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An investigation into the relationship between *humor styles*, gratitude, age, and well-being.

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Abstract

Research on the link between the positive psychological traits gratitude and humor styles and well-being have been gaining much attention in recent years. There is also a significant opening for research in how one's sense of humor and grateful outlook on life develops and transitions as we get older. This current study set out to investigate the relationship between humor styles, gratitude and age on well-being. This study involved N=114 international participants who completed an online questionnaire consisting of the Humor Styles Questionnaire (HSQ) developed by Rod Martin, the Gratitude Resentment and Appreciation Test (GRAT) followed by the Flourishing Scale for well-being created by (Diener, 2009). Correlational and multiple regression analyses including mediation and moderation were run to test the hypotheses. The key findings that emerged from the study were that self – enhancing and affiliative humor have a strong and significant relationship with well-being, and that self - enhancing humor may be the greatest predictor of well-being. Gratitude also displayed a strong relationship with well-being, self-enhancing and affiliative humor. Age did not have a significant link to any of the humor styles or gratitude, but it did have a significant relationship with well-being. Finally, self – defeating and aggressive humor had a weak and negligible relationship with well-being. It was suggested from these findings that future research would greatly benefit from investigating more exclusively the role of self-enhancing humor and it's effect on well-being, and the incorporation of a self-enhancing humor style and gratitude exercise to cultivate these traits. The implications of this research project suggest there is warranty for researchers, mental health practitioners and educators to further research approaches in order to cultivate positive humor styles and a grateful outlook among the population.

Introduction

*“Psychologists can choose to create a scientific monument—a science that takes as its primary task the understanding of what makes life worth living”. “We predict that **positive psychology** in this new century will allow psychologists to understand and build those factors that allow individuals, communities, and societies to flourish” – Martin Seligman*

Based on Seligman’s modern theories of Positive Psychology, this master’s thesis will focus on humor styles and gratitude as positive psychological traits while investigating their relationship to well-being. In contrast to traditional approaches to clinical psychology which focuses on treating negative mental illness and pathology, Psychologist Martin Seligman introduced positive psychology as a science that acknowledges and cultivates one’s positive aspects and personal strengths which enables people to thrive and flourish (Jeong et al., 2020). This master’s thesis will also be based on Barbara Fredrickson’s broaden-and-build theory of positive emotions. The broaden-and-build theory describes the form and function of a subset of positive emotions, including joy, interest, contentment, and love (Fredrickson, 2004). A key feature of the broaden-and-build theory is that positive emotions broaden an individual’s momentary action repertoire, for example joy sparks the urge to play and interest sparks the urge to explore and adventure, therefore building a person’s personal, social and psychological resources for well-being. Viewing both humor styles and gratitude through Fredrickson’s model can be very interesting as gratitude may spark the urge to savour and to be thankful, while humor may spark the urge to laugh and appreciate relationships which all join to empower one’s well-being.

*“People with a good sense of **humor**, have a better sense of life”*

Since the empirical investigation of humour began over 50 years ago, humour has been conceptualized in various ways, including sense of humor, humor appreciation, humour as a temperament and humour as a coping strategy (Martin et al., 1993). Research to date is building momentum, suggesting that humour in its various forms, has been linked to better mood and self esteem, better life satisfaction, greater well-being and increased resistance to stress and depression (Dyck & Holtzman, 2013). Studies have also found that humour may be linked to greater physical well-being due to better sleep and enjoyment from daily activities (Martin, 2002). Within the field, contradictory findings emerged stating that it was possible that individuals may vary in their humor, hence these arguments requesting an absolute definition of humor, led researcher Rod A Martin to investigate which styles of humor may be more or less beneficial to individuals. This present research study will focus on humor styles as developed by Martin (2003) and their relationship to gratitude, age and well-being. Martin created a framework of 4 humor styles to improve research outcomes; 2 positive: affiliative and self – enhancing, and 2 negative aggressive and self – defeating and the basis for these styles was formulated in the ‘humor styles questionnaire’ (Martin, 2003). Martins 4 humor styles mirror the different ways in which people use humor for communication and relationships, and how they use humor to cope with the activities and stressors of daily life (Martin et al., 2003). An affiliative humor style refers to a habit of using humor to amuse others, contribute to relationships and to reduce interpersonal stress such as telling a joke or to lightly tease a friend (Martin et al., 2003). Self-enhancing humor involves cultivating a humorous outlook on life, especially during stressful times and can be described as using humor as a tool or coping strategy. An aggressive humor style refers to derogatory humor or humor used to manipulate others such as sarcasm, ridicule, hostile teasing or discrimination (Martin et al., 2003). Finally, self - defeating humor involves amusing peers by saying humorous things at one’s own expense (Martin et al., 2003).

*“When we are **grateful**, we affirm that a source of goodness exists in our lives”- R Emmons*

Building on humor styles, this study will also explore the relationship between gratitude as an independent variable to well-being. Gratitude has a distinctively broad classification, it has been depicted as an emotion, an outlook, a habit, a strength, a coping response, a moral virtue, as well as an attitude and disposition (Emmons & McCullough, 2003). Emmons and Shelton (2002) define gratitude as a generalized tendency to recognize and respond with grateful emotion to the role of other people’s generosity and kindness, in the positive or negative experiences that happen throughout one’s lifetime. The word gratitude is derived from the Latin word ‘gratia’ meaning favour and ‘gratus’ meaning pleasing (Emmons & Stern, 2013). All translations from this Latin origin have to do with generosity, kindness, gifts, the beauty of giving and receiving, or to be given something for free. Much of the human experience is about giving, receiving, helping our friends and loved ones and repaying acts of kindness and love. Within this context gratitude functions to enhance relationships by empowering and strengthening them. Gratitude can also be conceptualised as a cognitive-affective state typically associated with the perception that one has received a personal benefit that was not intentionally sought after, deserved, or earned but rather because of the good intentions and kindness of another individual (Emmons & McCullough, 2003).

For this master’s thesis Disabato, Goodman and Kashdan’s (2019) approach to well-being will be used that defines WB as the perceived enjoyment and fulfilment with one’s life as a whole, this definition takes a flourishing approach to well-being, and this study will measure WB using the flourishing scale (Diener, 2009). The burgeoning literature on humor styles demonstrates that self – enhancing and affiliative humor are typically linked to better psychological and emotional well-being, while self-defeating humor is associated with psychological distress, and aggressive humor shows weak and inconsistent links to psychological well-being (Caird & Martin, 2014). American research from Steiger, Formann and Burger (2011) found that self – defeating and aggressive humor styles are linked to lower quality of well - being among young adults and adolescents. Among 106 US psychology majors Hampes (2005) found a significant relationship between aggressive and self – defeating humor styles with poorer social skills, increased negative affect and lower well-being.

A meta-analysis of 37 studies carried out in 2018 concluded that self-enhancing and affiliative humor are positively correlated with mental health and well-being (Schneider, Voracek & Tran, 2018). Fritz, Russek and Dillon (2017) began to question that if humor styles are so strongly linked to well-being, then by what means might humor styles facilitate well-being? These researchers stated that one mechanism linking humor styles to well-being is cognitive reappraisal, which is the ability to reframe negative events in a positive light. For decades researchers and academics have stressed the importance that people must find meaning in their negative experiences if they are to survive and recover from them (Frankl, 1962). Cognitive reappraisal of negative experiences allows individuals to shift their perspective from viewing the situation as a deeply negative threat to instead viewing them as positive or less threatening, therefore this has been associated with enhanced adjustment to diverse stressors. The use of humor has been promoted as a personal quality that promotes cognitive reappraisal and therefore creates resilience and promotes one's well-being in the face of struggle and stress (Fritz, 2020). Fredrickson's broaden-and-build theory can also add to this discussion, Fredrickson (2004) states that individuals should dedicate time and effort in order to cultivate positive emotions in themselves and others, not just as an end-state in themselves, but also as a means to achieving improved psychological growth and well-being over time. Based on research into well-being, the broaden and build theory would promote that positive psychological traits such as affiliative and self-enhancing humor and gratitude can be cultivated and worked on in order to enhance and empower our own psychological well-being.

Within the field of personality psychology there is also new emerging evidence which further enhances this relationship of positive humor styles and well-being. Hampes (2016) found among 112 undergraduate students that self-enhancing humor was strongly linked to empathy and forgiveness, while aggressive and self-defeating humor were significantly and negatively related to forgiveness and empathy. Gonot-Schoupinsky, Garip and Sheffield (2020) highlighted in their systematic review of over 500 articles, that there are multiple ways in which laughter and humour can be harnessed to benefit different aspects of personal development and well-being in a range of populations and situations. They concluded that laughter and humour are free and accessible resources and when used wisely can benefit personal growth and well-being across the life-cycle.

There is a large body of research that reports a strong correlation between gratitude and positive well-being. Past studies have also found that gratitude has a strong correlation with positive social functioning and psychological health (Safaria, 2014). Even in unpleasant or difficult circumstances grateful people, make the effort to find meaning and opportunity and pay less attention to negative views which may lead to depression (Lin, 2015). Watkins et al. (2003) demonstrated that grateful people tend to experience more joy, optimism, happiness and hope as well as decreased negative emotions which enhances one's well-being and health. Recent studies on young adults reinforce this paradigm that gratitude enhances positive emotions and wellbeing. In a cohort of 390 young adults Wood, Joseph and Maltby (2008) found that gratitude was the most influential personality trait related to well-being, they concluded that well-being and gratitude have a strong and positive relationship. Emmons and Crumpler (2000) state that practicing gratitude or having a grateful outlook on life is a major predictor of positive well-being and life – satisfaction. In a Turkish study Sapmaz et al. (2016) demonstrated among 443 undergraduate students that gratitude was the strongest factor associated with subjective well - being.

However, after exploring the research extensively there are very few studies available investigating the relationship between humor styles and gratitude. The research that does exist has been carried out exclusively in the USA. Maiolino and Kuiper (2014) demonstrated among 268 US undergraduate students that higher levels of gratitude were associated with higher levels of self-enhancing and affiliative humor, whereas higher levels of aggressive and self-defeating humor were primarily associated with lower levels of gratitude. They concluded that both positive humor styles and gratitude belong together in the realm of positive psychology, but that they may have different roles for each personality type.

This study will also investigate the variable age in relation to well-being, humor styles and gratitude. In cross-sectional and longitudinal studies, older age is generally related to decreased frequency of negative affect and increased frequency of positive well-being (Charles and Carstensen, 2007). Results from these studies reveal that as each age group increases, increased positive affect is reported over time. Humor is enjoyed daily by people in every culture and every age. However, very little is known about how aging affects humor experiences. Research suggests that elderly people enjoy humor more than younger people, but they have increasing

difficulties in understanding jokes (Greengross, 2013). Gratitude is also an important virtue when it comes to age. It is difficult to predict whether older persons are more grateful than younger or middle - aged populations, as each group is thankful for different things at different stages of their lives. However, across empirical literature it has been assumed that as one's age increases, so does their appreciation & gratitude for the smaller things in life (Wood et al. 2010).

To add another special niche in this research, an overall model will be tested including all the variables in the study (humor styles, gratitude, age and well-being) this will help to identify the best predictors of well-being. This study is also unique as the data has been collected internationally, in a time of unprecedented stress due to the covid-19 pandemic, giving it an unusual edge. This master's thesis aims to fill an interesting gap as humor styles, gratitude, age and well-being will be investigated among an international sample and during the unparalleled Covid-19 pandemic. The main research question is how do humor styles, gratitude and age relate to well-being? Based on previous literature, the following hypotheses were formulated:

[1] Both affiliative humor and self-enhancing humor styles will be positively associated with well-being and gratitude.

[2] Both self-defeating and aggressive humor styles will be negatively associated with well-being.

[3] Across the sample gratitude will have a positive relationship with well-being.

[4] Age will have a positive relationship with humor styles, gratitude and well-being.

Methods

Design

This study was approved in October 2020 by the Ethics Committee of the Faculty of Social and Behavioural sciences Utrecht University under the registration number 20-0224. For this master's thesis a quantitative design was chosen to investigate the relationship between humor styles, gratitude, age and well-being. The justification for this decision was due to the attractiveness of collecting quantifiable solid data that ensured logical and reliable results. It is important to note that due to the Covid-19 pandemic, the entire data collection process was carried out online to ensure safety of participants and researchers. With the aid of *Qualtrics* and *SPSS* adopting an online format for this research allowed us to contact participants from all over Europe using various social media platforms and provided efficiency and fluidity during data collection.

Participants

165 healthy participants participated in this study online. To agree to volunteer in the study the participants had to tick the consent form and read the information letter. The introduction sheet of the questionnaire briefed the participants on the nature of the study and introduced the researchers and supervisor. It was stressed that all participants must be over the age of 18. There was no reward for participating in the study. 51 participants had to be excluded from the study due to vagueness of responses or failure to complete all questionnaires. After cleaning the data, **114** participants were included in the final analysis. The use of an online questionnaire was a vital factor in successful recruiting, due to the lack of in person contact due to Covid-19. The participants were recruited exclusively online via *Whatsapp*, *Facebook* groups and social media platforms. The full questionnaire took approximately 15 minutes to complete and was available to answer in English only. The demographics for this study revealed a huge international participation rate with participants recruited from 36 countries. The majority of participants came from the Ukraine (19.3%) the Netherlands (16.7%), the UK (15%), Russia

(8%), Ireland (10.5%) Germany (5.3%) and America (3.5%). The study also had a very high female participation rate of 85 participants (74.6%) compared to 29 males (25.4%). The demographic information can be found in table 1 below, most participants came from the age bracket of 25 – 34 years – 31 people closely followed by 35 – 44 years – 28 people. Demographics also revealed that the participants were a highly educated cohort stating that 92 participants (80.7%) were university educated or higher.

Table 1

Demographic information

Gender	Frequency	Percent
Male	29	25.4
Female	85	74.6
Age	Frequency	Percent
18-24	23	20.2
25-34	31	27.2
35-44	28	24.6
45-54	9	7.9
55-64	10	8.8
65-74	13	11.4
Educational Level	Frequency	Percent
Primary	1	0.9
Secondary	20	17.5
University/College	92	80.7
Total	114	100

Measures

Table 2

Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Well-being .801	.785	18
Humor Styles .870	.871	32
Gratitude .737	.753	16

Before the participants completed the main questionnaires, demographic information was gathered by asking participants their gender, age, nationality, and level of education. The results of participants demographic information can be seen in Table 1 above.

The Humor Styles Questionnaire (HSQ) developed by Martin et al., (2003) is one of the most well-known tools in assessing humor (Stieger et al., 2011). This instrument has 32 items, measuring four styles of sense of humor using 8 items for each of the styles. These styles are affiliative, self-enhancing, aggressive and self-defeating. This questionnaire displayed a high reliability for research as it displayed a Cronbach Alpha score of 0.870 as seen in Table 2. Participants indicate their degree of agreement or disagreement with different statements about their sense of humor on a seven-point Likert-type scale, from 1 (totally disagree) to 7 (totally agree). An example of a statement from self - enhancing humor is: *'Even when I'm by myself, I'm often amused by the absurdities of life'*, affiliative: *"I laugh and joke a lot with my closest friends"*, self – defeating: *"I often go overboard in putting myself down when I am making*

jokes or trying to be funny” and aggressive: “If I don't like someone, I often use humor or teasing to put them down”.

(GRAT) Gratitude Resentment and Appreciation Test. The (GRAT) Test was obtained from Watkins et al, 2003. It is a 16-item self-report questionnaire which invites participants to provide their honest feelings and beliefs on the written statements by circling the number that indicates their agreement. The GRAT scale has been widely used for positive psychological research since it's creation in 2003, and therefore it was chosen to ensure consistency with previous studies on gratitude (Diessner & Lewis, 2007). Similar to the HSQ the GRAT displayed high reliability for research as it had a Cronbach Alpha score of 0.737. There are 16 statements on the questionnaire such as *‘I think that it's important to pause often to "count my blessings’* and *‘oftentimes I have been overwhelmed at the beauty of nature’* and participants rate their agreement by circling 1 strongly disagree to 7 strongly agree.

The Flourishing Scale for well-being created by (Diener, 2009) is a brief 8-item summary measure of the respondent's self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism. The scale provides a single psychological well-being score. The scale was originally called psychological well - being, but the name was changed to better reflect the material because the scale includes content that goes beyond psychological well-being narrowly defined. Similar to both HSQ and GRAT, the flourishing scale displayed a Cronbach Alpha score of 0.801 indicating good reliability for research. Each item on the scale is answered on a 1-7 scale that ranges from strong disagreement to strong agreement. All items are phrased in a positive direction. High scores signify that respondents view themselves in positive terms in important areas of functioning. Statements include *‘I am engaged and interested in my daily activities’*, *‘I am optimistic about my future’*.

Procedure

All procedures for this master's thesis data collection were carried out in strict accordance with the ethical guidelines of the department of social and behavioural sciences at Utrecht University. Due to Covid-19 the data was collected exclusively online between December 2020 and January 2021. The participants were recruited by convenience sampling via social media platforms and were notified that participation was completely voluntary and they had the right to withdraw at any time. When the participants clicked the link to log into the

questionnaire, they were asked to fill out the consent form, and to disclose that they were over the age of 18. They were also provided with an information sheet which informed them of the nature of the study and the contact details of the researchers. Following this the participants were met with the demographic questions which asked their gender, age, nationality and level of education. The participants then completed the humor styles questionnaire, the GRAT Test followed by the Diener (2009) Flourishing scale. The full questionnaire took approximately 15 minutes to complete. After completion of the questionnaire participants were also invited to leave their e-mail address if they were interested in the results of the research, however to ensure privacy the email addresses were stored separately from the data in a password protected file.

Analysing the data

The statistical analyses for this study were carried out using the very efficient IBM SPSS Version 26. There were 4 hypotheses to be tested using statistical analysis. First using Pearson correlation coefficients and Spearman's RHO, bivariate associations between the 4 humor styles, gratitude, well-being and age were analysed. Second, multiple linear regression analysis using a stepwise method were performed on the dependent and independent variables followed by a moderation and mediation analyses. The 'Process' tool by Hayes (2018) was used to facilitate moderation and mediation. This research is of an exploratory nature hence a multiple regression method was used to investigate the factors which may explain or predict well-being. The following assumptions for the multiple regression analysis were tested and met: linearity of the model, scatterplots; independent errors; homoscedasticity, checking the consistency of variance of the residuals; normal distribution of errors, using plots; uncorrelation of the predictors; no multicollinearity; checking tolerance, checking Cook's distance (Field, 2013).

Results

Descriptive statistics and Assumptions

The purpose of this chapter is to illustrate the statistical findings from the correlational and multiple regression tests that have been run to investigate our hypotheses. Before any statistical analysis could be run on the data it had to be made sure that the data was reliable, normally distributed and that specific assumptions were met. The data visually met the assumption of normal distribution and linearity and homoscedasticity. It was decided to use the Spearman's correlation test while analysing age in hypothesis [4].

Correlational analysis

Table 3

Results of correlational analysis

	WB	GRAT	HSSE	HSAF	HSSD	HSAG	AGE¹
WB	1	0.450**	0.459**	0.262**	0.043	-0.078	0.277
GRAT	0.450**	1	0.219	0.292	0.097	-0.077	0.070
HSSE	0.459**	0.219	1				0.132
HSAF	0.262**	0.292		1			-0.160
HSSD	0.043	0.097			1		-0.041
HSAG	-0.078	-0.077				1	-0.134
AGE¹	0.277	0.070	0.132	-0.160	-0.041	-0.134	1

¹ These correlations are Spearman's rho correlations.

It was assumed that the humor styles affiliative and self - enhancing would be positively correlated with well-being and gratitude. With the aid of the Pearson R correlation, hypotheses [1] could be accepted as there was a moderately positive correlation between affiliative humor and well-being ($r = 0.26$, $p < 0.01$) and gratitude at ($r = 0.29$, $p < 0.01$). Self – enhancing humor correlated with well-being at ($r = 0.46$, $p < 0.01$) and gratitude ($r = 0.22$, $p < 0.05$). The P values

that are less than 0.05 demonstrate that the correlations did not just happen by chance, and that there is enough evidence to suggest that this correlation observed does exist among this population.

Hypotheses [2] assumed that self – defeating and aggressive humor styles would be negatively correlated with well-being. With reference to the Pearson R correlation, hypotheses [2] could be accepted as the results displayed a very weak and negligible correlation among these variables. Self – defeating humor displayed a relationship of ($r = 0.043$, $p > 0.05$) with well-being and aggressive humor displayed a relationship of ($r = -0.078$, $P > 0.05$). The high P values $P > 0.05$ indicate that among this sample there is no evidence against the null hypothesis.

Hypotheses [3] could also be accepted, which assumed that across the sample gratitude will have a positive relationship with well-being. With reference to the Pearson R correlation gratitude displayed a relationship of ($r = 0.45$, $P > 0.01$). The low P value indicates there is a statistically significant relationship within this population.

Hypotheses [4] assumed that age would have a positive relationship with the variables humor styles, gratitude and well-being. However, the results from the Pearson R correlation yielded contrasting relationships between each of the variables. With regard to the four humor styles, it could be observed that age had no significant relationship with either, affiliative humor ($r = - .160$, $p > 0.05$), self - enhancing humor ($r = 0.132$, $P > 0.05$) aggressive humor ($r = - 0.134$, $P < 0.05$) self – defeating humor ($r = - 0.141$, $P > 0.05$). Gratitude displayed a negligible correlation of ($r = 0.07$, $P > 0.05$). Interestingly well-being did not compliment these results. Well-being displayed a low positive correlation of ($r = 0.28$) and a highly significant P value of ($0.003 < 0.05$). This means that the correlation between age and well-being did not happen by chance and that there is strong evidence within the sample. On these grounds, we fail to fully reject hypotheses [4] as there is evidence to suggest a significant relationship between age and well-being. Although the correlation of age to well-being is small it is still very significant as the main goal of this research is to explore what relates to and may predict well-being.

Multivariate analysis - multiple linear regression

This study will also demonstrate a model investigating valid predictors for well-being, based on the results of the regression analysis where all variables in the study were entered. No specific hypotheses were formulated, but we wanted to explain as much variance on the predictors of well-being as possible. A stepwise multiple regression analysis was conducted which revealed self - enhancing humor style, gratitude, and age to be the strongest three predictors of well-being in the study. The results can be seen below in the tables 4-5.

Table 4

Summary of the Regression Models

MODEL SUMMARY _D								
MODEL	R	R2	AdjustedR2	R2Change	F	DF1	DF2	P
1	.459 _a	.211	.204	.211	29.941	1	112	.000
2	.583 _b	.340	.328	.129	21.625	1	111	.000
3	.606 _c	.368	.350	.028	4.865	1	110	.029
N=114								

Predictors: (Constant), Self-Enhancing Humor_a

Predictors: (Constant), Self-Enhancing Humor, Gratitude_b

Predictors: (Constant), Self-Enhancing Humor, Gratitude, Indicate AGE_c

Dependent Variable: Flourishing scale_d

Table 5

Regressions of associations between SEH/Gratitude/Age and Well-being

<i>Model</i>		<i>Unstandardised</i>		<i>Standardised</i>			<i>Collinearity Stats</i>	
		<i>Coefficients</i>		<i>Coefficients</i>			<i>Tolerance</i>	<i>VIF</i>
		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>Sig</i>		
1	Constant	32.943	2.569		12.823	.000		
	SEH	.358	.065	.459	5.472	.000	1.000	1.000
2	Constant	15.014	4.521		3.321	.001		
	SEH	.295	.062	.379	4.793	.000	.952	1.050
	Gratitude	.318	.068	.368	4.650	.000	.952	1.050
3	Constant	13.809	4.477		3.084	.003		
	SEH	.277	.061	.355	4.529	.000	.934	1.070
	Gratitude	.315	.067	.365	4.696	.000	.952	1.051
	AGE	.704	.319	.169	2.206	.029	.979	1.021

Table 6

Regressions of associations using a moderator of gratitude and self enhancing humor

<i>Model</i>		<i>B</i>	<i>t</i>	<i>Sig</i>	<i>Tolerance</i>	<i>VIF</i>
1	Well-being	0.368	4.650	.000		
	Gratseh_moderator	-0.132	-1.585	.116	1.000	1.000
2	Gratseh_moderator	-0.94	-1.210	0.229		

Firstly, by using the stepwise method, self – enhancing humor was deemed the strongest predictor of well-being. The first model depicts self – enhancing humor contribution alone, the second model describes the contribution of both self - enhancing humor and gratitude and the third model depicts self - enhancing humor, gratitude and age. From model one we can see that the self – enhancing humor style does predict well-being significantly as [b = 0.358, t(112)= 5.472, and p is = 0.000]. If we consider the data from the second model, it can be seen that self - enhancing humor [b = 0.295, t(111) = 4.793, P = 0.00] and that gratitude [b = 0.318, t(111) = 4.650, P = 0.00]. Both of these variables significantly predict well-being with self - enhancing humor ($\beta = 0.379$) slightly having a minutely larger impact that gratitude ($\beta=0.368$). When analysed the third model reveals that age may be another predictor for well-being. Age displays values of [b = 0.704, t (110) = 2.206, p = 0.03, $\beta = 0.169$]. Self - enhancing humor style displaying [b = 0.277, t (110) = 4.529, p = 0.00, $\beta = 0.355$] and gratitude displaying [b = 0.315, t (110) = 4.696, p = 0.00 $\beta = 0.365$]. Finally looking at the R Square summary we can see that from model 1 (0.211) that self – enhancing humor can explain 21% of the variability in well-being, and that model 2 (0.328) that SHE and gratitude can explain 32.8%, and from model 3 (0.350) that SEH, gratitude and age can explain 35% of the variability in well-being.

Moderated Regression Analysis

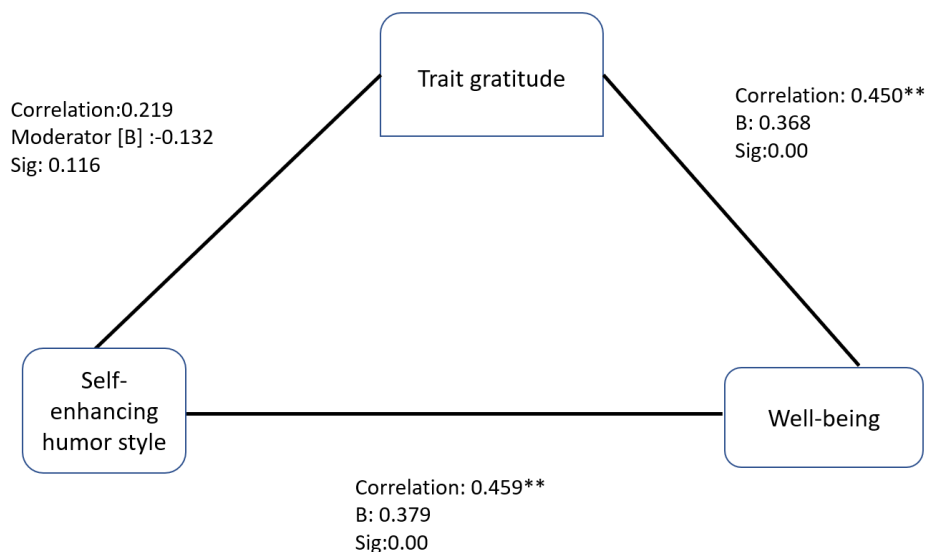
Next it was chosen to analyse the joint effect of self-enhancing humor style and gratitude as a moderator on well-being. The model displayed that $F(1,110) = 19.594, P = 0.0229 > 0.001, R^2 = 0.348$, therefore the R Square figure presents the moderator explaining a significant 34.8% of the total variance on well-being. Interestingly it turned out that self-enhancing humor style was a significant predictor of well-being [b=0.301, t(112) = 4.88, and P = 0.000, while also gratitude [b=0.308, t(113)= 4.498, P=0.000]. Both variables had very similar results so it could potentially be said that if one has a high level of gratitude it may indicate a preference for self-enhancing humor therefore leading to a higher well-being. However, it can be seen from table 6 that when the moderator '*gratseh_moderator*' was put into a regression along with well-being it displayed a non-significant P value of (P = 0.229 > 0.001) indicating an indirect and small effect within the regression model.

Mediated Regression Analysis

The final step in analysing the results was to run the mediation analysis in order to see if gratitude mediated the relationship between self - enhancing humor style and well-being. Similar to the previous analysis it displayed that self - enhancing humor style at [F(1,112) = 5.631, P < 0.001, R² = 0.048] significantly predicts gratitude as [B = 0.1973, t (112) = 2.373, P = 0.000]. These figures indicate a positive relationship, illustrating that if someone displays more of a self – enhancing humor style, they will also have a higher score on gratitude. The R squared figure shows that self - enhancing humor style can explain roughly 4.8% of the total variance in gratitude. Next if we consider the model of self enhancing humor style and gratitude [F(2,11) = 28.5396, P < 0.001, R Square = 0.34] we can see that self enhancing humor style significantly predicts well-being as [b = 0.2953, t (11) = 4.7926, P = 0.000] whilst being mediated by gratitude [b = 0.3176, t (111) = 4.650, P = 0.00] these figures indicate that with increased style of self enhancing humor, one’s level of well-being increases, and the more grateful the individual is may also predict better well-being. The R squared figure (0.3396) shows that the model including self enhancing humor and the mediator gratitude can explain about 33.9% of the variance on well-being. Overall there is a significant indirect effect of self enhancing humor style on well-being through gratitude b = 0.0627, BCA CI [0.0079 – 0.1393].

Table 7

Diagram of the indirect/direct effects between gratitude, self enhancing humor style and well-being.



Discussion

The purpose of this research project was to investigate the relationship between the four humor styles, gratitude, age and well-being. Affiliative humor style and self-enhancing humor style displayed a moderately positive relationship with well-being and gratitude, with self-enhancing humor having the strongest link among all variables to well-being. Aggressive and self – defeating humor style displayed a significantly weak and negligible correlation to well-being. Gratitude also displayed a significantly positive relationship to well-being, coming in as a close second to self-enhancing humor style. Interestingly age had no significant link with the four humor styles or gratitude, but it did display a significant relationship with well-being, that did not happen by chance.

The first hypothesis made the prediction that both affiliative and self – enhancing humor styles would be positively associated with well-being and gratitude. The results from the correlational analysis displayed a significantly positive relationship between these two humor styles, well-being and gratitude. On the grounds of this hypothesis [1] was accepted. Self - enhancing humor style also displayed the strongest link out of all the variables to well-being, and affiliative humor style had the strongest link to gratitude out of all the humor styles. These results complement findings from (Caird & Martin, 2014) who stated in their research on 134 American graduate students that self – enhancing and affiliative humor were linked to better psychological and emotional well-being. Likewise, these findings concur with (Schneider, Voracek & Tran, 2018) who stated in their meta-analysis of 37 studies that self - enhancing and affiliative humor are consistently positively linked to better mental well-being. The implication of this study shows some promising findings. The entirety of this study from start to finish has been completed during the Covid-19 pandemic, where students, researchers, lecturers, have had their well-being and mental peace put to the ultimate test. In a major era of unprecedented stress, ,anxiety loneliness and fear, this study has provided a small glimmer of hope in it's efforts to investigate well-being and it's predictors. Both affiliative and self - enhancing humor style present themselves as the two positive humor styles, where affiliative enhances one's relationships with others in a charming and positive manner and let's us enjoy laughing with others (Martin et al., 2003), self - enhancing humor enables us to have a good natured attitude toward life, to laugh at ourselves and allows us to look on the bright side of life and to find the silver lining and window of hope in difficult situations (Martin, 2001). The

fact that within this sample affiliative and self – enhancing humor correlated significantly with well-being and gratitude may be because participants had experienced difficult and upsetting situations due to Covid-19 and were forced to rely on inner strengths such as counting their blessings, maintaining hope and faith, which may have created an emotional buffer that protected one’s well-being.

The second hypothesis made the prediction that both self - defeating and aggressive humor styles would form a negative relationship with well – being. The data showed that indeed self - defeating and aggressive humor styles had a significantly weak and negligible correlation with well-being. On these grounds hypothesis two was accepted. Furthermore, out of all the variables in this study aggressive humor style had the weakest relationship to both well-being and gratitude. These studies complement findings again from Caird and Martin (2014) who stated in their US study that self – defeating and aggressive humor styles are associated with psychological distress and show weak and inconsistent links to psychological well-being. These findings also concur with research from Steiger, Formann and Burger (2011) who found that self – defeating and aggressive humor styles are linked to lower quality of well -being, loneliness and depression. These findings also share similarities with research from Hampes (2005) who found a significant relationship between self – defeating humor styles and lower well-being and loneliness. Considering what we know about self-defeating humor styles, which uses potentially detrimental humor towards the self to become the butt of the joke in order to please others or gain approval (Martin et al., 2003) and aggressive humor which is detrimental towards others through the use of sarcasm, teasing, put downs and ridicule, it is promising to see from the results of this study that these two independent variables had correlated so negatively with well – being and gratitude. Making another reference to Covid -19, where people have become more isolated and alone, it would make sense for them to be angry, bitter and disappointed. However, this international sample have displayed some really heart - warming results in the fact that they have shown up in their efforts to maintain a strong link between affiliative and self - enhancing humor and a negative link between self – defeating and aggressive humor styles. Interestingly these findings have theoretical significance as they support the foundation of this study which are based upon Fredrickson’s broaden and build theory. In reference to the broaden and build theory the negative emotions that facilitate aggressive and self-defeating humor narrow the scope of one’s mind and narrows their thought action repertoires (Garland et al., 2010) contrastingly the results of this research have shown

that the positive humor styles link stronger to well-being, as they broaden our ability to express joy, mindfulness, resilience which in turn builds our well-being.

Hypothesis three predicted that across this sample gratitude would have a positive relationship with well-being. The results displayed a strong and significant correlation between these two variables. Gratitude came in as a close second to self - enhancing humor style in it's overall link to well-being. On the basis of these results hypotheses 3 was accepted. These findings share similarities with research from Sapmaz et al. (2016) who found among 443 Turkish students that gratitude was the strongest factor associated with well-being. Likewise, Emmons and Crumpler (2000) found that student's who scored high on having a grateful outlook on life reported a higher quality of well-being. Finally, Wood, Joseph and Maltby (2008) found among 390 UK adults that gratitude was the most influential personality trait related to well-being. These results form the basis for some really interesting discussion and food for thought. Why among this group of international participants, is there such a strong link between gratitude and well-being? Well-being as a concept can be described as broad and multi-dimensional where sometimes no explicit definition is concluded (Hone, Schofield & Jarden, 2015). The following definitions of well-being may be useful in figuring out it's strong link to gratitude. Dodge et al. (2012) describes well-being as the balance point between an individual's resource pool and the challenges faced, Tabor and Yull (2018) describe WB as an individual's preference to take account of what matters to people by allowing them to decide what is important when they respond to challenges, finally Disabato, Goodman and Kashdan (2019) describe WB as the perceived enjoyment and fulfilment with one's life as a whole. Gratitude can be defined as acknowledging and appreciating what is meaningful and of value to someone. Perhaps why this link is so strong is that when we fall on hard times, or inner periods of struggle, gratitude allows us to view the situation as it is, and to count the blessings and resources we have in the meantime. Gratitude allows individual's to focus on what they have not on what they haven't. This may contribute to well-being as gratitude may cultivate an outlook of abundance and blessings instead of scarcity and lacking. In reference to Covid-19 which was so influential in this study, perhaps individuals found themselves appreciating the little things in life more, compared to this time 2 years ago. Appreciating our own health, the health and life of our loved ones, having a roof over our head, food and electricity, may be a lasting effect of the pandemic for a lot of people. The researcher received some really positive feedback on the gratitude questionnaire, so it would be nice to end this paragraph with two of the statements: "I think

that it's important to pause often to 'count my blessings' ", I think it's important to enjoy the simple things in life".

Hypotheses four predicted that the variable age would have a significant relationship with the variables humor styles, gratitude and well-being. However, the results displayed some very interesting findings. Age did not display a significant positive relationship with the four humor styles and gratitude, however the same was not true for well-being. Age displayed a significantly positive relationship with well-being. On the grounds of this hypotheses 4 could be partially accepted. These results compliment similar findings from a meta-analysis by Charles and Cartensen (2007) that stated older adults often report high levels of well-being and being satisfied in old age. They concluded that a person's well-being can greatly benefit from life experience and time perspective. The low relationship between age and the four humor styles also compliments findings from Greengross (2013) who stated that as people get older it rapidly decreases their desire to use self - defeating humor and aggressive humor, and that cognitively people may not understand certain types of affiliative humor that is shared by younger groups of people.

With the data obtained from the correlational testing a multiple regression and moderation and mediation analyses was performed, to investigate whether we could accurately predict well-being from the other variables. The stepwise multiple regression analyses displayed that self - enhancing humor style, gratitude and age were the strongest predictors of well-being. Next it was found by running a moderation analyses that the joint effect of gratitude and self - enhancing humor as a moderator explained a significant proportion of the total variance of well-being. A plausible explanation for this is that across the sample self - enhancing humor style independently was the overall strongest predictor of well-being, and its correlation to gratitude was also strong, leading gratitude to also have a strong relationship with well-being. However, when this moderator was placed into a regression analysis along with well-being, it displayed a low P value that was non-significant. Finally, a mediation analyses was performed where the results showed that gratitude significantly mediates the relationship between self-enhancing humor and well – being. It states that self - enhancing humor can not only predict well-being but also gratitude. From these results it can be stated that with increased style of self - enhancing humor, one's level of well-being increases, leading the individual to be more

grateful. The question still stands does having a sound level of well-being lead an individual to use self - enhancing humor more and to be more grateful, or does using self - enhancing humor and being grateful lead to a better well-being? Further research is needed.

Although this research has yielded some promising findings, it also has its shortcomings and limitations. The first main limitation is that the entirety of this research project from securing a supervisor, gaining ethics approval, collecting data was carried out online due to Covid – 19. The same is said for the participants, as they were too isolated due to Covid-19 and were not able to fill out the questionnaire in person. The first recommendation for further research would be to investigate deeper into the role of self – enhancing humor as it has yielded some promising findings. Further research could investigate self – enhancing humor as a preventative factor against certain issues such as depression, anxiety, burnout and stress. In terms of the clinical relevance of this study, psychotherapists and psychologists may benefit from incorporating positive psychological interventions into clinical practice that are inspired by self -enhancing humor especially as the focus is on ‘self -enhancing’. An example would be to ask the client to write in their journal about some stressful experiences in the past that they took very seriously, and which caused upset and stress, and instead to re write these experiences with a more humorous and self- compassionate perspective (Emmons & McCullough, 2003). The next recommendation would be to include during the data collection process a small gratitude exercise (writing letters of thanks, recalling positive memories) accompanied by an exercise based on self - enhancing humor. Within clinical practice gratitude could be a very empowering concept for clients in which to base further positive psychological interventions. Psychotherapists could create small gratitude exercises that would follow the clients CBT homework, clients could engage in writing letters of thanks to loved ones, creating a photo album of favourite moments and locations, or making a gratitude jar where you write down random things that brought you joy. Another suggestion for further research would be to increase the sample size to represent more evenly the different age groups. This study was carried out exclusively online and it was a struggle to find older participants, as we did not have the safety measures or resources to enter people’s homes or to approach them on the street. This master’s thesis has succeeded in its aim to investigate the relationship between humor styles, gratitude, age and well-being. The results suggested that self - enhancing humor and gratitude may be the strongest predictors of well-being, the hypotheses also displayed that well-

being is positively associated with affiliative humor and age. Although age had no correlation to gratitude and the 4 humor styles, it did display a significant relationship to well-being. This research project has contributed to the field of positive psychology with findings that have been found uniquely during the Covid – 19 pandemic. This master’s thesis contributes to Seligman’s branch of positive psychology as these findings present self-enhancing humor as a personal character strength that can be cultivated and practiced in order to enhance one’s well-being. Likewise, this thesis can also support Fredrickson’s broaden and build theory, the findings on gratitude and self-enhancing humor suggest that our capacity to broaden our mindset with thankfulness, laughter and cheerfulness build our capacity for better well-being.

This research has filled a gap as it has included a large international sample investigating a unique combination of positive psychological traits. The findings from this master’s thesis are also clinically relevant as it provides evidence to suggest why positive psychological interventions based on gratitude and humor could be utilised in clinical practice. As self – enhancing and affiliative humor styles and gratitude correlated so strongly with well-being, it may be important for researchers, mental health practitioners and educators to establish and further research ways to cultivate positive humor styles and a grateful outlook among the population.

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