



Short Reports: Can Gratitude Improve Academic Attainment? Exploring the Potential of a Positive Psychology Intervention in the UAE

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Abstract: This exploratory study investigated the effect of gratitude on academic attainment in the United Arab Emirates (UAE). A total of 165 pupils in an Abu Dhabi private school recorded daily items for which they were grateful over a six-week period, while teachers independently rated their academic attainment before and after this period of time. Relative to a small control group (n=22), students who regularly recorded gratitude saw a higher average increase in academic attainment. Gender differences in academic attainment were largely insignificant; however, females recorded gratitude more frequently. As the UAE and schools overall look to boost student wellbeing and academic attainment, this study's tentative findings point to the possibility of a simple, non-academic task such as a gratitude intervention holding promise. Future studies are encouraged.

ملخص: هدفت الدراسة الحالية إلى التحقق في تأثير الامتحان على التحصيل الأكاديمي للطالب في دولة الإمارات العربية المتحدة . سجل ما مجموعه 165 تلميذاً في مدرسة خاصة بأبو ظبي أشياء كانوا ممتنين لها بشكل يومي على مدى ستة أسابيع .بالإضافة إلى ذلك، قام المعلمون بشكل مستقل بتقييم تحصيلهم الأكاديمي من مجموعة من المواد مباشرة قبل وبعد هذه الفترة الزمنية . بالنسبة للمجموعة الضابطة، شهد المشاركون الذين سجلوا الامتحان بانتظام زيادة في متوسط التحصيل الأكاديمي . سجل المشاركون الذكور أيضاً متوسط زيادة ملحوظة في التحصيل الدراسي، على الرغم من تسجيل الإناث للامتحان بشكل متكرر . نظراً للأداء الأكاديمي الضعيف للفتيان على مستوى العالم وفي الإمارات العربية المتحدة، فقد يكون من الممكن أن تساعد مهمة بسيطة غير أكاديمية مثل تدخل الامتحان في سد فجوة الأداء، بالإضافة إلى رفع مستوى الرفاهية الذاتية.

Keywords: gratitude; positive education; academic attainment; United Arab Emirates

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It is posited that the more positive emotions individuals experience, such as joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe and love, the greater the impact on learning (Fredrickson & Losada, 2005). Positive emotions produce a broader attention span



(Fredrickson & Branigan, 2005; Rowe et al., 2007), and more holistic and creative thinking (Estrada et al., 1994; Kok et al., 2008; Labroo & Patrick, 2009). Such examples are described by Fredrickson's (2001) broaden-and-build theory, which proposes that experiences of positive emotion broaden momentary thought-action repertoires. These in turn, build enduring personal resources ranging from physical and cognitive to social and psychological. Positive emotional experiences trigger upward spirals of growth and enhanced wellbeing (Fredrickson & Joiner, 2002).

Positive education, the integration of positive psychology with educational practices (Shoshani & Slone, 2017), complements traditional, academic skills-based schooling with an added focus on wellbeing. This development emerged from positive psychology and was founded on models such as Fredrickson's (2001) showing that greater frequencies of positive emotion influenced cognitive and perceptual states. One of the ways in which positive education has made an impact is via the use of positive psychology interventions (PPIs), the activities aimed at strengthening positive emotions, actions and cognitions (Sin & Lyubomirsky, 2009).

Positive Psychology Interventions (PPIs)

Many PPI school-based programs have emerged. For example, Marques et al. (2011) ran a five-week program to enhance hope, life satisfaction, self-worth and academic achievement, concluding that even a brief intervention was effective. Bernard and Walton (2011) also implemented a year-long curriculum focusing on resilience, confidence, persistence, organization and social skills. Pupils made gains in school and peer connectedness, motivation, learning confidence, and positive classroom behaviors. Chodkiewicz and Boyle's (2015) program found reading improvements across the year compared to controls, while a high school program (Burckhardt et al., 2016) combining positive psychology and acceptance and commitment therapy showed reductions in depression, anxiety and stress, as well as greater wellbeing. Meta-analyses (Bolier et al., 2013; Chakhssi et al., 2018; Dickens, 2017; Sin & Lyubomirsky, 2009) attest to enhanced subjective and psychological wellbeing, with education-specific analyses showing links between PPIs and pupil wellbeing (Durlak et al., 2011; Waters, 2012; Werner-Seidler et al., 2017).

Globally, PPI programs are growing (Kim et al., 2018; Rao et al., 2015; Hendriks et al., 2019), with local studies increasing as well. A 14-week PPI university program in the UAE generated higher levels of hedonic and eudaimonic wellbeing, as well as a rise in life satisfaction and net-positive affect relative to a control group (Lambert, Passmore, & Joshanloo, 2019). Also in the UAE, Barrington et al. (2019) investigated the impact of a six-week resilience program on student anxiety, depression and mental toughness in primary age school children; however, no significant effects were identified. In Kuwait, a semester long PPI program increased levels of flourishing in university students and enhanced positive affect in secondary school pupils (Lambert, Passmore, Scull et al., 2019).

Such programs play a vital role. As part of the National Agenda and Vision 2021, the UAE is striving to become one of the happiest nations. Yet, without the necessary school-based PPI programs to accomplish such aims, the skills for wellbeing may be difficult to attain and are not without consequence. Links between poor academic results and low subjective wellbeing as well as increasing levels of depression have been found (Parhiala et al., 2018; Rahman et al., 2018; Tobia et al., 2019; Undheim & Sund, 2005); conversely, positive correlations between emotional wellbeing



and academic achievement have been shown (Berger et al., 2009; Bücker et al., 2018; Gilman & Huebner, 2006; Pietarinen et al., 2014; Suldo et al., 2011). Research has also shown that low levels of academic attainment are associated with depression and self-harm during childhood and adolescence (Bjelland et al., 2008; Moilanen et al., 2010; Reiss, 2013). In the UAE specifically, levels of depression and anxiety are above that of the global average (WHO, 2017) and with levels of pupil wellbeing decreasing (OECD, 2017), such programs may be timely in mitigating risks and boosting wellbeing through PPIs and corresponding positive emotions, one of which is gratitude.

Gratitude

Much evidence suggests there is a positive relationship between gratitude and wellbeing (Alkozei et al., 2018; Dixit & Malhotra, 2017; Gherghel & Hashimoto, 2020; Killen & Macaskill, 2015; Lai & O'Carroll, 2017; Shourie & Kaur, 2016). It has also been related to lower stress (Kerr et al., 2015) and symptoms of depression (Southwell, 2012). Positive links between gratitude and academic engagement for primary age pupils have been shown by boosting teacher-pupil relationships and enhancing academic self-efficacy (Zhen et al., 2021), both linked to higher academic attainment (Carter et al., 2012). The recording of gratitude has been correlated with a higher increase in average academic achievement (Bloom & Nelson, 2001; Froh, Emmons et al., 2011; Ma et al., 2013). While much is known about its benefits (Barrett-Cheatham et al., 2016; Oros et al., 2015; Shourie & Kaur, 2016; Wood et al., 2010; Wood et al., 2016), little is known about its effects on academic performance and young people in the region. If PPIs are to make an impact, they must not only add to subjective wellbeing, but to academic performance as well.

The Present Study

The aim of this exploratory study was to investigate whether pupils who regularly recorded feelings of gratitude achieved higher academic attainment relative to pupils who did not.

Method

Participants

All participants attended a private international school in the city of Abu Dhabi (UAE) and were in Year 7 or 8 at the time of the study. The breakdown of treatment group participants ($n=165$) is noted in Table 1. Non-participating pupils ($n=22$) formed the control group. Ages ranged from 11 to 13 years. Participant nationalities were not recorded.

Procedure

Ethical approval was granted by the University of Buckingham (UK). The study was introduced to participants through an assembly for both year groups, with the study's procedures and aims outlined. Due to the age of the participants, consent was also sought from parents/guardians. No rewards or incentives were offered.

Gratitude data was collected from participants through an online portal using a self-report questionnaire asking, "What are you grateful for today?". Participants recorded up to three items at the start of each school day for a period of six weeks. The data collection tool was designed with the school's IT department and responses were saved on the school network, only retrievable by the



researcher. Participant responses were qualitative; that is, words, phrases and sentences; however, the study was less concerned about the content of the gratitude recording; rather, the frequency of recording was the aim.

Table 1

Gender / Year breakdown of treatment and control group participants

	Treatment		Control		Total
	Year 7	Year 8	Year 7	Year 8	
Female participants	35	45	7	4	91
Male participants	40	23	8	3	74
Total	75	68	15	7	165

Participant's academic data is recorded independently by their subject teachers at six assessment points (AP) throughout the school year. In this study, the relevant assessment points included AP5 and AP6, spaced six weeks apart. Academic data was taken from a maximum of 17 different subject areas (Arabic, Art, Computer Studies, Design & Technology, Drama, English, French, Geography, History, Islamic Studies, Latin, Math, Music, Physical Education, Science, Social Studies and Spanish) and recorded using a nine-point assessment scale with nine representing the highest possible grade.

Results

Averages were taken from the amount of individual gratitude recordings pupils made within the six-week period against the average increase or decrease in their respective academic data. A *t*-test found the difference in average academic attainment between AP5 ($M = 6.329$; $SD = .720$) and AP6 ($M = 6.539$; $SD = .786$) to be significant ($p < .001$). Yet, this analysis did not account for individual differences in gratitude recordings per participant. There was a statistically significant positive association between gratitude and academic achievement. Specifically, a unit increase in gratitude was associated with 0.01 increase in academic achievement ($B = .01$, $p = .021$). Gratitude accounted for 4% of the variance in academic achievement, $F(1, 133) = 0.021$, $p = .021$. Data generated by seven participants were deemed to be outliers, individuals who recorded over 20 discrete instances of gratitude during the study, with one extreme outlier recording 35. Outliers were not omitted, but highlighted as potential factors that could skew the normal distribution of the data.

Pupils (male and female combined) who regularly recorded gratitude saw an average increase in their academic attainment of 0.217 between time points, while controls saw an average increase of 0.166. This represents an increase in academic attainment of 0.031 per unit increase in gratitude. The correlation coefficient (minus outliers) for the treatment group ($r = 0.222$) showed a weak

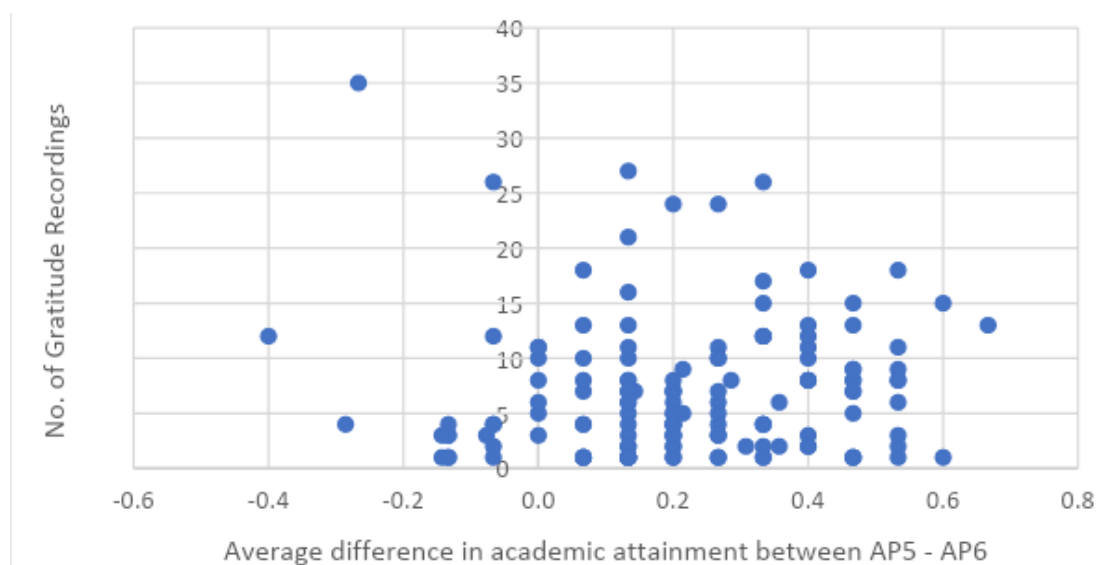


positive linear correlation for the relationship between the amount of gratitude recordings by participants and the average difference in attainment grade (Figure 1). Despite an overall average increase in attainment, 17 participants recorded a decrease, and seven recorded no change. The actual differences in grades awarded by teachers would only have been an increase or decrease of one or two grades, and in some cases a zero rise in attainment is still considered an improvement. If pupils acquire and retain new information, they have increased their knowledge, which teachers consider an improvement, despite grades remaining stable. Without regression to a lower academic grade between assessments, teachers maintain that an increase has occurred.

While differences in academic attainment were higher for the treatment versus control group, differences between male and female pupils were not significant (i.e., 0.229 increase for males versus 0.207 for females), despite the latter recording gratitude more frequently (i.e., females recorded 8.6 instances of gratitude, while males recorded 5.1 instances).

Figure 1

Distribution of average differences in academic attainment between AP5-AP6 for treatment group



Discussion

Analysis of the differences in the treatment group's average academic attainment before and after recording gratitude showed a positive correlation; yet, pupils are expected to progress between assessment points with average grades increasing as time goes on. When analyzed in relation to gratitude recordings, the analysis showed a positive, but small correlation between the two. The findings showed that the majority of pupils who regularly recorded feelings of gratitude achieved a higher increase in average academic achievement, supporting existing literature (Bloom & Nelson, 2001; Froh et al., 2011; Ma et al., 2013). Given the literature showing that male pupils tend to underperform globally and regionally (Autor et al., 2016; Marquez et al., forthcoming; OECD, 2020), it may be useful to determine whether a simple gratitude activity like this can be used towards



narrowing the academic gender gap? Indeed, a recent regional study on the UAE's academic performance gap has suggested that PPIs may be of value (Marquez et al., forthcoming).

Limitations and Future Directions

This exploratory study represented an initial foray exploring the impact of a PPI, in this case gratitude, on academic performance. However, its biggest limitation is the small control group against which to critically assess findings and the broad range of subjects from which attainment was assessed. Future studies must include a larger control group and be extended over a longer duration as the effects of gratitude may wane, or grow stronger over time. Conversely, the cumulative effect of recording must also be included as a moderator as it is thought that the frequency of PPI use may be more vital than its duration (White et al., 2019). Part of the data collection period also fell during Ramadan, a month-long religious observance where Muslims, including some of the study's pupils, fast from sunrise to sunset. While fasting is reported to have a positive impact on psychological wellbeing (Bayani et al., 2020; Lauche et al., 2016), it may have influenced findings in unknown ways.

It should also be noted that participants were from a high socioeconomic status (SES). Data from a similar SES group to measure the external validity of this study, and from a lower SES group to compare possible differences, are vital as studies show that SES levels influence gratitude reporting (Becker & Smenner, 1986; Moore & Ramirez, 2016; Oros et al., 2015). A lack of standardized tool with which to measure gratitude is also a limitation: recording instances may have acted as an academic motivator. Indeed, Hendriks et al. (2018) suggest that any intervention can produce results when none exists otherwise. Finally, a measure of wellbeing was not included as the link between gratitude and subjective wellbeing is already well known (e.g., Alkozei et al., 2018; Dixit & Malhotra, 2017; Gherghel & Hashimoto, 2020; Killen & Macaskill, 2015; Lai & O'Carroll, 2017; Shourie & Kaur, 2016), but should be added in the future.

Conclusion

This exploratory study offers researchers a starting point from which to continue exploring the effect of gratitude on academic performance. On average, participants increased their average academic attainment between AP5 – AP6, with the gratitude group achieving a larger increase. Not as powerful as we would have hoped, the direction of the effect nevertheless holds potential and speaks to the influence of a simple intervention which could make an important difference for pupils. As the literature suggests that PPIs and positive education programs are inexpensive, easy to implement, and most importantly, effective, PPIs should be given more credit as they are known to boost academic performance. A way to promote the adoption of such programs would be via government policy mandating them. As the UAE government aims to position itself as one of the happiest nations in the world, decreasing levels of pupil wellbeing, above global average levels of anxiety and depression, and an important gender gap in academic outcomes may be tackled through the promotion of school-based PPI programs.

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