral failings in the past.

<sup>2</sup> Note that there are 'species' of forgiveness that focus on forgiveness primarily for the sake of the forgiver's mental and physical health. However, this type of forgiveness is perhaps better construed as 'letting go', rather than forgiveness as a moral ideal.



Given the theoretical grounds for supposing the interconnectedness of the virtues of the 'allocentric quintet' (and indeed other virtue 'clusters'), the possibility presents itself that it will be beneficial to character development to promote virtues from the same 'clusters' together, rather than target virtues individually (Gulliford, 2017; Gulliford and Roberts, under submission).

A brief review delineating each of the five virtues of the allocentric cluster follows, after which existing empirical studies examining relations between some of the virtues of the quintet are discussed. In closing this section on the background to the current study, the reasons for narrowing the empirical investigation to the two virtues of gratitude and compassion are outlined.

## 2.2 THE VIRTUES OF THE 'ALLOCENTRIC QUINTET'

### 2.2.1 Gratitude

Of the virtues under discussion, gratitude has lately been the focus of the most sustained attention; this is perhaps because of the role it has been found to play in increasing and maintaining subjective wellbeing, satisfaction with life and improved mental health (Emmons and McCullough, 2003; Froh, Yurkewicz and Kashdan, 2009; Fagley, 2012; Froh *et al.*, 2011). Gratitude has also been shown to promote pro-social behaviour and reinforce social bonds (Bartlett and De Steno, 2006; Algoe, Haidt and Gable, 2008; Grant and Gino, 2010). Accordingly, it has been hailed 'the quintessential positive psychology trait' (Wood *et al.*, 2009: 43). Gratitude has been found to deliver successful outcomes consistently in positive educational contexts (Seligman *et al.*, 2005).

It should not be taken for granted that researchers in the field share the same underlying concept of gratitude (see Gulliford, Morgan and Kristjánsson, 2013; Gulliford, 2016). Moreover, the virtually uncontested status of gratitude as 'positive' can be challenged (Morgan, Gulliford and Kristjánsson, 2014; Gulliford and Morgan, 2018, forthcoming). Though it lies beyond the scope of the current review to rehearse debates here, suffice it to be acknowledged that there are a number of divergent sub-concepts of gratitude both within and across interdisciplinary borders (Gulliford, Morgan and Kristjánsson, 2013).

### 2.2.2 Generosity

Gratitude and generosity are conceptually reciprocal; gratitude is the fitting response to (genuine) generosity. The virtue of generosity is most often evidenced by outward behaviour but it may also be manifest in inward attitudes and feelings. Generosity is clearly allied to helping, altruism and pro-social behaviour generally. Through these channels one would expect generosity to be strongly linked to the virtue of compassion.

The virtue of generosity may be evident with regard to a range of goods; attention, money and time, for instance. One would expect the dispositionally generous person to be magnanimous (where possible) across all of these domains, though the degree to which that is so is an empirical question.

### 2.2.3 Forgiveness

Conceptual debates aim to distinguish forgiveness from a number of other approaches to wrongdoing, such as condoning, excusing, pardoning, and reconciling (Gulliford, 2013). Therapeutic forgiveness interventions have tended to incorporate philosophical discussion about the nature of forgiveness as part of the process. In contrast to gratitude, psychological approaches have tended to combine affective, cognitive, conative and behavioural elements in definitions and measures, rather than focussing almost exclusively on emotion. Worthington Jr. (2013: 277) reported that in one meta-analytic study of group forgiveness interventions, the time spent discussing definitions correlated over 0.5 with reported forgiveness (Wade, Worthington Jr. and Meyer, 2005). This finding gives practical weight to the suggestion that interventions to promote any virtue should begin by elucidating its meaning (Morgan, Gulliford and Carr, 2015; Carr, Morgan and Gulliford, 2015); a suggestion that has often been ignored in the case of gratitude.

Psychological approaches to forgiveness fall into two main categories (Gulliford, 2013). There are interventions which focus on effecting forgiveness through cognitive reframing strategies (Enright and Fitzgibbons, 2000; Enright, 2001; Smedes, 1984; 1997; Coleman, 1998) and approaches which aim to generate empathic identification with the offender (Worthington Jr., 2013). Both have demonstrated therapeutic success and have been subject to meta-analytic reviews (Baskin and Enright, 2004; Lundahl *et al.* 2008; Wade *et al.*, 2014).



### 2.2.4 Humility

Snow (2005) suggests a distinction be drawn between two species of humility; *narrow* and *existential*. The first involves awareness of specific personal traits perceived as deficiencies, while the second concerns the human condition and its awareness of its own finitude. In this sense, humility mirrors courage, which perhaps also comes in two kinds; one involving meeting *particular* 'slings and arrows', the other the angst of human existence more generally.

In addition to an awareness of flaws and limitations, humility also involves a certain way of seeing oneself in relation to others. Humble persons do not place themselves at the centre of their world and do not deem themselves to be more significant than they really are. This is not to say that the humble person has a low opinion of himself, rather that he is not preoccupied with himself:

*True humility is not thinking less of yourself; it is thinking of yourself less.*

C.S. Lewis

However, debate continues as to whether the humble person has an *accurate* assessment of their worth (Flanagan, 1990) or systematically underestimates it (Driver, 1989; 2001).

### 2.2.5 Compassion

A compassionate person privileges vicarious concerns for another person over subjective distress the other's misfortune might cause to them personally. Schopenhauer argued against Kant that compassion (rather than reason) was fundamental to ethics, and the view that sympathy and compassion are motivating emotions that give rise to helping behaviour, heroism and even sacrifice is the essence of the 'empathy-altruism' hypothesis (see Batson and Shaw, 1991).

An important distinction – a standard philosophical view since Hume and Smith – is to understand empathy as a psychological capacity rather than a virtue. Empathy *qua* capacity cannot be understood as a virtue (for it could serve vicious ends), though it *underlies* virtues such as compassion and sympathy, justifying the frequent use of measures of empathy (as here) in most empirical studies involving compassion (see Section 2.3).

According to Aristotle, whose analysis has largely stood the test of time (see Blum, 1980; Nussbaum, 2005; Cassell, 2009), there are three important components of compassion. First, the suffering involved must be serious. Secondly, compassion is warranted where suffering is perceived to be undeserved. Thirdly,

we feel compassion for others to the extent that we see their suffering as something that might similarly befall us (*On Rhetoric*, 1385b: 14-15).

Philosophers are unanimous in agreeing with Aristotle's first condition. Nussbaum (2005) believes Aristotle's non-desert condition is too harsh; compassion is possible when the suffering is out of proportion with the fault itself. On the third point, there seems to be agreement that compassion has to do with feeling some degree of similarity or solidarity with others. However, Nussbaum (2005: 132) suggests that similarity to others could be a means of promoting compassion; we are not required to conceive of the suffering as something that could *necessarily* happen to us. Thus compassion has cognitive, affective and behavioural elements; beliefs about the deservingness of suffering and of our common humanity, heartfelt feelings towards the sufferer's pain, and a behavioural response (see Peterson, 2017).

Compassion can be promoted through targeted exercises and practices. Loving Kindness Meditation (LKM), a method promoting both self-compassion and compassion for others, has recently been used in a number of studies (Carson *et al.*, 2005; Hutcherson, Seppala and Gross, 2008; Fredrickson *et al.*, 2008). Carson *et al.* (2005) found significant improvements in pain and psychological distress in a group of chronic back pain sufferers who undertook an eight-week course of LKM relative to controls, while Fredrickson *et al.* (2008) reported that daily practice of LKM increased experience of positive emotions and life satisfaction and reduced depression. While these are worthwhile ends, critics might contend that generating compassion *for others* seems tangential to the effects of the practice on the meditator. On this point, Hutcherson, Seppala and Gross (2008) found that even brief, laboratory-induced LKM created a sense of social connection toward strangers.

## 2.3 EMPIRICAL STUDIES ON RELATIONS BETWEEN THE VIRTUES OF THE ALLOCENTRIC QUINTET

Relations between virtues of the allocentric quintet have been the subject of empirical studies. Notably, however, there has been no examination to date of relations between gratitude and compassion – the focus of the empirical component of the current research project. However, research has been conducted on other pairs of these virtues which are germane to the current study, and whose limitations were instrumental in selecting the methodology used here.

In relation to generosity and gratitude, Bartlett and DeSteno (2006) showed that a temporary laboratory-induced state of gratitude led participants to help a person who had previously helped them, even when there was a cost associated with so doing. In a second study they showed that this effect extended to strangers. The feedback loop between gratitude and generosity (acts of reciprocal kindness) is not surprising, though Exline, Lisan and Lisan (2012) found a difference in terms of whether the kindness recalled was 'normative' (fitted with social norms) or 'non-normative' (went against social norms). An example of non-normative kindness is an act performed by a stranger or rival, as opposed to a loved one, or an act that was entirely supererogatory. Thus it would seem that others' generosity is perhaps more likely to give rise to mixed emotions (including suspicion) in the case of strangers or adversaries, mediating any clear-cut link between generosity and gratitude.

With regard to forgiveness and generosity, Karremans, Van Lange and Holland (2005) found that forgiveness increases benevolence towards an offender but also increases benevolence towards others. They suggest that forgiveness 'spills over' beyond the relationship with the offender, finding that reflecting on past forgiveness (vs. past unforgiveness) was associated with a greater probability of donating money to and volunteering for a charity. The authors suggest forgiveness restores a generalised pro-social orientation, a channel which may become blocked when forgiveness is lacking.

Fincham and Beach (2013) bemoaned the tendency for research on gratitude and forgiveness to have given rise to two largely separate literatures, and offered theoretical reasons as to why gratitude and forgiveness might influence each other. They identified gratitude as an 'empathic emotion' (Lazarus and Lazarus, 1994) that increases sensitivity and concern for others (which could sequentially lead to forgiveness and other pro-social behaviours). Neto (2007) raised the possibility that the 'redemptive' properties of gratitude may potentiate forgiveness: 'Gratitude is part and parcel of a creative process whereby self-destructive emotions are transformed into ones that permit healing and restoration. According to the current findings gratitude was a significant predictor of the overall tendency to forgive' (Neto, 2007: 2321). Similarly, Narula (2015) highlighted that expressing gratitude for adverse life experiences could enable a person to positively reframe past events, for which forgiveness might also be an appropriate response.

Empathy is thought to be the fundamental psychological capacity that underlies the virtue of compassion, qualifying the widespread use of measures of empathy (as here) to evaluate the success of compassion interventions. Konstam, Chernoff and Deveney (2001) found that forgiveness positively correlated with empathic concern and cognitive perspective-taking. LaBouff *et al.* (2012) found that humble people were more compassionate than others, and developed the 'humility-helpfulness hypothesis' on the back of findings from a series of three studies. In the first, they found that self-reported humility was the strongest correlate of self-reported helpfulness. In a second study they showed that those participants scoring higher on an *implicit* measure of humility were significantly more likely to help a person they believed to be in need (a fictitious fellow student who had an injured leg and needed notes taking from lectures). In a third study using both explicit and implicit measures, they reported a unique effect of humility on helping behaviour, having controlled for other factors.

In a study primarily designed to promote humility, Lavelock *et al.* (2014) found increases in forgivingness (as well as humility) in the experimental 'humility-intervention' group, in contrast with controls. In discussing the study, they drew explicitly on the view, similarly advanced here, that virtues are related to one another, whilst acknowledging that some virtues may have closer affinities than others. For instance, they noted that while humility, forgiveness and patience increased as a result of the intervention, no increases were found for self-control (Lavelock *et al.*, 2014: 107) – notably a performance virtue rather than a moral virtue (Jubilee Centre, 2017).

These studies demonstrate mutually reinforcing relations between the five virtues under consideration. A number of possible 'substrates' could explain why these virtues seem to enjoy reciprocally supportive relationships. For instance, empathy and perspective-taking seem to be capacities common to these virtues. Another explanation is a 'generalised pro-social orientation' that leads practitioners of these virtues to privilege the needs of others over their own. Humility appears to support forgiveness interventions, promote generosity and be linked to gratitude, though it has been the target of very few direct interventions itself – the study by Lavelock *et al.* (2014) seems to be the exception.

In addition to breaking new ground in examining relationships between compassion and gratitude, the focus in the current study on these two virtues is particularly suitable in the school context. Gratitude has been found to be a particularly successful and popular component of a number of school-based interventions (Seligman *et al.*, 2005; Seligman *et al.*, 2009) and the importance of developing compassionate caring for others is unlikely to meet with resistance from parents, teachers or indeed students themselves. Moreover, as Peterson (2017: 10) has noted, compassion can be found within a number of important fields of education, including character education, positive psychology, wellbeing, mindfulness, global citizenship, religious education and values education.

On the other hand, and for different reasons, it would be difficult to incorporate the virtues of generosity, forgiveness and humility into a school-based intervention study. A study focussing on generosity would require that students give their time, attention or money; bestowing such resources would be problematic. Children simply do not have time to give away in the school day, and varying amounts of money at their disposal. Forgiveness would also be a difficult virtue to incorporate in the school context. It would be important for schools to be fully equipped to offer counselling for young people who might find some elements of forgiveness intervention activities distressing or even traumatic. Finally, the virtue of humility does not seem to be well understood by many adults and has been side-lined by philosophers such as Nietzsche and Aristotle. As such, it would be challenging to implement in a school-based intervention, at least until Key Stage 5 (16–18 years). In consequence, the decision was taken to focus on the two relatively uncontroversial virtues of the 'allocentric quintet' – the virtues of gratitude and compassion.

## 2.4 OVERALL EVALUATIVE GOALS

The main goal of the research project was to shed light on relationships between virtues both theoretically and empirically. This was achieved by means of a literature review, which examined conceptual interrelations between the five virtues of forgiveness, gratitude, generosity, compassion, and humility: a virtue cluster identified as the 'allocentric quintet' (Gulliford and Roberts, under submission). In addition to carrying out a conceptual review of, and reflecting upon the mutually reinforcing interconnections between these virtues, the project sought to corroborate these theorised relationships empirically by conducting an intervention study that aimed to promote two of the five virtues of the allocentric cluster (compassion and gratitude).

It was hypothesised that participants engaged in either a school-based gratitude or compassion intervention would demonstrate increments in reported gratitude or empathy at post-intervention, relative to controls. However, the principal objective was to see whether taking part in the compassion intervention would also promote gratitude and vice versa. This is not just of theoretical interest; the practical implications of such reciprocal virtue strengthening could be particularly influential in the classroom, where promoting character strengths may perhaps be better accomplished indirectly by targeting associated strengths. The question of whether it is possible to cultivate virtues in this indirect way was therefore addressed in both the conceptual and empirical components of this research project.

A secondary goal of the project was to develop a practical resource to cultivate in young people the virtues of gratitude and compassion. It must be acknowledged, however, that the success of the intervention in developing grateful and compassionate young people was limited by the relatively short timeframe of the project.

'WHO IS MY NEIGHBOUR? MY NEIGHBOUR IS ANY PERSON WHO NEEDS HELP.'

Girl, aged 12

# 3 Methodology

## 3.1 RESEARCH DESIGN AND INSTRUMENTS

The project began with a review of the relevant literature in the field. This incorporated both conceptual literature on the putative linkages between gratitude, generosity, compassion, forgiveness, and humility (drawn from both philosophy and psychology), as well as the predominantly psychological literature that shed light on these relationships from an empirical perspective.

As noted in the previous section, there has been no empirical examination to date of the relationship between the virtues of gratitude and compassion, which made this pairing an ideal candidate for further examination. It was decided that the research would take the form of a school-based intervention study focussed on promoting either gratitude or compassion over a five-week period. This timeframe allowed for the programme, and the associated pre-intervention and post-intervention questionnaires, to be administered within a half-term period without any breaks in the delivery for holidays. As such, administration across participating schools was standardised. Experimental groups who had participated in either a gratitude or compassion intervention were compared with same-school waiting-list controls, who had not been involved in either intervention. In order to examine whether the gratitude intervention indirectly promoted compassion (and vice versa) pre- and post-intervention questionnaires were developed (see Section 3.3), which were completed by all three cohorts (gratitude, compassion and control).

## 3.2 INTERVENTION HANDBOOKS

Drawing on a combination of existing studies that had yielded demonstrable effects in promoting gratitude or compassion, and incorporating new exercises designed to be engaging for young people aged between 11 and 13, two teacher handbooks – were created. One handbook focussed on promoting gratitude, the other on compassion and both encouraged young people to reflect on the *meaning* of gratitude and compassion; this is

commensurate with the Jubilee Centre position that a key element of virtue or character education should involve reflection on the meaning of virtues (Morgan, Gulliford and Carr, 2015; Carr, Morgan and Gulliford, 2015; Davison *et al.*, 2016).

The gratitude teacher handbook combined effective methods of promoting gratitude that have been used with both adults and children, such as writing and delivering thank you letters (Seligman *et al.*, 2005), gratitude journaling exercises (Emmons and McCullough, 2003; Geraghty, Wood and Hyland, 2010a; Geraghty, Wood and Hyland, 2010b) and gratitude reframing exercises. There was, in addition, a student workbook, which explored themes surrounding the concept of gratitude, such as whether one should be grateful if a benefit has an ulterior motive and whether a benefit needs to materialise in order for a person to be grateful. The use of narratives offers an effective and engaging approach to teaching about virtues (Peterson, 2017) and was used in the Jubilee Centre's *Knightly Virtues* programme (Arthur *et al.*, 2014).

The compassion teacher handbook was similarly based on existing research and brought together effective methods of fostering compassion, including LKM. This practice has been successfully used in psychological experiments and therapeutic interventions (Carson *et al.* 2005; Hutcherson, Seppala and Gross, 2008; Fredrickson *et al.*, 2008). The programme aimed to enhance children's empathic concern for others, cognitive perspective-taking skills and compassionate behaviour with a combination of reflective, dramatic and written activities. A student workbook based on the theme of *The Good Samaritan* was used to explore the concept of compassion.

Some activities were designed to be implemented during form time on a daily (or near daily) basis, while other handbook content was designed to fit a weekly hour-long lesson. It was hoped that the combination of regular short activities and longer lesson-length activities would combine incremental and habitual learning with more in-depth focus on the

virtues in the weekly lesson. All the materials used in the intervention are available for download from the Jubilee Centre for Character and Virtues website:

[www.jubileecentre.ac.uk/gratitudeandcompassion](http://www.jubileecentre.ac.uk/gratitudeandcompassion)

## 3.3 PRE- AND POST-INTERVENTION EVALUATION

A pilot study was conducted to test the materials selected for comprehension and to provide an assessment of the experimental hypotheses. Pilot pre- and post-intervention questionnaires incorporated most of the scales listed below that were ultimately used in the main study. However, the pilot intervention questionnaires differed from the final questionnaires in two respects. First, in addition to measuring gratitude with the GQ6 (McCullough, Emmons and Tsang, 2002), the pilot study also incorporated the Multi-Component Gratitude Measure (MCGM) developed by Morgan, Gulliford and Kristjánsson (2017) to see whether this adult questionnaire could be used to assess gratitude in adolescents. Second, the pilot evaluation questionnaires incorporated the Questionnaire of Cognitive and Affective Empathy (QCAE), created by Reniers *et al.* (2011), which was replaced by the Interpersonal Reactivity Index (IRI) (Davis, 1983) in the main study.

The content of the pre-intervention (Time 1) and post-intervention (Time 2) questionnaires used in the main study was identical, though their presentation differed slightly in order to make the T2 questionnaire appear different to participants. A measure that had been approved for the pilot study – the Brief Multi-Dimensional Students' Life Satisfaction Scale (Seligson, Huebner and Valois, 2003) – was used at the beginning of the post-intervention questionnaire to change the initial appearance of the survey. The order in which the scales were presented at T2 also differed from the sequence in T1.

To summarise, both pre-intervention and post-intervention questionnaires for the main replication study included the following:

- **Demographic information** (gender, age, ethnicity, religious affiliation and religious practice).<sup>3</sup>
- The **GO6** (McCullough, Emmons and Tsang, 2002). This short gratitude measure consists of six items which tap grateful emotions and is answered on a seven-point Likert scale. This robust measure has been used extensively in gratitude research.
- The **Perseverance Subscale** items from the 198-item **VIA Youth Survey** (Peterson and Seligman, 2004; Park and Peterson, 2006; Peterson and Park, 2009). The nine items constituting this measure are answered on a five-point Likert scale.<sup>4</sup>
- The **Subjective Happiness Scale (SHS)** (Lyubomirsky and Lepper, 1999). This short (four-item) measure is also answered on a seven-point Likert scale.
- The **Empathic Concern** and **Perspective-Taking** subscales of the **Interpersonal Reactivity Index (IRI)** (Davis, 1983). These 14 items are answered on a five-point Likert scale.
- The **Brief Multi-Dimensional Students' Life Satisfaction Scale (BMSLSS)**<sup>5</sup> (Seligson, Huebner and Valois, 2003). This psychometrically robust six-item measure was designed for youth populations and is answered on a seven-point Likert scale.

In addition to the post-intervention questionnaire, which was included to tap reported internal changes in students' grateful dispositions, empathic concern and perspective-taking ability, participants' understanding of the virtues of either gratitude or compassion were assessed at pre- and post-intervention by asking students to draw 'mind-maps' relating to either compassion or gratitude. 'Mind-maps' are frequently used as a teaching resource in UK schools, and consist of a diagram in which information is represented visually, usually with a central idea placed in the middle (in this case, the target word of either compassion or gratitude), with associated words and ideas arranged around it. The mind-maps therefore offered a basic measure of conceptual complexity, both before and after the intervention.

Using a quantitative evaluation tool (the pre- and post-intervention questionnaires) alongside qualitative data (the mind-maps) permitted assessment of whether the intervention had succeeded in developing the virtue of gratitude and the qualities of empathic concern and perspective-taking underlying compassion, in addition to assessing changes in conceptual understanding of these virtues as a result of participating in the five-week intervention. While the hope was to track changes in 'internal state' by means of the pre- and post-questionnaires, the mind-maps offered insight into changes in students' 'virtue literacy' (knowledge, understanding and application of virtue language, Jubilee Centre, 2017) attributable to the teaching content of the intervention.

### 3.4 DATA ANALYSIS

Hard copies of the questionnaires and files documenting the mind-map features were entered into an MS Office Excel database for analysis. Data from the questionnaires were subsequently transferred to SPSS and NVivo for further analysis. Questionnaire responses were examined for errors and only those with complete responses were included in the dataset.

Data analysis consisted of compiling descriptive statistics of answers from the three groups (the gratitude cohort, the compassion cohort and the control cohort) to enable comparisons between the groups to be made. Data was analysed by school, rather than by examining the dataset as a whole.<sup>6</sup>

The mind-map data was also analysed by school. Following Sweeney *et al.* (2016), the number of relevant features for each target virtue was calculated both before and after the intervention to gauge whether there were increments in the quantity of pertinent features of gratitude or compassion referenced by participants at T2. The list of features deemed relevant was decided upon by two coders, and any disagreements about whether the words were considered relevant features of the target virtue were resolved by a third party.

In addition to the assessment afforded by the above procedure, 'word cluster diagrams' (or 'word clouds') were created using NVivo, to produce pictorial representations of the features of the mind-maps across the cohorts in each school both before and after the intervention. These diagrams consist of a graphic representation in which words are arranged artistically in close proximity and the size of each word's type is proportional to the word's frequency. This method offers a means of presenting all the data derived from a cohort at once, allowing key differences at pre- and post-intervention to be observed at a glance.



<sup>3</sup> Note that in order to match Parts 1 and 2 of the pre-intervention and post-intervention questionnaires, demographic information (including name) was solicited on both test occasions. Once matching was achieved names were removed and thereafter participants were referred to by a unique participant number.

<sup>4</sup> Note that the VIA Youth Survey was not created and/or tested to measure this subset of the 24 character strengths, and therefore the subset version of the survey cannot be considered a validated measure.

<sup>5</sup> This was only used in the post-intervention (T2) questionnaire in the main study to change the appearance of the survey. The data collected from this were not analysed as this measure had not been used in the T1 questionnaire.

<sup>6</sup> It was decided that this strategy would be more sensitive to differences in implementation that would arise as a result of the intervention being administered differently by teachers from different participating schools.

### 3.5 LIMITATIONS

There were limitations regarding the sampling of schools who took part in the study, given that it relied heavily on gatekeepers (for the most part, teachers) *willing* to promote the proposed study to their schools. Consequently, only those initially attracted to the study took part. As a consequence, a 'self-selection' bias in sampling must be acknowledged. There would have been no way to avoid this, however, since the intervention could not have been imposed on schools by random selection.

Moreover, it was felt that the intervention *required* some enthusiasm on the part of the schools involved, given that the project content would be delivered by teachers. Since participating schools were drawn from across England, and the intervention incorporated weekly and daily activities, it simply was not feasible for the intervention to be delivered by the primary researcher. As such, a degree of control was ceded to teachers in terms of the way in which course content was shared with

students. It should be acknowledged therefore, that as a result teachers were *de facto* covariates in the research, as some may have been more committed to the aims and objectives of the course content than others. The fact that the content was delivered by different teachers in their respective schools was an additional reason for analysing data by school, allowing differences of implementation to be observed; this differentiation would not have been possible had the dataset been analysed as a whole.

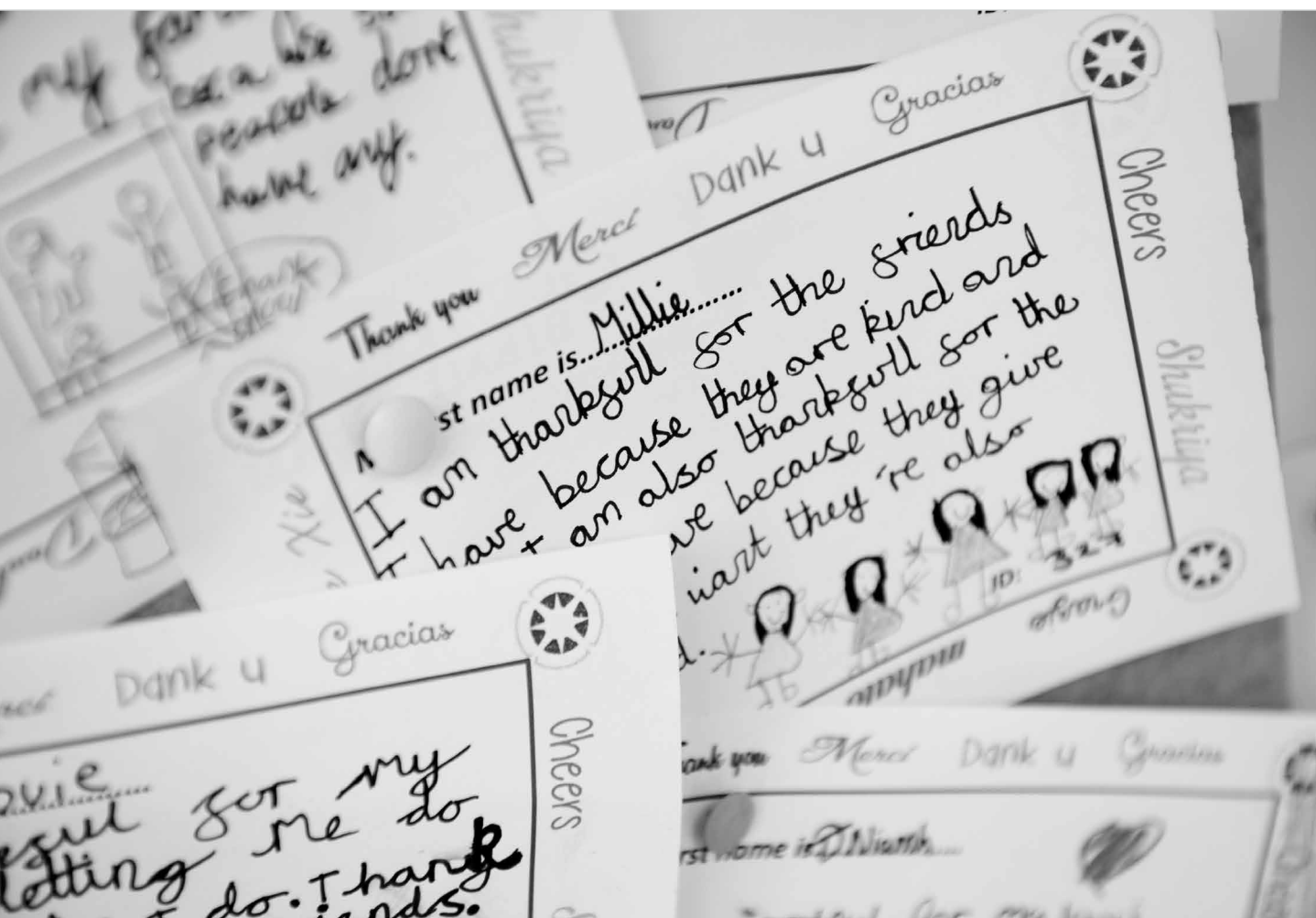
On the question of control, every effort was made to impress upon teachers the need to follow the handbook content as closely as possible to allow meaningful comparisons to be drawn between schools. However, it should be recognised that 'control' and implementation in an educational setting is necessarily different from protocols observed in a 'classic' randomised controlled study (RCT), such as a clinical study designed to assess the effectiveness of a new drug (Davison, 2017). In an educational intervention it would be impossible to give exactly the same 'treatment'

to all participants, as students' questions would introduce novel elements into the process.

Furthermore, absolute control would not be desirable; there is much to be said for allowing a certain degree of control to be 'given up' in educational interventions in order to best target the materials to the audience. Therefore, while in the current study teachers did follow course content, no two teachers will have delivered the project materials in exactly the same way.

A further limitation is that, as with many studies, the current project relied on students' self-reports. As is well known, there are a number of problems associated with self-reporting, including self-deception and social-desirability biases and the problem of 'demand characteristics'.<sup>7</sup> Participants in the current study might have guessed that they were involved in an intervention to promote gratitude or compassion as there had been increased curriculum time devoted to these virtues.

Thus they could have answered the post-intervention questionnaire in ways that supported – or indeed undermined – this belief.



<sup>7</sup> Self-deception biases operate when individuals report their attitudes, beliefs, feelings or behaviours in ways that do not reflect the way they truly are, or how they really behave. The social-desirability bias is at work when participants respond to questions in ways that they believe would be viewed favourably by others. Relatedly, 'demand characteristics' describes participants' responding to a questionnaire in ways they think support what they suppose is the aim of the study.

This latter phenomenon is captured by the concept of the 'negative-participant role' (Weber and Cook, 1972) where a participant attempts to discern the experimenter's hypotheses in order to destroy the credibility of the study.<sup>8</sup> This contrasts with the 'good-participant role' in which the participant attempts to discern the experimenter's hypotheses in order to confirm them. Of course, it is entirely possible for both tendencies to coexist within the same sample, leading to questions about whether the sample should be analysed as a whole regardless of suspected biases, or whether a case might be made for excluding extreme cases on the grounds that these tendencies might distort the quality of the data as a whole.

In addition to tracking changes in conceptual understanding with the mind-maps, and self-reported changes in compassion and gratitude with the questionnaires, it was originally planned that some element of behaviour change would be observed directly. The initial proposal had been to give participants an opportunity to send either an optional 'thank you' card or a 'get well' card at the end of the intervention as a behavioural indication of participants' gratitude or compassion (following Froh *et al.*, 2014). This was problematic for practical, ethical and theoretical reasons and was therefore not pursued in the study.

The overriding concern, however, was theoretical and centred around McConnell's (2018) critique of the letter-writing method, in which he called attention to the fact that it was not obvious students' behaviour in penning a gratitude note was not ultimately due to politeness. Moreover, writing the thank you notes had been *prompted*, and it was not clear students would have behaved in this way if the suggestion to write a letter had not been made. The letters would have only been collected at post-intervention with no 'base-rate' assessment of the participants' likelihood of writing such notes before the study. These considerations led to the conclusion that while it would have been desirable to have tracked behaviour change in some way, the method was unsuitable for several reasons.

**Table 1: Schools Involved in the Pilot Study and Replication Study\***

School	Total Students	Year	Brief Description of School
Pilot School A**	184	Y7	Co-educational state academy in the South East of England. This school foregrounds 'character education'
Pilot School B	51	Mixed Y7 & Y8	Co-educational independent preparatory school educating students from 2–13 years in the South of England
Pilot School C	147	Y8	Co-educational state academy in the West Midlands
<b>Total Pilot</b>	<b>382</b>		
School A Replication	87	Y7	Co-educational state academy in the West Midlands
School B Replication	89	Y7	Co-educational partly-selective academy in the East Midlands
School C** Replication	179	Y7	Co-educational state academy in the South East of England. This school foregrounds 'character education'
School D Replication	87	Y7	Boys' selective grammar school (with academy status) in the North of England
School E Replication	147	Y8	Co-educational state school in the East of England (local authority)
<b>Total Replication</b>	<b>589</b>		
<b>Total Students Overall</b>	<b>971</b>		

\*The figures here represent the total numbers of students from whom data was collected, not the number in the final analysis. \*\*Pilot School A and School C of the main replication study are the same school. The pilot study was conducted in Summer term 2016, while the replication was carried out from Autumn term 2016 to Spring term 2017 with a different group of students.

### 3.6 ETHICAL CONSIDERATIONS

The research project was given full ethical approval by the University of Birmingham Ethics Committee. Parents/caregivers of students who participated in the project were fully informed about the purposes of the study and an opt-out method of obtaining consent was adopted. All data were anonymised upon analysis and either kept in locked filing cabinets at the University of Birmingham or, in the case of electronic data, were stored electronically in password-protected servers. Table 1 (left) shows the numbers of students involved in the pilot study and replication study in each of the schools.

<sup>8</sup> This could happen for a number of reasons including participant fatigue or obstinacy.







# 4 Findings

## 4.1. PILOT STUDY: PRE- AND POST-INTERVENTION QUESTIONNAIRES

The intervention and pre- and post-questionnaires were piloted in three schools, primarily for the purposes of testing project implementation and to see how well elements of the pre- and post-questionnaires were understood by participants. This was particularly important in the case of the Multi-Component Gratitude Measure (MCGM), which was being trialled for use with adolescents (Morgan, Gulliford and Kristjánsson, 2017). All three schools were enthusiastic about the materials themselves, and no changes were made to the content of the teaching materials in the intervention handbooks. One of the three pilot schools (Pilot School B) reported problems with the pre- and post-questionnaires, which participants had found confusing and which a substantial proportion of students had been unable to complete. Another school (Pilot School C) returned the data too late to be included in the pilot analysis.

Data from the initial study was therefore based on one pilot school (Pilot School A). However, not all elements of the pre-intervention and post-intervention questionnaires were clearly understood by participants, and as a result it was not possible to test all the experimental hypotheses. Despite seeking advice about the suitability of the QCAE (Reniers *et al.*, 2011) for adolescents, responses suggested that participants had not always grasped the meaning of the items, particularly the reverse-scored items in the measure. The decision was taken to terminate data entry after the first 30 participants. Consequently, it was not possible to gauge levels of empathy at pre-intervention (T1) and post-intervention (T2) in any of the cohorts.

In addition, participants struggled with understanding the MCGM. This was not surprising, given that the questionnaire was tested on adults and is comprised of four components, each assessing a distinct dimension of the virtue of gratitude: (a) conceptions (or understandings) of gratitude; (b) grateful emotions; (c) attitudes towards gratitude; and (d) gratitude-related behaviours. These comprehension difficulties

were perhaps further compounded by reverse scoring issues, which younger participants in particular are known to find challenging. To address these potential problems with the MCGM, the GQ6 scale (McCullough, Emmons and Tsang, 2002) was used as a back-up.

Since participants' responses on the empathy measure did not yield usable data, the hypothesis that a targeted intervention promoting compassion would also show increments in empathy (measured with the QCAE) could not be tested. Nor could the 'crossover hypothesis' that participants receiving the gratitude intervention would also show increments in the non-targeted virtue of compassion (operationalised by increments in self-reported cognitive and affective empathy) be tested.

That said, the crossover hypothesis could be partially tested, insofar as it was possible to see whether participants assigned to the compassion intervention showed increases in self-reported gratitude, measured by the GQ6. It was also possible to test whether there were increments in perseverance in any of the cohorts (gratitude, compassion or control). Given the theoretical underpinnings of the study based on the notion of 'virtue clustering' increases in perseverance were not expected to be found at post-intervention in any of the cohorts.

Finally, it was possible to examine whether there was any effect of either the gratitude or compassion intervention on self-reported happiness, relative to controls.

### 4.1.1 Participants

There were 129 usable matched pre-intervention and post-intervention responses from the pilot school data of Pilot School A. The mean age of participants was 11 years, 7 months and 50.4% were female.

### 4.1.2 Analysis and Findings

Descriptive statistics showed that in the gratitude cohort, girls' scores on the GQ6 increased from an average of 31.1 before the intervention to 36.6 afterwards. The maximum score possible on the six-item measure (scored on a seven-point Likert scale) was 42. Boys' scores also increased – though less dramatically – from a mean average of 32.5 to 33.3. Gratitude scores also increased in

students who participated in the five-week compassion programme. Boys' GQ6 scores increased from 31 to 34.6, while girls' scores increased from 32.2 to 36.6. These students did *not* receive any elements of the programme which targeted gratitude specifically, which provides some early support for the hypothesis that interventions to promote compassion may increase gratitude as a 'side effect'.

As hypothesised, there were no increases in scores on the perseverance items from the 198-item VIA Youth Survey, supporting the theory that the allocentric virtues of compassion and gratitude share family resemblances that do not extend to the performance virtue of perseverance. There were no increases in wellbeing scores across the groups. Although some compassion and gratitude interventions have yielded post-intervention effects on wellbeing (Emmons and McCullough, 2003; Seligman *et al.*, 2005; Seligman *et al.*, 2009; Fredrickson *et al.*, 2008), the relatively short duration of the intervention should be borne in mind when considering this outcome. Moreover, seeds could be sown in intervention studies that may ultimately take a while to produce their fruits. As such, it is possible that the effects of the programme on wellbeing may not be immediately apparent, though participants may later draw on things they learned during the programme after it formally terminated. As such, it was decided to keep a measure of subjective wellbeing in the main experimental study – the four-item SHS (Lyubomirsky and Lepper, 1999).

## 4.2 PILOT STUDY: MIND-MAPS

Mind-map data was collected from all three pilot schools, though at the pilot stage the emphasis was exploratory and the primary purpose was to see whether the mind-maps offered a viable means of documenting increasing conceptual complexity with regard to the virtues of compassion and gratitude at T1 and T2. There was no formal analysis of pilot mind-map data, largely because mind-maps were completed both before and after the programme by those in the experimental groups *only*, and as such no comparisons could be drawn with participants in the control group.

Figure 1: Pilot Participant No. 33's Mind-Map of Compassion at T1

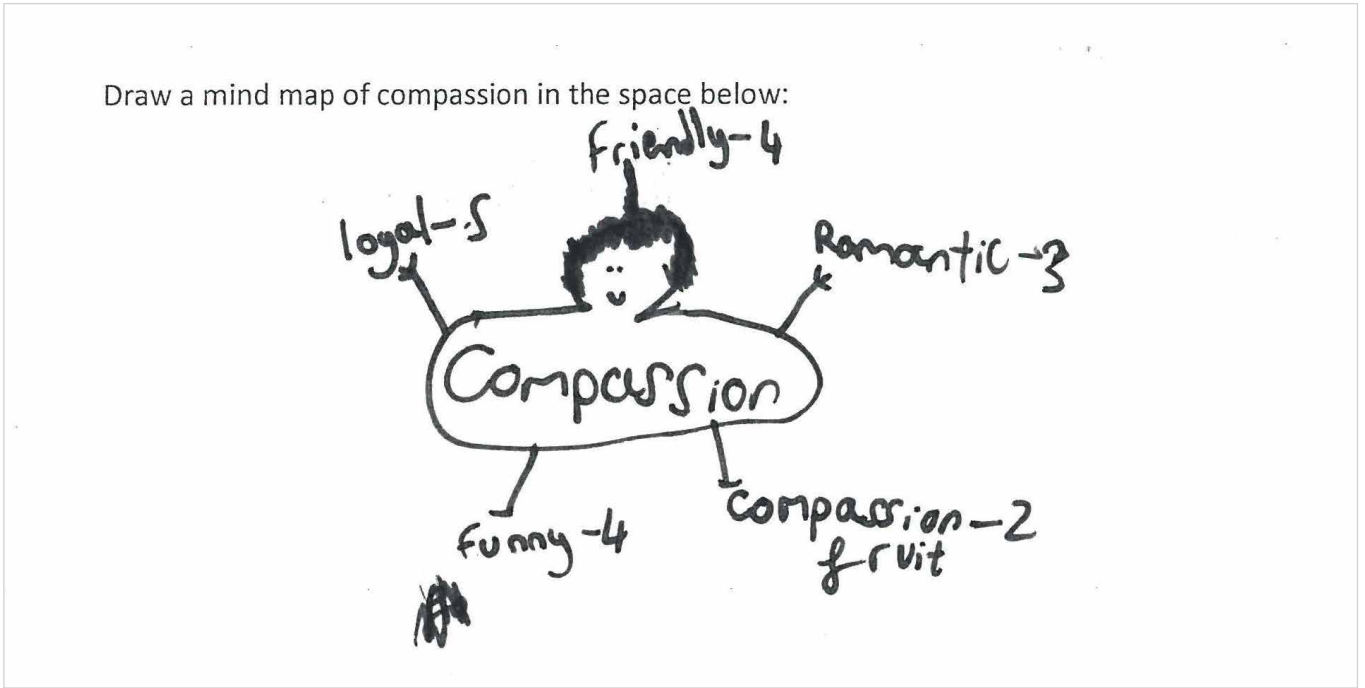
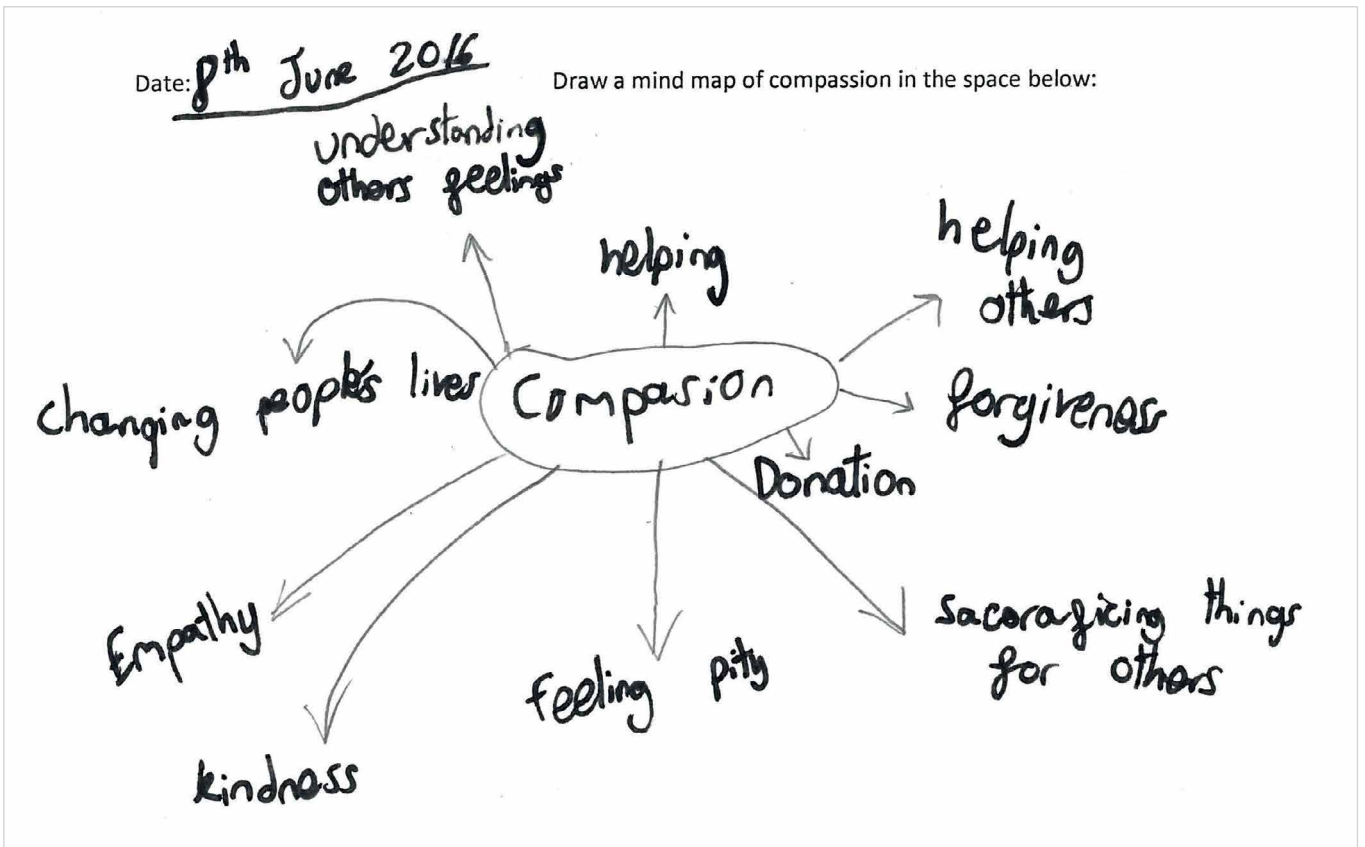


Figure 2: Pilot Participant No. 33's Mind-Map of Compassion at T2



The mind-map activity was clearly understood by participants and offered another means of evaluating the impact of the five-week interventions, as shown in the following illustrations. Figure 1 shows the compassion mind-map completed by a participant in the pilot study at the beginning of Week 1 (T1), while Figure 2 shows the same participant's mind-map after the five-week intervention ended (T2). Although not analysed in depth, the mind-maps

revealed encouraging qualitative changes in understanding of both gratitude and compassion, which were particularly marked in the case of compassion. For instance, it can be observed in the above example that pilot participant 33 initially confused compassion with passion (hence the features 'romantic' and 'compassion fruit'). At post-intervention, the same participant listed central features of compassion including 'understanding others' feelings'; 'helping others',

'sacrificing things for others'; 'feeling pity'; 'kindness' and 'empathy', amongst others. Pilot study gratitude mind-maps tended to be more detailed at post-intervention (T2), though it is likely that the importance of gratitude in regular expressions of politeness leads to a better 'base-rate' or initial understanding of gratitude at T1. Figure 3 shows a gratitude mind-map completed at T1 (pre-), while Figure 4 presents the same participant's mind-map at T2 (post-).

Figure 3: Pilot Participant No. 111's Mind-Map of Gratitude at T1

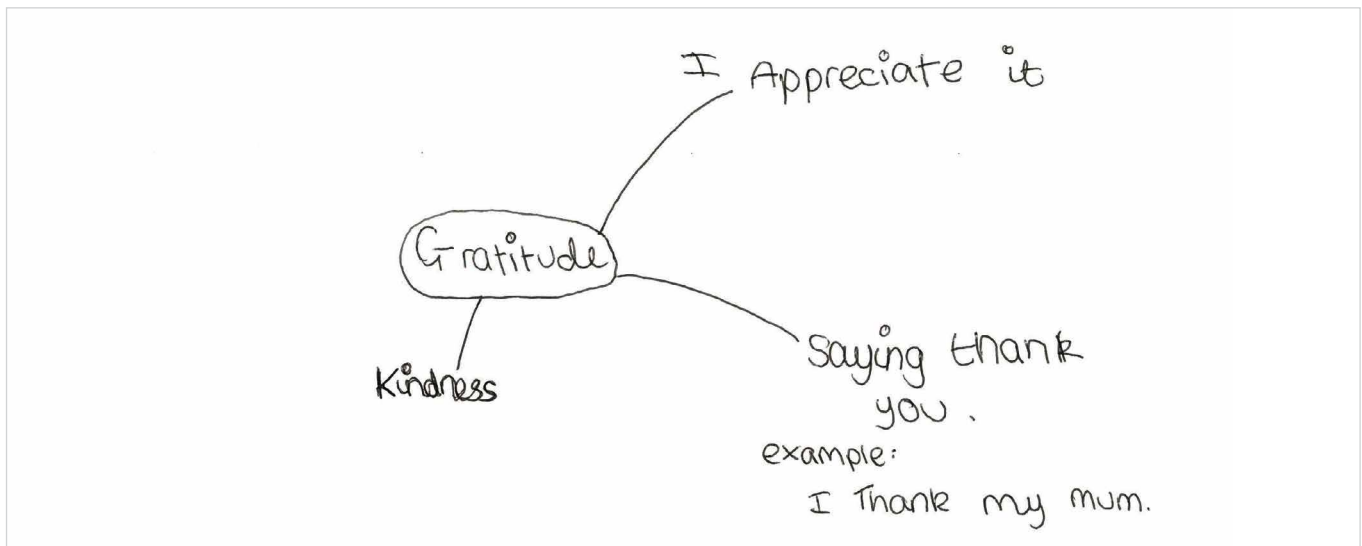
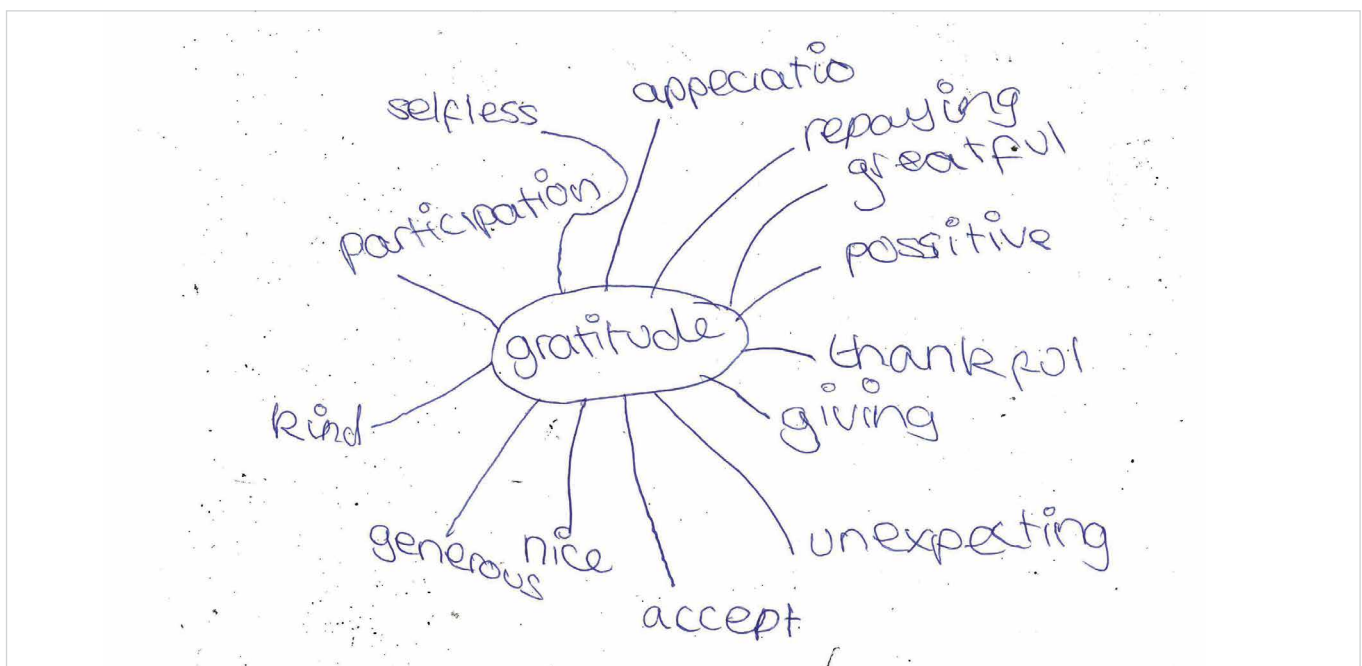


Figure 4: Pilot Participant No. 111's Mind-Map of Gratitude at T2



Pilot participant 111's post-intervention mind-map showed an increase in the number of features of gratitude listed. They also referenced elements of gratitude such as reciprocity ('repaying'), which they did not mention at T1. It seems the participant might have weighed up whether gratitude is 'positive' and if it is 'unexpected' and needs to be accepted; this suggests that the participant was influenced by the handbook content and had a deeper and possibly more nuanced understanding of gratitude after the intervention.

Given that the pilot study showed that the mind-maps offered a rudimentary but effective means of tracking conceptual changes in participants' understanding of gratitude and compassion, it was decided that for the main study half of the participants in the control condition at each school would complete pre- and post-intervention mind-maps of gratitude, and half would draw pre- and post-intervention mind-maps of compassion in order to make more meaningful comparisons regarding the impact of the interventions across cohorts between T1 and T2.

**'EVERYONE SHOULD  
BE KIND TO EVERYONE  
ELSE, NO MATTER  
WHO THEY ARE.'**

**Boy, aged 11**

### 4.3 MAIN STUDY: PRE- AND POST-INTERVENTION QUESTIONNAIRES

Following the pilot it was necessary to incorporate a measure of empathy other than the QCAE (Reniers *et al.*, 2011), which had not been well understood by participants in the pilot study. Two of the four subscales of the IRI (Davis, 1983) were used in its place; the empathic concern (EC) and perspective taking (PT) subscales that constitute 14 items answered on a five-point Likert scale. Following the difficulties in comprehension of the MCGM, the GQ6 was the sole measure of gratitude used in the main study. One measure of wellbeing, the SHS (Lyubomirsky and Lepper, 1999) – was used alongside the pilot demographic questions and items from the 198-item VIA Youth Survey.

#### 4.3.1 Participants

There were 565 matched pre-intervention and post-intervention responses from the five participating schools. The mean age of participants was 11.5 years and 41% (233) were female.<sup>9</sup>

#### 4.3.2 Analysis and Findings

When the data were examined closely, it became apparent that a sizeable proportion of responses across all five participating schools were highly atypical, insofar as scores at T2 (across a number of the measures which make up the post-intervention questionnaire) were *lower* than they had been at T1. Although one would hope that post-intervention scores would increase (but would be prepared for no change) it was troubling that so many T2 scores showed this decrease.

Moreover, this tendency to score lower on the scales at T2 was not limited to the scales directly measuring the effect of the intervention, the IRI (Davis, 1983) and the GQ6 (McCullough, Emmons and Tsang, 2002), but was rather a widespread effect across all the scales included in the post-questionnaire – and across all three conditions (compassion, gratitude and controls) in all five schools. It seemed that participants were responding to the questionnaire at T2 with a specific kind of 'mind-set'. Indeed, it seemed plausible that the 'negative-participant role' (Weber and Cook, 1972) was in operation.

While researchers always want to maximise their data as much as possible, a case can be made for excluding cases where they create 'noise' that impacts on the quality of the dataset as a whole (Hyman and Sierra, 2012). Since the proportion of such negative responses in the post-intervention questionnaire amounted to 25% of the total sample, the researchers believed they were justified in removing these cases from the total number of participants so that it could be examined whether the experimental study yielded an effect similar to that found in the pilot – and what had been expected in the main replication study. It will be appreciated that so long as this data remained *in* the analysis, it was impossible to see whether the intervention had yielded any increments for other participants in the study. Furthermore, some 'negative scores' were considerably lower at T2 than they had been at T1, and these extreme individual cases would have affected overall mean scores appreciably, wiping out the possibility of discerning meaningful changes across the remainder of the sample.

The criterion for excluding participant responses was determined by whether the negative response pattern was deemed to have been in operation in four or more of the five scales measured in the post-intervention questionnaire. The five scales were the GQ6, the SHS, the EC and PT subscales of the IRI and the nine perseverance items from the 198-item VIA Youth Survey. Once the exclusion criterion had been applied to the dataset, there were 426 usable matched pre-intervention and post-intervention responses from the five participating schools. The mean age of participants was 11.5 years and 185 (43%) were female. The proceeding analysis pertains to this circumscribed dataset.

There were four schools that participated using both the short-form time materials and the five once-weekly lesson activities. These schools are referred to as Schools A, B, C and D. One other school (School E) completed the form-time activities *only* over the five-week period but, for timetabling reasons, was unable to take part in the longer lesson-length activities. Results for School E are shown separately in Table 3.

<sup>9</sup> The larger proportion of males in the study was due to the fact that one of the five schools involved in the replication study was a boys' school.

Table 2: Scores for Schools A, B, C and D on all Intervention Measures used in the Study

	School											
	A (N= 70)			B (N=70)			C (N= 120)			D (N=62)		
	Condition			Condition			Condition			Condition		
Compassion (N= 23)	Gratitude (N=21)	Control (N=26)	Compassion (N=18)	Gratitude (N=26)	Control (N=26)	Compassion (N=39)	Gratitude (N=43)	Control (N=38)	Compassion (N=18)	Gratitude (N=24)	Control (N=20)	
Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	
Pre-GQ6 Score	34.4	34.4	34.7	35.6	34.6	34.4	35.0	33.9	33.6	34.6	34.4	
Post-GQ6 Score	35.1	34.4	35.2	35.2	34.7	35.0	35.9	34.2	34.2	34.7	35.0	
Pre-SHS Score	22.5	19.1	21.5	22.7	20.3	19.6	21.5	20.5	19.2	20.3	19.6	
Post-SHS Score	22.9	20.9	22.2	22.4	20.5	20.4	21.6	20.3	19.7	20.5	20.4	
Pre -IRIEC Score	27.8	26.5	27.2	28.7	26.6	26.7	26.7	25.6	26.4	26.6	26.6	
Post- IRIEC Score	26.4	28.1	26.7	28.7	27.6	27.7	27.9	26.9	27.4	27.6	27.7	
Pre-IRI PT Score	24.2	23.3	22.9	25.2	22.1	22.2	23.5	21.5	23.4	22.1	22.2	
Post-IRI PT Score	23.9	25.7	24.0	25.1	23.0	22.2	24.7	22.4	23.5	23.0	22.2	
Pre-VIA PERS Score	33.4	35.2	34.5	36.6	34.0	33.7	34.3	30.3	31.8	34.0	33.7	
Post-VIA PERS Score	37.4	36.1	34.6	35.8	34.3	34.7	34.0	31.1	31.7	34.3	34.7	

Table 2 shows that there were marginal increases in mean *gratitude scores* (measured by the GQ6) in Schools A, B, C and D in some cohorts. Notably, however, there was no real increase in mean gratitude score in the gratitude cohorts of any of the four schools.

In School A, the GQ6 score in the compassion group increased slightly from 34.4 to 35.1, but it stayed the same in the gratitude group (at 34.4). In School B the mean GQ6 score in the compassion group came down very slightly, while the gratitude score stayed the same. School C showed an increase in GQ6 score at post-intervention in the compassion group that was almost a point higher, with the gratitude cohort in this school also showing a slight increase. Finally, in School D GQ6 score dropped by half a point in the compassion group, and stayed the same in the gratitude group. These findings were rather striking in comparison with the pilot study, where there had been increases in GQ6 score of a much higher order of magnitude across both the gratitude and compassion cohorts.

Table 2 also shows increases in GQ6 score across all the control cohorts in the four schools. In all four schools the increments in the control group were higher than those evinced in the gratitude cohorts.

Turning to scores on the empathic concern and perspective-taking subscales of the IRI, Table 2 shows that there were mean increases in empathic concern and perspective taking in the gratitude group in School A, offering some evidence of the crossover effect. Encouragingly, mean EC scores in this cohort went from 26.5 to 28.1, while mean PT scores were 23.3 at pre-intervention and 25.7 at post-intervention. However, somewhat surprisingly, both EC and PT scores in the compassion group in this school went down.

School B's mean EC and PT scores in the compassion group were almost identical at T1 and T2, while EC scores in the gratitude group showed an increase from 26.6 to 27.6, and PT scores going from 22.1 to 23. Again, this offers some support for the mutually reinforcing relationships between gratitude and compassion. In School C, both EC and PT scores increased in the compassion group (as one would have expected), from 26.7 to 27.9 (EC) and from 23.5 to 24.7 (PT). In line with the findings from Schools A and B, increments

**Table 3: Scores for School E on all Intervention Measures used in the Study**

	School E		
	(N = 104)		
	Condition		
	Compassion (N=33)	Gratitude (N=35)	Control (N=36)
	Mean	Mean	Mean
Pre-GQ6 Score	33.4	31.7	32.4
Post-GQ6 Score	34.6	33.1	33.8
Pre-SHS Score	20.1	19.4	21.1
Post-SHS Score	20.7	20.0	21.6
Pre-IRI EC Score	26.7	26.1	24.7
Post-IRI EC Score	27.8	24.9	27.3
Pre-IRI PT Score	22.6	22.4	22.4
Post-IRI PT Score	23.8	22.4	24.6
Pre-VIA PERS Score	33.8	30.6	30.3
Post-VIA PERS Score	31.3	29.9	31.9

in EC score and PT score were also seen in the gratitude group. In School D, there was very little change in mean EC or PT scores in the compassion group, but commensurate with findings in the other schools, there were also increases in mean reported PT and EC scores in the gratitude cohort in this school. Again, increases in mean PT and EC scores were found in the control groups.

There were marginal increases in mean reported SHS (subjective happiness) in all groups, including the control groups in the four schools. This is highly suggestive of a 'Hawthorne Effect'<sup>10</sup>, since these control group participants had not received any intervention that might otherwise account for the increase.

Finally, contrary to expectation, an unexpectedly large increase in mean self-reported perseverance (using the perseverance items from the 198-item VIA Youth Survey) was found in the compassion cohort of School A, which went from 33.4 at T1 to 37.4 at T2 – an increase of four whole points. While marginal increments in mean scores on this measure can be seen in most other cohorts (including controls), the effect was particularly marked here and worthy of examining in more depth in the future as this had not been found in the pilot study and had not been anticipated.

**'ALWAYS HELP A  
PERSON IN NEED OF  
HELP AND NEVER  
WALK AWAY.'**

**Boy, aged 11**

<sup>10</sup> The 'Hawthorne Effect' describes individuals modifying their behaviour in response to their awareness of being observed.

As will be recalled, School E only participated in the regular form-time activities and did not engage in the five weekly hour-long lessons that formed part of the intervention. Mean GQ6 score increased in the compassion cohort, but it also increased in the control group, as reported for the other four schools. EC scores and PT scores increased in the compassion group, as one would have expected, going from 26.7 to 27.8 and from 22.6 to 23.8, respectively.

However, unlike the effect found in Schools A, B, C and D where EC and PT scores increased in the gratitude group, here they dropped (in the case of EC) or stayed at the same level (in the case of PT). Once again, the control group demonstrated an increase in both reported EC and PT that was greater than the change reported in the compassion group. There were marginal increments in mean SHS score in

School E across all three cohorts. Mean scores on the perseverance items from the 198-item VIA Youth Survey dropped in both compassion and gratitude cohorts, but increased in the control group.

In summary, the findings from the pre- and post-intervention questionnaire data showed that mean gratitude scores increased in the compassion groups in three of the five schools involved in the main intervention study (Schools A, C and E). However, these increases were relatively marginal in comparison with those observed in the pilot data. This was rather noteworthy, given that School A had served as the pilot school the previous year and consequently one would have expected the findings to be closer to those reported in the pilot. Data were split by gender, but this did not reveal any differences between groups across the schools.

It will be recalled that due to problems with the original measure used to tap empathy (the QCAE), it had not been possible to examine whether there were increments in self-reported empathy in the pilot. The main study enabled some light to be shed on this, using instead two relevant subscales of the IRI (EC and PT). In Schools A, B, C and D scores on the EC and PT subscales increased in the gratitude cohort. This could be interpreted as offering further empirical corroboration of the thesis that the virtues of compassion and gratitude mutually reinforce one another. However, given that the increases in the experimental cohorts were matched by similar increments in the controls, these results have to be interpreted very cautiously.









#### 4.4.3 School C

In School C, 156 participants from across six classes, of whom approximately 50% were female, created pre-intervention mind-maps. There was some attrition in the sample with 146 mind-maps collected at T2. As only the average difference in the number of relevant features was of interest, no data were excluded.

In this school, students in both the gratitude group and gratitude control group gave a mixture of conceptual features of gratitude and people or things they were grateful for. However, the post-intervention mind-maps in the gratitude group showed more relevant features of gratitude than the T1 mind-maps; encouragingly the average went from 4 (4) at T1 to 8 (8) at T2.

Students in this school often put 'honesty' on their gratitude mind-map. This applied to both the gratitude cohort and gratitude control group, but it was particularly marked in the gratitude control pre-intervention data where over half the class named 'honesty' as a feature of gratitude. None did so at T2, which raises the question of whether they had just received a lesson about honesty at T1. Given that this is a school which puts 'character education' at the forefront of its ethos, the question arises as to whether participants were writing down character strengths that form part of the school curriculum generally without questioning whether these qualities truly characterised the particular virtue (gratitude) under consideration.

With regard to the compassion group, the pre-intervention mind-maps showed a fairly high level of understanding, but the post-intervention mind-maps were richer in descriptions and also concrete, specific actions participants could take to show compassion, such as 'not expecting things in return', 'putting other people first' and 'looking after a younger sibling'. Quantitatively, the mean number of features of compassion in this cohort also increased slightly from 4 (3) to 5 (4). Surprisingly however, the compassion control group outperformed the compassion cohort with the average number of features rising from 3 (3) to 9 (8), though it should be acknowledged that there were a number of individuals who provided well over ten features and these outliers are likely to have affected the mean score overall.

#### 4.4.4 School D

In School D, 68 participants from three classes (all male), created pre-intervention mind-maps. There was some attrition in the sample with 62 post-intervention mind-maps collected at T2. Since only a mean difference in the total number of relevant features needed to be calculated, no cases were excluded.

The gratitude group tended to list things they were grateful for at both T1 and T2, and as such they were *all* relevant, though it is hard to say whether there were really any significant changes here in terms of participants' conceptual understanding of gratitude. This cohort listed fewer features at T2; quantitatively features went down from 8 (8) at T1 to 6 (6) at T2. The same listing of things students were grateful for characterised the control gratitude group where the features at T1 and T2 stayed exactly the same at 6 (6).

In terms of compassion, the compassion group named 8 (4) features at T1 and 8 (5) at T2; there was a slight increase in relevant features of compassion at post-intervention. For comparison purposes, the score in the compassion control group went from 7 (6) to 8 (6). Overall, this school showed very little change in terms of the mind-maps produced by the students at T1 and T2. However, there was of course variation between individual responses here, which is not apparent from the mean scores in this school or indeed any of the other schools.

#### 4.4.5 School E

Pre-intervention mind-maps were created by 142 participants from six classes (of whom approximately half were female) in School E. At T2, 128 mind-maps were collected. As only the average difference in the number of relevant features was of interest, no data were excluded.

It should be borne in mind that students from School E received daily activities but did not take part in weekly lessons from the teacher handbook. As such, they received less intensive teaching than the participants in the experimental groups in the other schools involved in the research.

In both the main gratitude condition and in the control gratitude condition, participants mostly listed things they were grateful for. Consequently, it is hard to say qualitatively whether there are differences in conceptual understanding here. Students in the gratitude condition tended to list more features at T2 than at T1 (an average increase from 9 relevant features to 10 features). This was in marked contrast to the gratitude control condition where the average number of pertinent features went down from 8 (T1) to 5 (T2). It certainly looked as if these participants were more able to think of things for which to be grateful than the control group, suggesting that the intervention had an effect.



With regard to the compassion group, the post-intervention mind-maps were richer in descriptions and details than the pre-intervention mind-maps and the average number of features went from 5 (4) to 6 (6). The most promising evidence that the compassion group had learned about compassion as a result of the intervention is the fact that the control compassion group went from providing 8 (5) features at T1 to 5 (1) features at T2. In other words, while the compassion group gave six relevant features at T2, the control compassion group, by contrast, yielded a mean of just one relevant feature at post-intervention.

Overall the findings from the mind-maps showed some evidence of increasing complexity in terms of the conceptual understanding of compassion and gratitude. However, it should be acknowledged that the mean difference in the number of relevant features of the target virtue represents an aggregation of responses across participants. As such, individual differences are inevitably lost, and as is illustrated in Figures 1, 2, 3 and 4 (on pages 19 and 20) these changes are often quite marked for individual respondents.

A further observation based on these findings is that in those schools already foregrounding character education, familiarity with some strengths of character, such as honesty, might work against students' ability to discern the features of *specific* virtues, triggering instead a generalised 'character education' schema. Educators in these schools need to be aware of the potential for this, and take steps to ensure that students are able to discriminate between virtues, knowing what is special about and characteristic of particular strengths of character (see Jubilee Centre, 2017).

#### 4.5 SUMMARY OF FINDINGS FROM QUESTIONNAIRES AND MIND-MAPS IN THE MAIN STUDY

Findings from the pre- and post-intervention questionnaires provided some evidence of the 'cross-over hypothesis' that promoting either compassion or gratitude would produce increments in the other non-targeted virtue. Overall however, the findings from the main replication study across the five participating schools were disappointing compared with the preliminary results from the pilot study, where the effect of the compassion intervention on gratitude had been more clearly apparent in the questionnaire data. This finding was especially peculiar because School C had provided the participants involved in the pilot study and consequently one might have expected the results there to be more similar.

The mind-map data, which had not previously been formally analysed in the pilot study, yielded some evidence that students' conceptual understanding of the virtues of compassion and gratitude could be enhanced by a five-week intervention, relative to controls. It should be recognised, however, that these changes are more apparent at the level of individual participant responses, though some differences both quantitative and qualitative could be discerned in the aggregate data at cohort level, as the word cluster diagrams clearly show for the compassion cohort in School B (see Figures 7 and 8).



A black and white photograph showing several hands of different skin tones cupped together, holding a piece of torn, textured paper. The paper has the words "THANK YOU!" written on it in a bold, black, hand-drawn font. The background is dark, making the hands and the paper stand out.

**THANK  
YOU!**

# 5 Discussion and Interpretation of Findings

It will be recalled from the literature review, that this research project examined the notion of 'virtue clustering' by adopting an empirical approach other than factor analysis, perhaps the most well-known statistical means by which virtues have been grouped into various kinds. The methodology used in the empirical component of the project sought instead to corroborate presumed relationships between the virtues of gratitude and compassion experimentally using an intervention study. As such, this research project has bequeathed a method by which this interrelationship can be fruitfully examined in the future, taking on board the experiences gained by this endeavour and drawing constructive lessons from its shortcomings.

A number of studies described in the literature review examined relationships between virtues by means of experiment, with many adopting the methodology of an induction study (Bartlett and DeSteno, 2006; Karremans, Van Lange and Holland, 2005). This leaves them vulnerable to a number of criticisms (see Gulliford and Roberts, under submission). First, they take for granted that they can recreate an emotional state by, for example, recalling past experiences or imagining future experiences. However, states elicited by means of an induction are temporary and, as such, reveal little about an individual's stable traits of character over time. A second problem with laboratory induction studies is the question of ecological validity; put simply, how easily do findings from a study carried out in the rather unfamiliar setting of a laboratory generalise to real-life situations?

Given the limitations of induction studies, it was decided instead that the experimental approach of a school-based intervention would provide both a more ecologically valid methodology, as students would be accustomed to the familiar school environment, as well as offering a means of developing the two virtues over time, rather than the temporary snap-shot afforded by a brief induction study.



The central idea behind the study focussed on promoting one or other of two hypothetically related virtues to see whether the effect of targeting one of these virtues led to increments in the other, non-targeted, virtue. The aim was to corroborate the theoretical linkages between these virtues, as well as to offer pedagogical resources for the promotion of the virtues of compassion and gratitude in the classroom.

Findings from the pilot study, carried out in School A in the academic year 2015–2016, ultimately provided more support for the mutual reinforcement theory than did the larger replication study across the five schools (A, B, C, D and E). That said, there was some support for the 'crossover hypothesis' in the later replication. The pilot study showed that it may be possible to develop gratitude in young people indirectly, by targeting the virtue of compassion over a five-week period. It will be recalled that in the gratitude cohort in the pilot study, as predicted, girls' scores on the gratitude measure (the GQ6) increased from an average of 31.1 before the intervention to 36.6 afterwards, while boys' scores also increased from a mean of 32.5 to 33.3. Notably for the present hypothesis however, GQ6 scores also increased in the compassion cohort, with girls' scores increasing from 32.2 to 36.6, and boys' GQ6 scores increasing from 31.0 to 34.6.

Results from the questionnaire data in the larger replication study showed that mean gratitude scores (measured with the GQ6) did increase in the compassion groups in three of the five schools (Schools A, C and E); however, the increases were marginal. This finding was somewhat unexpected as School

A had served as the pilot school in the previous year. However, it is well known that there is a great deal of variability across year groups and between classes in schools, which might offer a simple explanation as to why the effect was less marked second time around. A further consideration is that different teachers might have been involved in delivering the replication than in the pilot and that this affected the outcome. It is perhaps possible that schools have more enthusiasm for a pilot study and are more invested in 'seeing it work' than they are when they are involved in an intervention that has already been tried and tested.

It was hoped that the measurement problems encountered in using the QCAE in the pilot (which had rendered any measurement of empathy across groups impossible), would be surmounted by using the Interpersonal Reactivity Index (IRI) in the larger replication study. This would allow the reciprocal hypothesis (that EC and PT scores would increase in both the compassion group and the gratitude group) to be examined.

Some support was found for this effect. In Schools A, B, C and D scores on the EC and PT subscales of the IRI did increase in the gratitude cohort, which could be taken to offer support for the hypothesis that the virtues of compassion and gratitude mutually reinforce one another. However, it must be borne in mind that across the five schools in the large replication study, similar increments in the measures targeting the main virtues, as well as in the measures of SHS and perseverance were also found in the control groups. This leads one to question whether the so-called 'Hawthorne Effect' was at work here, or indeed

whether there was a degree of contamination of the control groups by the experimental groups, which would certainly not be unknown in a school-based study (see Arthur *et al.*, 2014: 19).

With regard to the first consideration, the Hawthorne Effect (or 'Observer Effect') describes the alteration of behaviour by the subjects of a study due to their awareness of being observed – in this case the students in the control group may have inflated their answers at post-intervention, sensing that they were being monitored in some way and thinking that this would be the 'right' thing to do. Of course, this tendency could operate across all cohorts of an experiment. However, students in the control group might perhaps have been more susceptible to this effect as they would not have been engaged in any intervening activities between T1 and T2 and might have been more likely to have remembered, then inflated, their answers to the original questionnaire as a result.

Secondly, the high post-intervention scores in the control cohorts could be due to a degree of 'contamination' of the control group by the experimental conditions. The purpose of a

control group is to enable researchers to examine whether effects observed in a study are due to the intervention or treatment, or are merely coincidental. In contrast with the classic 'drug trial' model, however, it may be impossible to have a true control study in a school-based intervention. Within the school context, young people assigned to different experimental conditions talk to one another about activities in class. Such dialogue potentially blurs the boundaries between the discrete categories envisaged in the research design and 'contaminates' the delivery of the interventions. Furthermore, it is impossible to exert absolute control over what is being learned by any child at any one time. Since young people are learning on a daily basis across a range of domains, influences outside school cannot be known, and indeed whether they might be learning elsewhere about the virtues targeted in the intervention.

The mind-map data showed evidence of increasing conceptual complexity in students' understanding of compassion and gratitude in some cases, though the effect was more pronounced in some cohorts (for example, School B's compassion group) than in others.

In some cases, participant responses evidenced clear engagement with the programme content, whereas this was not apparent in all schools.

Furthermore, it needs to be made clearer to teachers delivering the intervention, that the aim of the mind-maps is to track *conceptual* differences in understanding the virtues, rather than opportunities to list things for which the participant is grateful. Mind-maps from the pilot study, which were used only to assess the feasibility of the method, had not shown this tendency. Since the potential for this misunderstanding is apparent, the purpose of the mind-maps would benefit from greater clarification with teachers delivering the intervention.

During analysis of the mind-maps from the main study, which included responses from controls, it was observed that class assignment to conditions (a decision which was left in the hands of the schools) could have influenced outcomes in the mind-maps. For instance, a number of control groups offered considerably more (or fewer) features of either gratitude or compassion at T1 and T2 than were found in the experimental groups in the same school. In the former case, the control class may have been from a different learning set within the year group than the experimental cohort, boosting control participants' performance in this task and confounding straightforward comparisons with the experimental groups. In the latter case, controls producing fewer relevant features of the target virtue at T1 and T2 might have been assigned to the control group because the schools believed there would be more chance of the intervention 'working' if other classes were assigned to the experimental groups.

A final consideration regarding the mind-map data is that it may be affected by values explicitly espoused and promoted in participating schools. It seems that the task of producing a mind-map of the specific virtues of either compassion or gratitude triggered a general 'character education schema' in some participants which led to them listing 'honesty' as a feature of gratitude. While the Jubilee Centre emphasises the importance of character education as a whole, it is possible that where a school's approach to character education does not pay sufficient attention to the relevant taxonomy of virtues, students may find it difficult to discern clearly between *particular* virtues (Jubilee Centre, 2017).



It is important to note that the data used in the analysis of the questionnaire data in the replication study constituted a subset of the data which excluded cases where a negative response pattern (scoring lower at T2 than T1) was deemed to have been in operation in four or more of the five scales measured in the post-intervention questionnaire. This was deemed suggestive of a pervasive negative mind-set designated the 'negative participant role' (Weber and Cook, 1972). Having excluded this data, the analysis proceeded as reported in Section 4. Excluding data is far from ideal in any study, particularly as researchers could be accused of editing the data arbitrarily for their own ends. It was, however, judged necessary in this instance as there were too many cases affected in this way, and the likelihood of this creating 'noise' in the whole dataset was too great to continue without addressing it. Moreover, clear criteria were created to ensure there were norms by which data were excluded.

The reason for the high incidence of the negative response pattern across the questionnaires at post-intervention could suggest that students were fatigued by the surveys. However, the questionnaire originally used in the pilot study had been much longer, and yet these effects had not been apparent there. Another possible explanation could be that some students, facing so many tests and surveys in school, felt somewhat resentful of this and 'acted out' their displeasure in the post-intervention data. This study indirectly raises awareness that not only social desirability effects can operate in the

questionnaire data and mind-maps supporting intervention studies, but also of the potential for the 'negative participant role' to be a factor, particularly in school-based settings. The reality, of course, is that both biases could coexist within the same dataset, and the problem for any research based on aggregate (mean) scores is that the huge variability of individual responses to any intervention is absent from the picture produced by the global analysis, a point that was explicitly referenced in the analysis of the mind-map data.

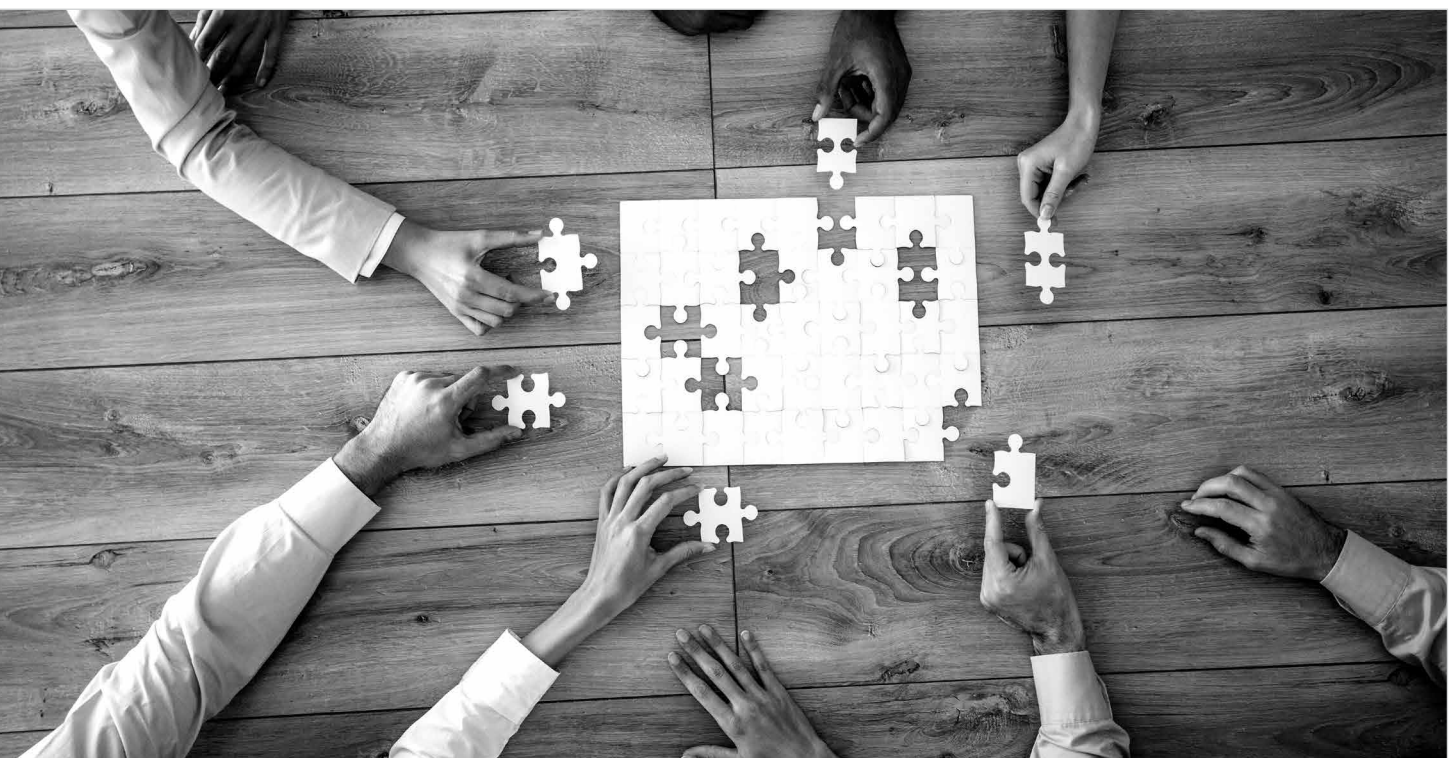
Interventions can evidence strong effects in some individuals but not in others. For instance, one teacher involved in the pilot study reported that one student's mind-map at the beginning of the intervention featured just one word, 'gratitude,' alongside their name. However, the same teacher reported that at the end of the project the same student's mind-map was 'full'. Future research could take the form of identifying specific individual cases where an intervention shows promise, coupled with interviews of these participants (with appropriate ethical consent), to elucidate what elements of the programme they found had been most helpful or interesting. Project materials could then be adapted to take this feedback on board.

The main goal of the practical component of this research project was virtue-educational, and ultimately while it was hoped that the findings from the study would illuminate the interrelationship of compassion and gratitude, the main formative purpose of such interventions and the true measure of their

success, is whether they will succeed in helping young people become more caring, more considerate and more connected citizens, an aspiration which may, in the end, take time to be made manifest.

The teacher handbooks offered a practical means of developing these virtues in the classroom and a number of teachers involved in the pilot and main study endorsed the materials. One said 'I would 100% recommend this project to schools. The tasks are brilliant. The way the project has been put together is very clear. The instructions are clear. The teaching handbook is very supportive and it doesn't put you under pressure.' Another teacher from a different school reported that students had enjoyed the activities in the teacher handbooks and had engaged well with the various elements of the intervention.

In terms of future delivery of the intervention, it might be instructive to explore alternative delivery modalities for the programme, which would give teachers and educators freedom to implement the elements of the course as they see fit. This would offer a 'toolbox' of activities for the classroom, rather than a 'recipe' to be followed exactly. Unlike the drug study paradigm, the 'treatment' offered in the handbooks could be tailored to different classes, and would give teachers and educators a role as 'co-creators' of the intervention. A number of previous Jubilee Centre initiatives have suggested adapting the resources to suit their needs (see Fullard, 2016; Harrison, Arthur and Burn, 2017; Arthur *et al.*, 2014) This increased sense







of agency and control over the progress of the intervention seems likely to make for a more tailored approach which might ultimately yield better outcomes as a result. This is more likely to happen through a tailored approach than a more generic one.

The intervention took place over a five-week period, bracketed by participants taking the measures in the week before the intervention began and in the week after it ended. It was important for the intervention to fit into a half-term period to ensure that there were no breaks in the delivery for holidays. It must be acknowledged that this is a short timeframe for an intervention study, and ideally a longer study would have been desirable had schools been able to afford this additional time. Having made the intervention materials widely available for download future research could track outcomes with the programme over a longer period of time.

It is important to reflect on the nature of change that is possible, observable and measurable in an intervention study. It must be recognised that these factors may not converge. Researchers are limited insofar as they cannot observe participants consistently to see how they are feeling, thinking and acting on a day to day basis. Increases in virtue literacy are

obviously a positive sign, but there is no established royal road to measure how such increases influence moral motivation, moral emotion and moral action (Kristjánsson, 2015: chap. 3). Secondly, there are limitations with regard to the measures used to track change in terms of their accuracy and consistency over time. This can be true of physiological measures, which may produce wildly different results on different testing occasions, but it is especially true of self-report measures which can be affected both by participant biases, such as the negative participant role or social desirability, and situational circumstances, such as a shortage of time for completing the measures.

In addition, the timeframe over which change is to be observed is also an important consideration. It has already been acknowledged that a longer intervention would be desirable. However, seeds could be sown in intervention studies that may ultimately take a while to produce their fruits. A participant might find themselves drawing on the wisdom of keeping a gratitude journal or engaging in LKM years after they initially learned about these methods – perhaps if they entered a particularly stressful phase in their lives. This long-range change would not be picked up by any planned assessment, though its roots could be traced back to the intervention.

In conclusion, the current research project has laid the conceptual foundations for examining interrelations between virtues empirically, by creating a bespoke five-week intervention focussed on promoting the virtues of compassion and gratitude in the classroom. The theoretical significance of the project therefore lies in the valuable work carried out in thinking through the design and form of an intervention study to examine the mutual interrelationship of virtues; this has bequeathed a paradigm which could be adapted for studying other strengths of character. The teacher handbooks designed for this project, which received overwhelmingly positive reviews, represent an additional, practical outcome of the research.

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‘OUR HUMAN  
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BUT AS HUMAN BEINGS  
WHO HAVE LEARNT  
HOW TO TURN OUR  
COMMON SUFFERING  
INTO HOPE FOR THE  
FUTURE.’

**Nelson Mandela**

<sup>11</sup> The schools are not listed in order to maintain anonymity in the report.



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