

Does practicing gratitude increase life satisfaction, well-being and happiness among undergraduate students?

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Submission of Thesis and Dissertation

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Abstract

This study had two main aims. The first aim was to investigate if keeping a gratitude journal will increase college undergraduate student's level of life satisfaction, subjective well-being and subjective happiness. The second aim was to investigate if there is a gender difference between males and females regarding their levels of life satisfaction, subjective well-being and subjective happiness.

This study also had two main hypotheses. The first hypothesis suggested that those who engage in the gratitude reflective journal intervention will have increased scores in their levels of life satisfaction, subjective well-being and subjective happiness compared to those who are not assigned to the gratitude reflective journal condition. The second hypothesis suggested that there will be gender differences present between males and females in relation to their levels of life satisfaction, subjective well-being and subjective happiness.

The Satisfaction With Life scale (Diener, 1985 & Pavot, 1991), the Positive and Negative Affect scale (Diener, 1985 & Pavot, 1991; Watson et al., 1998), and the Subjective Happiness scale (Lyumbomirsky & Lepper, 1999) was used to measure life satisfaction, subjective well-being and subjective happiness.

Results were statistically non-significant, but they suggest that gratitude journaling may be beneficial to undergraduate students as it can be used to improve quality of life, well-being and mental health overall. However, further exploration is needed to confirm or discount this. The implications of this study suggest that gratitude journaling when used consistently for a longer period of time i.e. a few weeks or months could be very helpful to university students overall and this journaling could even help individuals who are beginning their transition into university.

Keywords: [Gratitude, life satisfaction, well-being, happiness, university students, mental health hygiene].

Introduction

According to the World Health Organisation (WHO), approximately half of adults who have mental health issues, began experiencing these issues during their adolescence (World Health Organisation, 2018). In relation to mental health among the third level student population within an Irish context, research suggests that university students 32.4% of students reported having a mental health difficulty within the past 12 months; 27.5% of these students reported that their mental health difficulties affected their college experience overall. This lead to approximately 21.9% of students who sometimes considered leaving college due to these issues (Price & Smith, 2019).

Some research looks at how practicing gratitude can impact upon one's mental health. A gratitude journal is an account that can be kept daily, weekly or even monthly about the events that occurred in one's life recently that they are grateful for. Some research suggests that keeping a gratitude journal could be a useful way to reduce stress and depressive symptoms (Cheng, Tsui, & Lam, 2015). However, it is important to note that although this finding is relevant to the topic being investigated in this paper, this study's population consisted of health care practitioners only and therefore their results may not wholly be generalisable to the university student population due to the unique stressors that health practitioners face. In relation to university students, gratitude has been observed to be a predictor that accounted for happiness (Sapmaz, Yildirim, Topçuoglu, Nalbant, & Sizer, 2015). The finding that gratitude is a mediator for happiness is supported by other empirical research; and this research suggests that gratitude is an important factor in relation to university student's levels of happiness (Safaria, 2014).

Gratitude can refer to a feeling of appreciation or to a sense that one ought to make a positive response to an act of kindness (McConnell, 2013). Gratitude has been observed to protect an individual against negative emotions such as resentment, envy, and

regret (Roberts, 2004). In relation to this, gratitude has mediated the effects of having a Just World Belief by increasing one's levels of subjective well-being which in turn improves one's mental health overall (Jiang, Yue, Lu, Yu & Zhu, 2016). Overall, this could mean that gratitude is an important factor to explore further in relation to the university student population because as mentioned above, gratitude can mitigate against some negative emotions which in turn can improve one's well-being and mental health.

Research that focuses on gratitude has looked at gratitude and its positive effects on mental health, or how practicing gratitude can improve one's interpersonal relationships (Algoe, Haidt and Gable, 2008; Lambert, Clark, Durtschi, Fincham, & Graham, 2010). Other research in the area of gratitude centres around how practicing gratitude at different stages across the lifespan can have positive benefits regardless of age or context. For example, research investigating gratitude and children centres around how gratitude can enhance their experience at school (Froh, Sefick, & Emmons, 2008). Research in this area also investigates whether or not gratitude can influence a child's levels of subjective well-being and prosocial behaviour (Froh, Miller & Snyder, 2007)

Whereas research that investigates the use of gratitude among the elderly population observes that practicing gratitude can reduce death related anxiety among older adults. (Lau, & Cheng, 2011). However, this paper will explore the impact that practicing gratitude can have on subjective well-being, life satisfaction and one's subjective happiness.

Gratitude and well-being are highly correlated (Watkins, 2004). Research suggests that gratitude can be linked to improving one's overall well-being if that person appreciates the positive aspects in their lives (Wood, Froh and Geraghty, 2010). Further studies support this idea also (Toussaint and Friedman, 2009). Some research suggests that gratitude is a key factor to making and maintaining changes in well-being (Emmons, 2008).

Although some research observes that gratitude and well-being are associated, some research suggests that the link between gratitude and well-being is somewhat unclear as the validity of therapeutic gratitude enhancing techniques, such as keeping a gratitude journal are widely unknown. So, further research needs to investigate the link between well-being and gratitude enhancing techniques in a psychotherapeutic setting (Sansone & Sansone, 2010).

In addition to being linked to well-being, gratitude has also been linked to a person's life satisfaction. Life satisfaction can refer to "a way that people express their feelings, emotions, and how they feel about their direction and options for their future" (Anand, 2016). Some studies have noticed that practicing gratitude can predict life satisfaction after controlling for personality traits using the Big Five Factor Model (Wood and Maltby, 2009). A study conducted in 2007 by Lambert and colleagues observed that experimentally induced feelings of gratitude resulted in higher levels of life satisfaction among participants in this experiment. This study's participants comprised of undergraduate students enrolled in a university level psychology course (Lambert, Fincham, Stillman and Dean, 2009). This could mean that gratitude is correlated with life satisfaction after controlling for individual personality traits. It is also important that the correlation between life satisfaction and gratitude can be experimentally induced which could allow for further investigation with regard to practicing gratitude and its impact on an undergraduate student's levels of life satisfaction, subjective well-being and subjective happiness.

A recent experiment conducted by O'Connell and colleagues in 2017 found that participants who took part in a gratitude journal writing task, observed immediate benefits in affect balance and a reduction in depression after the experiment ceased. Participants also found that expressing this gratitude to others was vital in order to receive those benefits, such as the reduction in depression. The results indicated that male students were more likely to be

depressed than female students (Grant, Marsh, Syniar, Williams, Addlesperger, Kinzler and Cowman, 2002). As this paper found that male students are more susceptible to depression than their female peers, perhaps practicing gratitude in the form of keeping a gratitude journal, can be an effective tool for males to utilize in order to reduce their likelihood of suffering from depression. It is important to note that depression and life satisfaction are not the same variable; however, whether an individual has depression or not could contribute to their levels of life satisfaction. Although there are studies on undergraduate students and depression, there is not a lot of research that investigates the relationship between practicing gratitude techniques and an increase in life satisfaction, subjective well-being and subjective happiness.

This could indicate that there is a suitable gap in the literature to investigate gratitude, well-being and life satisfaction among college undergraduate students; as most studies focus on gratitude among either children and their parents or older adults. As there is little literature in relation to practicing gratitude in Ireland, this could also indicate a suitable gap in the literature for investigation.

Scientific Rationale

Currently, there is a lack of research literature in relation to how practicing gratitude can affect undergraduate college student's life satisfaction, well-being and happiness. As most research investigates the effects of practicing gratitude techniques such as keeping a gratitude reflective journal or simply having a feeling of gratefulness, most of this research has been conducted on older adults or children.

Research investigating practicing gratitude and adults for example, can involve aiming to enhance well-being amongst older adults (Killen and Macaskill, 2015). Research in this area also suggests that practicing gratitude can reduce death related anxiety for older adults (Lau and Cheng, 2011).

As research has suggested that children who practice gratitude tend to have a more positive school experience (Froh et al., 2008), perhaps undergraduate students who practice gratitude can enhance their experience at college or university. Research suggests that undergraduate students experience higher levels of stress and anxiety (Mahmoud, Staten, Hall and Lennie, 2012). Gratitude has been linked to a reduction in stress among the undergraduate student population (Flinchbaugh, Moore, Chang and May, 2012). Although stress reduction is not the aim of this experiment, it is relevant as gratitude can possibly enhance a student's college experience. Undergraduate students have higher feelings and experiences of poorer mental health (Wyatt and Oswald, 2013). Gratitude has been found to be a predictor of subjective happiness (Young and Hutchinson, 2012). If significant results are found between the link of keeping a gratitude journal and increased levels of life satisfaction, well-being and happiness, then in the future, further research and investigation can be carried out to provide undergraduate students with tools such as keeping a gratitude journal to improve their college experience but also to improve their mental health. This

study will primarily aim to investigate if keeping a gratitude journal will increase student's level of life satisfaction, well-being and happiness.

Research aims & hypothesis

Aims: (1). To investigate if keeping a gratitude journal will increase college undergraduate student's level of life satisfaction, subjective well-being and subjective happiness.

(2). To investigate if there is a gender difference between males and females regarding their levels of life satisfaction, subjective well-being and subjective happiness.

Hypothesis 1: Those who engage in the gratitude reflective journal intervention will have increased scores in their levels of life satisfaction, subjective well-being and subjective happiness compared to those who are not assigned to the gratitude reflective journal condition.

Hypothesis 2: There will be gender differences present between males and females in relation to their levels of life satisfaction, subjective well-being and subjective happiness. This is due to the finding that males are more susceptible to suffering from depression than females (Grant et al., 2002). The presence of depression could heavily impact on one's well-being, happiness and life satisfaction.

Methods

Participants:

The total number of participants who took part in this study was 108. The sample mainly consisted of females (79.6%, n= 86), males (18.5%, n= 20), female/other (0.9%, n= 1) and other (0.9%, n= 1). All participants were students enrolled in third level education.

Participants ranged in age from 18-47 years of age. Most participants were approximately 20 years of age (19.6%, n= 21). The majority of individuals who participated in this study identified themselves as single (51.9%, n= 56), in a relationship but not cohabiting (26.9%, n= 29), cohabiting (14.8%, n= 16), married (5.6%, n= 6) and divorced (0.9%, n= 1). Below a table is presented to represent the frequencies of all categorical variables.

Table 1

Frequency table for categorical variables.

Variable	Frequency	Valid Percentage
Gender		
Female	86	79.6%
Male	20	18.5%
Other	1	0.9%
Female/Other	1	0.9%
Marital Status		
Single	56	51.9%
In a relationship but not cohabiting	29	26.9%
Cohabiting		
Married	6	5.6%
Divorced	16	14.8%

All scales used in this experiment were entered into a Google Docs form and distributed to third level students online via mediums such as Facebook and Reddit. All participants were over the age of 18. Informed consent was obtained in the Google Docs survey before participants completed the survey. After completion, the surveys were downloaded to Microsoft Excel and copied into SPSS for data analysis.

Materials:

The Satisfaction with Life scale is a 7-point scale. Responses range from 1 (Strongly disagree) to 7 (Strongly agree). Individuals will be asked to rate how much they agree with statements relating to how satisfied they are with their life. Scores can range from 5-35 in this scale. Scores ranging from 5-9 indicate that an individual is extremely dissatisfied with life. A score of 20 on this scale is neutral. Whereas, scores ranging from 31-35 indicate that a person is extremely satisfied with their life. This scale has a high internal consistency ($r = .79 - .89$).

The Subjective Happiness scale is a 4-item scale that asks an individual to rate how happy they perceive themselves to be, usually on a 7-point likert scale. They are also asked to rate how happy others may perceive them to be which again is on a 7-point likert scale. To score this scale, the 4th item is reverse coded, e.g. turning a 1 to a 7. Means are then calculated for all 4 items. This scale also has a high internal reliability ($r = .79 - .94$) (Lyubomirsky & Lepper, 1999).

The PANAS scale is a mixture of the Satisfaction of Life scale and the Positive and Negative affect scale. It measures subjective well-being. It is a 20-item scale. This scale asks an individual to describe how they felt over the past week, for example, interested or distressed. Responses range from very slightly or not at all to extremely. The sum of the 10 items on the positive affect scale are added together and the sum of the 10 items on the

negative affect scale are added together. Values are positive for the positive affect scale and values are negative for the negative affect scale. This scale has a high internal consistency. For the positive affect scale ($r = .86 - .90$) and for the negative affect scale ($r = .84 - .87$).

Design:

An experimental design will be used. A between-groups design will be used. There will be two groups. Students will be assigned to either group depending on which social media platform they used to gain access to the survey; as the journal intervention survey was posted on Facebook and the control group survey was posted on Reddit. The independent variable in this experiment is the gratitude reflective journal intervention. The dependent variable is the scores of life satisfaction (high, medium low), subjective well-being (high, medium, low) and subjective happiness (high, medium, low).

The control group will not be receiving the intervention. During the week of the experiment, the intervention group will be asked to keep a nightly list of tasks completed throughout their day for the five days of this study. Both groups will complete the Satisfaction With Life Scale (Diener, 1985), the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) and the PANAS scale (Watson et al., 1988). After the proposed duration of 5 days, both groups will complete the above questionnaires again.

As previously stated, the intervention group will fill out the same questionnaires as the control group twice. However, during the week, this group will be asked to keep a nightly reflective journal about things that have happened to them throughout their day that they are grateful for. At the post-intervention stage, both questionnaires will be compared to see how scores changed during both stages of the study.

Procedure:

The researcher asked for permission to go in to some first to fourth year undergraduate classes during their 10-minute lecture break to present their study in the form of a brief verbal explanation outlining what the experiment would require them to do if the students desired to take part. The brief explanation described how it was proposed to investigate the effects of gratitude on levels of life satisfaction, subjective well-being and subjective happiness, what the potential participants were asked to do, how long the experiment would last. Finally, contact details for the researcher were provided, including the researcher's e-mail address. The researcher distributed the information sheets to any student who would like to know more about the experiment. If students had any queries about the experiment, these queries were answered.

If participants were happy to volunteer to take part in this study, they were randomly assigned into either a control group or an intervention group. Both groups were asked to complete an online version (via Google Docs) of the Satisfaction With Life scale, the Subjective Happiness scale and the PANAS scale. It should have taken participants approximately 10 minutes to complete the questionnaires.

After the questionnaires were completed, the control group were not asked to complete a two to three-minute nightly journal on the tasks they completed that day, whereas the intervention group were asked to complete a two to three-minute nightly reflective journal about things that happened to them throughout their day that they were grateful for. This was expected to take 5 days to complete the journals for the intervention group.

Following the completion of the intervention group's journal entries, both groups were asked to complete the same questionnaire forms for the second time, this should have taken approximately 10 minutes.

The project should have taken the gratitude journal entry participants five days to complete (Monday-Friday). There were no breaks offered to participants during the completion of the questionnaires, as the questionnaires should only take 10 minutes to fill out at each sitting; or the reflective journals during this experiment, as the journals should have been completed during the participant's own time.

Results

Descriptive Statistics

Descriptive statistics were calculated such as means (M), standard deviation (SD), range and confidence intervals (at 95%) on variables including age, levels of life satisfaction, subjective well-being (which is measured using the Positive and Negative Affect scale) and levels of subjective happiness also. As can be seen in table 2, there is a lot of variation and outliers in this data set.

Table 2

Descriptive statistics and reliability of all variables

	Mean	SD	Range	Possible Range	Confidence Intervals (95%)
Satisfaction With Life	22.82	5.74	26.00	7-33	22.72–23.92
Positive and Negative Affect (pos)	32.19	6.90	34.00	14-50	30.86-33.52
Positive and Negative Affect (Neg)	26.61	7.85	36.00	11-47	25.10-28.11
Age	23.28	5.42	29.00	18-47	22.24-24.32
Subjective Happiness	17.58	4.66	22.00	6-28	16.69-18.47

Inferential Statistics

Intervention versus control group differences:

The first independent samples t-test was conducted to compare whether or not the gratitude intervention group or the control group differed in their scores of Life Satisfaction. There was a non-significant difference in scores ($t(105) = .535, p = .107$) with the journal intervention group ($M = 23.19, SD = 6.34$) scoring higher than the control group ($M = 22.58, SD = 5.34$). The magnitude of the differences in the means (mean difference = .61, 95% CI: -1.64 - 2.86) was small (Cohen's $d = .104$).

The second independent samples t-test was conducted to compare if the intervention and control group differed in their scores of subjective well-being which is measured using the PANAS scale. This t-test is calculating the positive affect part of the scale. There was a non-significant difference in scores ($t(104) = .922, p = .328$) with the journal group ($M = 32.95, SD = 7.49$) scoring higher than the control group ($M = 31.69, SD = 6.49$). The magnitude of the differences in the means (mean difference = 1.26, 95% CI: -1.46 - 3.99) was small (Cohen's $d = .179$).

The third independent samples t-test was calculated to determine if the intervention and control group differed in their levels of subjective well-being. This t-test is calculating the negative affect part of the PANAS scale. There was a significant difference in scores ($t(76.730) = -.918, p = .015$) with the control group ($M = 27.20, SD = 7.11$) scoring higher than the journal group ($M = 25.72, SD = 8.84$). The magnitude of the differences in the means (mean difference = -1.48, 95% CI: -4.69 - 1.73) was small (Cohen's $d = .184$).

The fourth independent samples t-test compares the levels of subjective happiness between the intervention and the control groups. There was a non-significant difference in scores ($t(105) = .004, p = .321$) with the journal group ($M = 17.58, SD = 5.01$) scoring slightly higher than the control group ($M = 17.57, SD = 4.46$). The magnitude of the differences in the means (mean difference = .0033, 95% CI: -1.83 - 1.84) was extremely small (Cohen's $d = < .00$).

Gender differences:

The final independent samples t-test was conducted to compare levels of life satisfaction, subjective well-being and subjective happiness between males and females. For the purposes of this analysis, the gender category 'Other' was excluded.

Satisfaction With Life: There was a non-significant difference in scores ($t(104) = -.316, p = .855$) with females ($M = 22.95, SD = 5.67$) scoring higher than males ($M = 22.50, SD = 6.20$). The magnitude of the differences in the means (mean difference = $-.45$, 95% CI: $-3.29 - 2.39$) was small (Cohen's $d < .00$).

PANAS Positive (Subjective well-being): There was a non-significant difference in scores ($t(103) = 1.01, p = .363$) with males ($M = 33.68, SD = 7.42$) scoring higher than females ($m = 31.91, SD = 6.81$). The magnitude of the differences in the means (mean difference = 1.78 , 95% CI: $-.1.70 - 5.26$) was small (Cohen's $d = 0.25$).

PANAS Negative (Subjective well-being): There was a non-significant difference in scores ($t(104) = -1.69, p = .989$) with females ($M = 27.17, SD = 7.85$) scoring higher than males ($M = 23.90, SD = 7.52$). The magnitude of the differences in the means (mean difference = -3.27 , 95% CI: $-7.11 - .563$) was extremely small (Cohen's $d = 0.43$).

Subjective Happiness: There was a significant difference in scores ($t(24.82) = .594, p = .049$) with males ($M = 18.30, SD = 5.55$) scoring higher than females ($M = 17.51, SD = 4.39$). The magnitude of the differences in the means (mean difference = $.79$, 95% CI: $-1.95 - 3.52$) was small (Cohen's $d = 0.12$).

Number of Journal Entries: There was a non-significant difference in scores ($t(41) = 1.68, p = .507$) with males ($M = 3.11, SD = 2.37$) scoring higher than females ($M = 1.76, SD = 2.08$). The magnitude of the differences in the means (mean difference = 1.35 , 95% CI: $-.270 - 2.96$) was small (Cohen's $d = 0.61$).

Correlation Matrix:

As the data collected was not normally distributed, a non-parametric correlation matrix was performed using the Spearman rank-order correlation coefficient. Satisfaction with life significantly positively correlated with the number of journal entries kept, the positive part of the PANAS scale, and subjective happiness. Satisfaction with life significantly negatively correlated with the negative part of the PANAS scale. For significant correlations, see table 3.

Table 3

Correlations between all variables

Variables	Satisfaction With Life	PANAS Positive	PANAS Negative	Subjective Happiness	No. of Journal Entries
1. Satisfaction With Life	1				
2. PANAS Positive	.437**	1			
3. PANAS Negative	-.426**	-.384**	1		
4. Subjective Happiness	.551**	.484*	-.458*	1	
5. No. of Journal Entries Kept	.375*	.217	-.255	.274	1

Note. Statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$

Discussion

This study had two hypotheses. The first hypothesis suggested that participants who were assigned to the gratitude journal intervention group would have higher levels of life satisfaction, subjective well-being and subjective happiness compared to participants who were assigned to the control group. The second hypothesis suggested that there would be gender differences present between males and females on their scores of life satisfaction, subjective well-being and subjective happiness. This is due to research that has observed males as being more susceptible to depression than females (Grant et al., 2002). This susceptibility to depression could influence one's perceptions of their levels of life satisfaction, well-being and happiness; especially for males; which means that males could especially benefit from a gratitude practicing intervention to help them in reflecting on their daily positive experiences.

This study also had two main aims. The first aim of this project was to investigate if keeping a gratitude journal would increase undergraduate student's levels of life satisfaction, well-being and happiness. The second aim of this project was to investigate whether or not there was gender differences present between males and females on their levels of life satisfaction, subjective well-being and subjective happiness.

The majority of the results analysed for the purposes of this study were non-significant; with the exception of the significant results produced from the correlation matrix performed. In relation to the first hypothesis, the results generated from this study suggest that practicing gratitude does not increase an undergraduate student's levels of life satisfaction, subjective well-being and subjective happiness for the gratitude journal intervention group; so, the null hypothesis is accepted. Although it is important to note that even though the results produced are not statistically significant, there were increases in the means visible in relation to the intervention group's levels of life satisfaction, the positive

section of the PANAS scale which measures subjective well-being and their levels of subjective happiness. However, with regard to the negative part of the PANAS scale, there was a significant difference between the intervention and the control group; with the control group scoring higher than the intervention group. This could potentially mean that keeping a gratitude journal can slightly improve one's levels of subjective well-being, but that effect was not observed.

Further studies observed that the use of gratitude journaling can help first year students deal with their transition to university. Results indicated that the gratitude journal group had higher gratitude, adjustment to university, life satisfaction and positive affect scores post-test (Isik & Ergüner – Tekinalp, 2017). Similarly, in this paper, the results produced non-significant scores on life satisfaction and the positive section of the PANAS scale with the gratitude journal group scoring higher than the control group in both instances.

In relation to the second hypothesis, the majority of the results suggest that there is not a gender difference present between males and females on their levels of life satisfaction and subjective well-being. However, males did score higher on their subjective happiness scores; so, the alternate hypothesis is accepted.

A study conducted in 2005 observed that appreciation (or practicing gratitude) was positively correlated with life satisfaction and positive affect after controlling for variables such as optimism, emotional self-awareness and spirituality (Adler & Fagley, 2005). Other studies in this area, investigate whether practicing gratitude can impact on youths who are either high or low in positive affect. Results indicated that youths who were low in positive affect and who were assigned to the gratitude writing condition scored higher in gratitude than youths who were just assigned to a daily writing condition both at post-treatment and at a 2 month follow-up (Froh, Kashdan, Ozimkowski, & Miller, 2009). This means overall that practicing gratitude can impact upon one's levels of positive affect for the

better, which gives individuals who struggle with experiencing the positive situations in their lives an extra opportunity to take the time to truly reflect and experience those positive situations.

As previously mentioned, a correlation matrix was performed on all variables and the results from this test were significant (see table 3). Life satisfaction was positively correlated with the number of journal entries kept, the positive section of the PANAS scale and subjective happiness. Life satisfaction was negatively correlated with the negative section of the PANAS scale. Even though life satisfaction was significantly correlated with all variables, there seems to be an additional unknown variable involved with the relationships observed in this study. This could mean that keeping a gratitude journal is beneficial to a student's quality of life and their mental health overall but that the student's own view of themselves i.e. their self-esteem and the level of support that they perceive they have around them is very important because if a student has both a low level of self-esteem and social support then a gratitude journal will not be that helpful for them. Previous studies have observed that gratitude is related to life satisfaction among the undergraduate student population. A path analysis was conducted, and results from this analysis indicated that social support is a mediator in the relationship between gratitude and life satisfaction; and that there is a significant path from gratitude through social support and self-esteem to life satisfaction (Kong, Ding & Zhao, 2015). This could mean that the unknown variable in this study that has a relationship with all variables examined could be the pathway via social support; although further investigation is required to confirm or discount this.

Limitations

The results produced from this study were statistically non-significant, which was not hypothesised. There were 108 participants in total recruited in this study; however, some participants were excluded mostly due to missing data. Although two further participants

were excluded for the purposes of statistical analysis. This was due to the gender those specific participants identified as. Both individuals indicated that 'Other' was the gender that they most identified with. However, SPSS can only conduct tests on two genders: male and female. Perhaps results in this study would have been statistically significant with a larger sample size recruited and a more evenly distributed sample as 79.6 % of participants were female; 18.5 % male, 0.9 % other and 0.9 % other/female.

Another limitation this study faced was the timeframe in which it was conducted. There was insufficient time to allow participants who were assigned to the gratitude journal intervention to really evaluate whether or not that keeping a gratitude made a difference to their lives; as these participants were only required to complete their gratitude journal for 5 days in total; whereas other studies that used a similar methodology allowed their gratitude journaling groups to complete their journals for a total of 3 weeks (Isik & Egrüner – Tekinalp, 2017). With a longer timeframe, individuals would be provided with the opportunity to make an informed decision regarding whether completing a daily gratitude journal improved their levels of life satisfaction, well-being and happiness.

As mentioned above, the methodology used in this study also provided a limitation. It was difficult for the researcher to remind participants involved in the both gratitude journal group and the control group to complete their survey for the second time. As all participant's surveys were anonymous and the researcher had no way of knowing who did or did not take part in this study. It is important to note that it was suggested to participants to set a reminder in their phones to allow for completing the survey a second time (see appendix I or II). However, it is unknown if participants actually did this as suggested.

Future research

It is important to investigate the area of using gratitude enhancing techniques such as a gratitude journal within an undergraduate student population further; as research has

suggested that there are significant benefits in using a gratitude journal in relation to increasing one's life satisfaction, well-being, happiness, and even helping individuals to deal with transitioning into university for the first time (Kong, Ding & Zhao, (2015); Isik & Ergüner – Tekinalp, 2017).

In relation to completion of the gratitude journals, participants involved in both the control and intervention groups were asked to complete the survey twice; once before keeping their gratitude journals and once more after they had written their journals for a total of 5 days. The control group were instructed to complete the survey twice with a 5 day gap in between completing the survey for the first and second time. However, it was difficult for the researcher to remind participants of this without compromising participant anonymity. For future replication of this study, it would be beneficial for researchers to develop a way of anonymously reminding participants to complete the survey again after 5 days. This could be done perhaps if individuals who registered their interest of participating in this study provided the researchers with their e-mail addresses. This way, researchers could send a general e-mail to that contact list to remind people to complete the survey a second time. However, this is an imperfect suggestion as the researchers run the risk of e-mailing people that were interested but in fact, did not participate in the study at all.

Finally, this study observed that there was perhaps an external variable that influenced the relationships between the variables (see table 3). This external unknown variable would be beneficial to explore as future studies could control for this variable in order to investigate if keeping a gratitude journal is in fact useful at increasing an undergraduate student's levels of life satisfaction, subjective well-being and subjective happiness.

In conclusion, this study investigated whether or not keeping a daily gratitude journal for a week impacted upon an undergraduate student's levels of life satisfaction, subjective well-being and subjective happiness. Overall, results indicated that keeping a gratitude

journal may increase a student's levels of life satisfaction, well-being and happiness; although these results were not statistically significant. However, there were increases in the means of the intervention group in relation to their levels of life satisfaction, the positive section of the PANAS scale and their levels of subjective happiness.

Additionally, results indicated that there is another variable that was not identified or explored in this study that has independent relationships with all the variables measured. Some research suggests that this variable could be a pathway to gratitude that features social support and self-esteem (Kong et al., 2015). However further exploration is required to confirm if this pathway is in fact the unknown variable that mediates the relationships between life satisfaction, subjective well-being and subjective happiness independently.

Gratitude journaling seems to be beneficial for an undergraduate student population as the use of this type of journaling gives an individual the opportunity to reflect upon their positive experiences in their lives which in turn, can improve their quality of life, mental health and their perceived levels of social support. However further investigation is needed to explore this impact of using gratitude journaling within a student/young adult population further as the results produced in this study are indicative, but they were statistically non-significant.

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Appendices

Appendix I- Control group information sheet

Does practicing gratitude increase life satisfaction, happiness and well-being among undergraduate students?

Information sheet

Brief description of the study:

This study is investigating whether or not practicing gratitude will increase life satisfaction, subjective well-being and subjective happiness among university students. You will be asked to answer the Satisfaction With Life Scale, Subjective Well-being Scale, and the Subjective Happiness Scale twice (5 days apart from each other). Please think of a 4 digit code that you will remember and include it in this form when you're completing this survey. You should include your initials with this code too, in case someone else has the same code as you. An example of a code to be used would be: CB1234. After you have completed this form twice, your scores of life satisfaction, subjective well-being and subjective happiness will be used for data analysis.

Inclusion and Exclusion Criteria:

All participants must be 18 years of age or older. All participants must be enrolled in an undergraduate program in the National College of Ireland. Having a previous diagnosis for a mental health illness such as depression is the only exclusion criterion for this study. As a mental health illness may influence how a participant answers the questionnaires and the questionnaires may have a negative impact on an individual with a pre-existing mental health illness.

Benefits/Risks:

The main benefit associated with this study is that gratitude practicing techniques have been linked with increased levels of life satisfaction, subjective well-being and subjective happiness. However, most research in relation to gratitude and how it can improve one's life has mainly been focused on children and their parents and older adults. Not much literature can be found on the effect gratitude practicing techniques such as keeping a reflective journal can impact on a student population.

The only perceived risk in this study is that answering the questionnaires may make participants realise that they are unhappy with their lives and as a result of this, the participant may possibly experience minor distress. In the event of this, a debriefing sheet will be provided below.

Confidentiality:

All questionnaires will be submitted by the participant to Google Docs anonymously. Participants will be asked not to share any identifying information such as their name or the course that they are enrolled in in the questionnaire. When the study concludes, all participants data will be kept in an encrypted, password protected SPSS data file.

Voluntary participation:

Participation in this study is 100% voluntary, participants can withdraw from the study at any point with no consequences. However, after the study concludes, if you have submitted your questionnaires on Google Docs, your data cannot be withdrawn as their questionnaires are anonymous and the researcher will not know whose data belongs to who.

Researcher's contact information:

The researcher's e-mail address is x17314291@student.ncirl.ie. If participants have any questions, they can e-mail me at any time. The supervisor for this project is April Hargreaves. Her e-mail address is april.hargreaves@ncirl.ie

LINK: <https://forms.gle/t8EPX27f7C4upzq59>

Appendix II- Intervention group information sheet

Does practicing gratitude increase life satisfaction, happiness and well-being among undergraduate students?

Information sheet

Brief description of the study:

This study is investigating whether or not practicing gratitude will increase life satisfaction, subjective well-being and subjective happiness among university students. Students will be randomly assigned to a control group or an intervention group. Both groups will answer the Satisfaction With Life Scale, the Subjective Well-being Scale, and the Subjective Happiness Scale twice (5 days apart from each other). You will be asked to keep a nightly journal on things that happened throughout your day that they were grateful for. This journal should take you 2-3 minutes to complete each night. I will not need to know what you have included in your journals. What you write in your journal will be completely private. You do not need to submit your journal entries and you will not need to refer to your journals at any point during this study. You need to be honest when writing your journal entries for yourself. Think of things that happened during the day for which you are genuinely grateful. These do not need to be big things. For example, you could be grateful that you made it to college on time or that you got a good grade on an assignment. Please think of a 4 digit code that you will remember and include it in this form when you're completing this survey. You should include your initials with this code too, in case someone else has the same code as you. An example of a code to be used would be: CB1234. After you have completed this form twice, your scores of life satisfaction, subjective well-being and subjective happiness will be used for data analysis.

Inclusion and Exclusion Criteria:

All participants must be 18 years of age or older. All participants must be enrolled in an undergraduate program in the National College of Ireland. Having a previous diagnosis for a mental health illness such as depression is the only exclusion criterion for this study. As a mental health illness may influence how a participant answers the questionnaires and the questionnaires may have a negative impact on an individual with a pre-existing mental health illness.

Benefits/Risks:

The main benefit associated with this study is that gratitude practicing techniques have been linked with increased levels of life satisfaction, subjective well-being and subjective happiness. However, most research in relation to gratitude and how it can improve one's life has mainly been focused on children and their parents and older adults. Not much literature can be found on the effect gratitude practicing techniques such as keeping a reflective journal can impact on a student population. The only perceived risk in this study is that answering the questionnaires may make participants realise that they are unhappy with their lives and as a result of this, the participant could possibly experience minor distress. In the event of this, a debriefing sheet will be provided below.

Confidentiality:

All questionnaires will be submitted by the participant to Google Docs anonymously. Participants will be asked not to share any identifying information such as their name or the course that they are enrolled in in the questionnaire. When the study concludes, all participants data will be kept in an encrypted, password protected SPSS data file.

Voluntary participation:

Participation in this study is 100% voluntary, participants can withdraw from the study at any point with no consequences. However, after the study concludes, if participants have submitted their questionnaires on Google Docs, their data cannot be withdrawn as their questionnaires are anonymous and the researcher will not know whose data belongs to who

Researcher's contact information:

The researcher's e-mail address is x17314291@student.ncirl.ie. If participants have any questions, they can e-mail me at any time. The supervisor for this project is April Hargreaves. Her e-mail address is april.hargreaves@ncirl.ie.

LINK: <https://forms.gle/zXPattU3GagjhQQk9>

Appendix III- Informed consent statement on Google Forms

Informed consent statement included in Google Forms document

By clicking this box, you are agreeing to participate in this study. You can withdraw from this study at any time with no consequences up until the point you have submitted your questionnaires to Google Docs. After this point, your data cannot be withdrawn.

- I agree to participate in this study. I understand that I can withdraw from this project at any time with no consequences up until the point I have submitted my surveys to Google Docs

Appendix IV- Debriefing sheet on Google Forms

Thank you for taking the time to take part in this experiment. You have been asked to participate in this study as there was limited or outdated literature published about how gratitude practicing techniques increased life satisfaction, subjective well-being and subjective happiness in undergraduate student's lives. Your data will be used to determine how gratitude can help improve college student's lives.

***NOTE: YOU NEED TO COMPLETE THIS SURVEY TWICE (5 DAYS APART FROM EACHOTHER). PLEASE SET A REMINDER ON YOUR PHONE TO COMPLETE THE SURVEY A SECOND TIME.**

As your data is now completely anonymous, you will not be able to withdraw your data as there is no way to identify whose data belongs to who. As your data is anonymous, this does not affect your confidentiality. This means your data will not be identifiable.

If you have experienced any unpleasant feelings or distress throughout this experiment, please do not hesitate to call the following helplines:

- AWARE: Freephone 1800 80 48 48. They are available Monday-Sunday 10 am to 10 pm.
- NiteLine: 1800 793 793. Their lines are open every night of term from 9pm-2:30 am.
- Samaritans: 116 123. They are open 24 hours a day.

- National College of Ireland's free psychologist: Mary Keating. Call/text 086 8783086
or e-mail counselling@ncirl.ie or studentsupport@ncirl.ie

The researcher conducting this study was Clara Byrne. E-mail: x17314291@student.ncirl.ie.

The supervisor for this project was April Hargreaves. E-mail: april.hargreaves@ncirl.ie.

Appendix V- Satisfaction With Life scale (Diener 1985 & Pavot, 1991).

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

_____ In most ways my life is close to my ideal.

_____ The conditions of my life are excellent.

_____ I am satisfied with my life.

_____ So far I have gotten the important things I want in life.

_____ If I could live my life over, I would change almost nothing.

- 31 - 35 Extremely satisfied
- 26 - 30 Satisfied
- 21 - 25 Slightly satisfied
- 20 Neutral
- 15 - 19 Slightly dissatisfied

DOES PRACTICING GRATITUDE INCREASE LIFE SATISFACTION, WELL-BEING
AND HAPPINESS AMONG UNDERGRADUATE STUDENTS?

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- 10 - 14 Dissatisfied
- 5 - 9 Extremely dissatisfied

Appendix VI- Subjective well-being scale (Diener, 1895 & Pivot, 1991) and (Watson et al., 1988).

To measure subjective well-being, the Satisfaction with Life scale (see appendix IV) is used in conjunction with the Positive and Negative affect scale (PANAS). Below is the PANAS scale.

Indicate the extent you have felt this way over the past week.		Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
PANAS 1	Interested	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 2	Distressed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 3	Excited	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 4	Upset	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 5	Strong	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 6	Guilty	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 7	Scared	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 8	Hostile	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 9	Enthusiastic	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 10	Proud	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 11	Irritable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 12	Alert	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 13	Ashamed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 14	Inspired	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 15	Nervous	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 16	Determined	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 17	Attentive	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 18	Jittery	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 19	Active	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
PANAS 20	Afraid	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Appendix VII- Subjective happiness scale (Lyubomirsky & Lepper, 1999)

For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing you.

1. In general, I consider myself:

not			a			very			happy
person	1	2	3	4	5	6	7	a very	happy person

2. Compared with most of my peers, I consider myself:

less happy	1	2	3	4	5	6	7	more
happy								

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

not at all 1 2 3 4 5 6 7 a great deal

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

not at all 1 2 3 4 5 6 7 a great deal