The relationship between humor styles and psychological well-being, and the role of social support and age

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Abstract

People tend to use humor in four different ways. Two positive humor styles (affiliative and self-enhancing) and two negative humor styles (aggressive and self-defeating). Research repeatedly showed that humor styles are related to psychological well-being. If humor styles and psychological well-being are that strongly associated, next the mechanisms that link humor styles with well-being are interesting. Because of the inherently interpersonal nature of humor, it is thought that social support could be such a mechanism. Also interesting is the exploring of contexts in which humor styles could have a more potent impact on psychological well-being, such as

age differences. Research showed that there are age differences in the use of humor styles. This is why the current study will investigate the relationship between humor styles and psychological well-being, the possible mediating role of social support in the relationship between humor styles and well-being, and the possible moderating role of age in the relationships between humor styles, well-being and social support. With the use of questionnaires data was collected. The final sample consisted of 109 participants (*M* Age = 36.8, *SD* Age = 17.2), both women (*n*= 72) and men (*n*= 37). Next correlation analysis and multiple regression analysis, which also tested mediation and moderation, were used to test the hypotheses. Results showed that affiliative and self-enhancing humor was negatively related to psychological well-being. Social support mediated the relationship between selfenhancing and self-defeating humor. Age was only found as a moderator for the relationship between social support and well-being. Longitudinal studies are necessary to investigate causal direction.

Keywords: Humor styles, psychological well-being, social support, age.

Introduction

Psychological

well-being has been linked to important outcomes. For example, research has shown that happy individuals have better coping abilities, work outcomes, immune systems, have larger social rewards, are more cooperative, pro-social and they often live longer then individuals who are not happy (Lyubomirsky, Sheldon, & Schkade, 2005). Therefore, it is important to understand factors that could contribute to psychological well-being. One factor that seems to contribute to psychological well-being is humor style. There are four different humor styles: two positive (affiliative and self-enhancing) and two negative

(aggressive and self-defeating). The affiliative humor style refers to the tendency to say funny things and make jokes to amuse others, facilitate relationships and reduce interpersonal tensions. Self-enhancing humor involves a humorous outlook on life even in stressful times. <u>This humor style</u> is used as an emotion regulation or coping mechanism. Aggressive humor relates to disparagement humor or the use of sarcasm, teasing and ridicule. There is no regard for the potential impact on others. The self-defeating humor style involves doing or saying funny things at the expense of oneself (Martin, Puhlik-Doris, Larsen, Gray & Weir, 2003).

The literature on humor styles shows that affiliative humor and self-enhancing humor are <u>strongly</u> associated with an enhanced psychological well-being. On the other hand, self-defeating humor tends to be more associated with psychological distress. Aggressive humor tends to have the weakest and most inconsistent relationship with psychological well-being (Alinia, Dousti, Dehshiri, & Heydari, 2009; Caird & Martin, 2014; Campbell, Martin & Ward, 2008; Cann & Collette, 2014; Cann, Zapata & Davis, 2009; Dyck & Holtzman, 2013; Karou-ei, Doosti, Dehshiri, & Heidari, 2009; Kuiper, 2010; Mendiburo-Seguel, Páez, & Martínez-Sánchez, 2015; Saraglou, Lacour & Demeure, 2010). A recent meta-analysis that consist<u>s</u> of 37 studies also concluded that affiliative humor and self-enhancing humor are positively correlated with mental health, self-defeating humor is negatively correlated with mental health and aggressive humor is mostly unrelated to mental health (Schneider, Voracek, & Tran, 2018).

A theoretical explanation for the strong relationship between <u>self-enhancing</u> humor and psychological well-being could be that when a person deals humorously with him- or herself and the issues he or she faces, this can facilitate a change of perspective and provide someone with a more positive

reappraisal of the situation. If a person looks at a problem from a humorous perspective, it may seem less important. For example, if someone can laugh about their own shortcoming, the perspective changes and then he or she emotionally distances oneself from the shortcoming. Consequently, their shortcomings will not be experienced as stressful of threatening (Kuiper, Martin, & Olinger, 1993). Therefore, one's psychological well-being will increase. If humor

styles really are that <u>strongly</u> associated with well-being, a second interest is <u>in factors</u> that <u>play a role in the explanation of</u>

the relationship between humor styles and well-being. A <u>factor</u> that has recently been investigated is social support. Because humor styles (<u>especially affiliative and self-</u><u>defeating humor</u>) reflect the inherently interpersonal nature of humor, a possibility that was thought of is that different humor styles have different influences on social relationships (Martin, 2004). This seems to be the case. The humor styles have been linked with different aspects of social support. <u>Empirical studies have shown that affiliative</u>

humor and self-enhancing humor are linked with positive interactions, relationship satisfaction and with greater social support. Self-defeating humor is linked with negative interactions, relationship dissatisfaction and lower social support. Aggressive humor again shows weak and inconsistent links with negative interactions and difficulties in the relationship (Kazarian, Moghnie & Martin, 2010; Kuiper, 2010; Rieger & McGrail, 2015). Research also indicates that social support is related to psychological well-being (Dyck, & Holtzman, 2013; Feeney, & Collins, 2015; Uchino, Bowen, Carlisle, & Birmingham, 2012). Two studies <u>specifically</u> investigated the mediating role

of social support on the relationship between humor styles and psychological distress. They both found that affiliative humor and self-enhancing humor were associated with less psychological distress, <u>which was</u> mediated by social support. Self-defeating humor was associated with more psychological distress, mediated by social support (Fritz, 2020; Fritz, Russek, & Dillon, 2017). Another study investigated social support as a possible mediator of the relationship between humor styles and psychological well-being. Dyck and Holtzman (2013) <u>studied</u> this mediating role of social support among 826 young adults. They <u>hypothesized</u> that repeated engag<u>ement</u> in self-defeating humor might create emotional distance in relationships, incite negative responses from other individuals and could eventually lead to poor<u>er</u> well-being. They also <u>hypothesized</u> that engaging in affiliative humor would elicit positive affect and supportive responses from other individuals, and experience more intimate relationships. The research showed that the relationships of

affiliative humor, self-enhancing humor and self-defeating humor with psychological wellbeing were mediated by the perceived availability of social support. Aggressive humor was unrelated to the perceived availability of social support. The present study aims to replicate these mediation effects, to thoroughly investigate social support as a mechanism that links humor styles with well-being. An interesting

An interesting suggestion for future research was given by Dyck and Holtzman (2013). They stated that it will be important to explore contexts in which humor styles may have a more potent impact on psychological well-being, given that in their research the strength of the association between the humor styles and the study outcomes was small. They give the example that age may moderate the

impact of humor styles on support and well-being. Martin et al. (2003) stated that there seem to be some age differences in humor styles. It seems that older people are less likely to use affiliative humor than younger people. They stated that this might indicate that the older population has weaker social networks and less involvement in social activities. Research indeed shows that those over the age of 65 report having significantly fewer support in times of crisis, fewer people to turn to for comfort and fewer people available for practical support compared to those under the age of 65 (Bowling, 2011). Research about age differences in psychological well-being however, show inconsistent results. It showed that well-being is greater among younger people, compared to older people (Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006), but other research showed 85-yearolds reporting a greater sense of well-being than 18-yearolds (Stone, Schwartz, Broderick, & Deaton, 2010). Also, age has been researched as a possible moderator of the relationship between social support and well-being, only results did not support this hypothesis (Siedlecki, Salthouse, Oishi, & Jeswani, 2014). In sum, previous research showed that there are indeed a great deal of age differences among humor styles, social support, and well-being. That is why the present study will explore the moderating role of age on the relationships between humor styles, social support and psychological well-being. This

This study will focus on the relationships between humor styles, This study will focus on the relationships between humor styles, psychological wellbeing, social support and age. It is thereby expected that affiliative humor and self-enhancing humor will be positively associated with psychological well-being (Hypotheses 1 and 2), and self-defeating humor will be negatively associated with psychological well-being (Hypothesis 3). Aggressive humor will not be associated with psychological well-being (Hypothesis

4). Furthermore, it is expected that the relationships between the humor styles

and psychological well-being will be mediated by social support (<u>Hypothesis 5</u>). Lastly, this study will explore the moderating role of age in the relationships between the humor styles and social support, the humor styles and psychological well-being and social support and well-being (Exploring question).

Method

Design

This <u>cross-sectional questionnaire study</u> is focused on investigating the relationship between humor styles, social support, age and psychological well-being. In assessing psychological well-being, the overall perceived well-being of someone is measured <u>using the</u> <u>Dutch version of the Short Warwick-Edinburgh Mental Well-being Scale.</u> Related to this, humor styles are divided into affiliative humor, self-enhancing humor, aggressive humor and self-defeating humor <u>and is measured using the Dutch version</u> <u>of the Humor Styles Questionnaire.</u> The factor that can possibly explain a piece of the relationship between humor styles and well-being is social support, which is assessed <u>with an</u> overall social support score <u>using the Dutch version of the</u> <u>Interpersonal Support Evaluation List.</u> Age could possibly influence the strength of the relationship between humor styles and well-being, and humor styles and social support. All variables are measured <u>at the</u> interval level.

Participants

The final sample consisted of 109 participants, which consisted of 72 women and 37 men. The required number of participants for the results to reflect the whole population, was analyzed using a power analysis (G*Power, Version 3.1.9.4). In this study, a Linear multiple regression: Fixed model, R^2 increase was used as a statistical analysis. The power analysis said that a total of at least 107 participants was needed to reflect the population. To look at the age differences there needed to be a broad range in age among the participants. This was indeed the case (*M* Age = 36.8, *SD* Age = 17.2, Age min= 18, Age

max= 91). The demographic data showed that most of the participants were college students (77.1%, higher vocational education or university).

Procedure

This study was executed online, using a program called Lime Survey (Carsten Schmitz, 2012) This study was executed online, using a program called Lime Survey (Carsten Schmitz, 2012) where the questionnaires could be administered. The participants were recruited using social media and the Sona system, which is a website of the University of Utrecht where studies are posted so that students can participate in them. This recruiting process indicates the use of a convenience sample. Completing the questionnaires took the participants about 15-20 minutes and psychology students of the University of Utrecht were rewarded course credit (0.5 PPU's) for their participation in the study.

To reach possible

participants, a short explanation of the study and the link to the questionnaire was sent. People that were interested could click on the given link. After opening the link, participants were given a short introduction of what the study was about and what they were in for as a participant. Then, the participants needed to read an informed consent, in which was noted that participating was on a voluntary base, that the information was confidential and that they could quit the study at any time. After agreeing with the terms, the survey could be started. At the beginning some demographical information was asked (age, gender and completed education). The questionnaires were presented in the following order: humor styles questionnaire, well-being questionnaire and lastly the social support questionnaire. At the end the psychology students from the University of Utrecht could leave their student number in order to receive the course credit, other participants were not compensated for their participation. Participants could also leave their personal e-mail address if they wanted to receive the abstract of the study, in order to see what the results of the study were.

Measures

Humor styles

For measuring the individual differences in humor styles, the Dutch version (Dikkers, De Lange, Burgersdijk, & Doosje, 2011) of the 32-item Humor Styles Questionnaire (Martin et al., 2003) was used. Participants were given statements and needed to indicate to which degree they agreed or disagreed with the statements on a seven point Likert-type scale, ranging from 1 = totally disagree to 7 = totally agree. The questionnaire measures four different humor styles: the affiliative, self-enhancing,

aggressive, and self-defeating humor <u>style</u>. The affiliative humor <u>style</u> scale measures the tendency to share humor with others (sample item is *I laugh and joke a lot with my closest friends*). The self-enhancing humor <u>style</u> scale measures using humor to cheer up yourself (sample item is *If I am feeling depressed, I can usually cheer myself up with humor*). The aggressive humor <u>style</u> scale measures using humor to disparage others (sample item is *If I don't like someone, I often use humor or teasing to put them down*). The self-defeating humor <u>style</u> scale measures humor at the own expense (sample item is *I often go overboard in putting myself down when I am making jokes or trying to be funny*). The reverse-keyed items were reverse-scored, after that the eight scores for each subscale were summed. This widely used instrument demonstrates acceptable reliability and validity in over 125 published studies (Martin & Kuiper, 2016). In the study of Dyck and Holtzman (2013) the Cronbach's alpha was $\alpha = 0.81$ for affiliative humor, $\alpha = 0.80$ for self-enhancing humor, $\alpha = 0.75$ for aggressive humor and $\alpha = 0.80$ for self-defeating humor. The Cronbach's alpha in this study was $\alpha = 0.82$ for affiliative humor, $\alpha = 0.75$ for self-enhancing humor, $\alpha = 0.76$ for aggressive humor, and α = 0.81 for self-defeating humor.

Well-being

The Dutch version of the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS; Stewart-Brown, et al., 2009) was used to measure psychological well-being. Participants needed to answer on a 5-point Likert scale, which ranged from 1 = none of the time to 5 = allof the time, what best described their experience over the last two weeks (sample statement is *I've been feeling optimistic about the* future). Raw item-scores were summed <u>up</u> and converted to <u>a</u> metric total score using SWEMWBS conversion table (Stewart-Brown, et al., 2009). The internal consistency of the instrument has been proven good to excellent with Cronbach's alphas of $\alpha = 0.89$ (Vaingankar, et al., 2017), $\alpha = 0.88$ (Koushede, et al., 2019) and $\alpha = 0.93$ (Shah, et al., 2018). Cronbach's alpha in the current study was $\alpha = 0.75$.

Social support

For the measurement of perceived social support, a Dutch version of the Interpersonal Support Evaluation List (ISEL-12; Cohen & Hoberman, 1983) was used. The long version of the ISEL-12, the ISEL-40, has been translated in Dutch (Renty & Roeyers, 2004). To translate the ISEL-12 the translation of the ISEL-40 was used. The ISEL-12 consists of 12 items (sample item is *There is someone I can turn to for advice about handling problems with my family*). To determine whether the items were true or false, a four-point scale was used, ranging from 1 = Definitely False to 4 = Definitely True. The Cronbach's alpha has been proven acceptable ($\alpha = 0.77$) in the study of Cohen and Hoberman (1983) and even good ($\alpha = 0.87$) in the study of Dyck and Holtzman (2013). Cronbach's alpha in this study was $\alpha = 0.76$

Statistical Analysis

For all analyses, IBM SPSS Statistics version 24 was used. First, <u>the data was inspected</u>, <u>and</u> <u>assumptions were tested</u>. <u>Second</u>, Pearson correlation coefficients were used to determine the bivariate associations between the variables. <u>Third</u>, a <u>multiple regression</u>

analyses was conducted, with humor styles as independent variable and well-being as dependent variable. The mediator was social support. The mediation analysis comprises a number of sub analyses, which estimate the total, direct and indirect effects of humor styles on well-being. A stepwise multiple regression analysis was used to estimate the total and direct effects of humor styles on well-being, social support was entered in the second step. The total effect is the relationship between humor styles and well-being. The direct effect is the relationship humor styles and well-being, while controlling for social support. The indirect effect of humor styles on well-being, through social support and the significance were tested by a bootstrap analysis with 5000 bootstrap samples and a 95% confidence interval. PROCESS for SPSS (Hayes, 2013) was used to complete these steps. PROCESS for SPSS (Hayes, 2013) was also used to explore if age moderates the relationship between humor styles and social support and the relationship between

Results

Data inspection and assumption testing

Before interpreting the results, several assumptions were tested. First, stem-and-leaf plots and

<u>**Table 1**</u> Bivariate correlations between Humor Styles, Social support and Psychological Well-being.

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1. Affiliative humor	Ξ	Ξ.	Ξ	=	=
2. Self-enhancing humor	.49**	±.	=	±.	Ξ
3. Self-destructive humor	.33**	<u>01</u>	_	z.	=
4. Aggressive humor	.34**	<u>.17</u>	.51**	-	=
5. Social Support	.23*	.24*	<u>20*</u>	<u>10</u>	±
6. Psychological Well-being	.41**	.46**	<u>21*</u>	<u>.06</u>	.35**

Note. **p < .001, *p < .05.

Correlations

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The results of the correlation analyses are presented in Table 1. It was expected that affiliative humor and self-enhancing humor would be positively associated with psychological well-being (Hypotheses 1 and 2). As expected, Table 1 shows that affiliative humor and selfenhancing humor are positively correlated with psychological well-being. The first two hypotheses can be accepted. Second, self-destructive humor was expected to be negatively associated with psychological well-being (Hypothesis 3). Table 1 indeed shows that-and s self-destructive humor is negatively correlated with psychological well-being. This means that hypothesis 3 can also be accepted. Hypothesis 4 stated that aggressive humor would not be associated with psychological well-being. Table 1 shows that there is no significant correlation between aggressive humor and psychological well-being. As a result, this hypothesis can also be accepted.

_____Furthermore, affiliative and self-enhancing humor were positively correlated with social support and self-destructive humor was negatively correlated with social support. Finally, social support was positively correlated with psychological well-being.

Table 2

Multiple Regression Ar	alysis, the influence of Hu	mor Styles	on Psychol	ogical Well-being
Variable	<u>B [95% CI]</u>	β	<u>sr²</u>	_
Affiliative humor	.17 [0.08, 0.26]**	.28	.09	_

Self-enhancing humor	.12 [0.03, 0.21]*	.26	<u>.05</u>
Self-destructive humor	<u>14 [-0.22, -0.07]**</u>	<u>37</u>	<u>09</u>
Agressive humor	.03 [-0.05, 0.10]	<u>.07</u>	<u>.00</u>

Note. ***p* < .001, **p* < .05. CI= Confidence Interval

Multiple regression

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Table 2 contains the results of the multiple

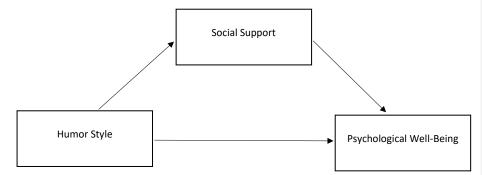
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extent	$\frac{\text{Path a}}{b=.09} \text{ (Aff)}^*$	humor sty	humor styles is are a predictor of			$\frac{\text{Path b}}{b=.31} \text{ (Aff)}^*$		
	b= .10 (SE)* b=07 (SD)*			Deth a	ps	ychological	b= .29 (SE)* b= .37 (SD)*	
well-	<i>b</i> =03 (Agg)	being. In		<u>Path c</u> b= .15 (Aff)**	co	mbination,	<i>b</i> =.41 (Agg)**	the
four		humor		b = .19 (SE) **	sty	les		
account	ed for a significa	nt		<i>b</i> =06 (SD) <i>b</i> = .04 (Agg)		35.3% of		the
variability in psychological			$\frac{r_{aurc}}{b=.03(00, .07) (Aff)} .000$ b= .03(.00, .08) (SE)*		well-being,	well-being, $R^2 = .35$, adjusted R^2		
= .33. F(4, 104) = 14.17, <i>p</i> =		.000. Unstandardized (B) and						
standardized (β) regression		coefficients, and squared semi-						
partial c	orrelations (sr^2)		0	.01(.01, .02) (1155	,	predictor in	the regression n	nodel

are reported in Table 2. The results show that affiliative, self-enhancing and self-defeating humor are all predictors of psychological well-being. Mediation and moderation analysis were then performed to answer hypothesis 5 (the relationships between the humor styles and psychological well-being will be mediated by social support) and the exploring question (does age moderate the relationships between the humor styles and social support, the humor styles and psychological well-being and social support and well-being?).

Figure 1.

Social support mediating the relationship between humor styles and psychological well-being.



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Note. Path c' displays the bootstrapping point estimates with 95% confidence intervals for indirect effects. Humor Styles: Aff = Affiliative, SE=Self-Enhancing, SD = Self-Defeating, Agg = Aggressive. *p<.05, **p<.001.

<u>Mediation</u>

The question asked here is: will social support mediate the relationships between the humor styles and psychological well-being? (Hypothesis 5).

The bootstrap analyses revealed significant indirect effects of

self-enhancing and self-defeating humor on psychological well-being, via social support. There is also a significant relationship between self-enhancing humor and social support, and between social support and psychological well-being. These results support a mediation effect. The relationship between self-enhancing humor and psychological well-being is still significant after controlling for the mediator social support. This means that the relationship between self-enhancing humor and well-being is only partially explained by the association with perceived social support. There is also a significant relationship between self-defeating humor and social support, and between social support and psychological well-being. The relationship between self-defeating humor and well-being is no longer significant after controlling for the mediator social support. This means that the relationship between selfdefeating humor and well-being is fully statistically mediated by social support. However, it did not reveal a significant indirect effect of affiliative humor on psychological well-being, via social support. There was a significant relationship between affiliative humor and social support, between social support and psychological well-being and between affiliative humor and psychological well-being, but there was no indirect effect. This means social support did not mediate the relationship between affiliative humor and psychological well-being. Figure 1 shows the results of these mediation analysis. These results indicate that the hypothesis can only partly be accepted. Social support does mediate the relationship between self-enhancing humor and psychological well-being and self-defeating humor and psychological well-being, but it does not mediate the relationship between affiliative humor and psychological wellbeing.

Table 3

Moderation effect of Age and Social Support on Psychological Well-Being.

	<u>b [95% CI]</u>	<u>SE B</u>	<u>_t</u>	₽
Constant	.39 [-1.43, 2.21]	<u>.92</u>	<u>.42</u>	<u>.67</u>
Social Support	<u>1.0[0.49, 1.51]</u>	.26	<u>3.89</u>	.00
Age	.05 [0.01, 0.09]	<u>.02</u>	<u>2.38</u>	<u>.02</u>
Social Support x Age	01 [-0.03, -0.00]	<u>.01</u>	<u>-2.49</u>	<u>.01</u>

Note. CI= Confidence Interval. $R^2 = .18$

Moderation

To answer the exploring question (does age moderate the relationships between the humor styles and social support, the humor styles and psychological well-being and social support and well-being?) moderation analysis had to be performed. Moderation analysis only revealed a significant moderation effect of age and social support on psychological well-being. There was a significant interaction effect ($R^2 = .18$, F(3, 105) = 7.51, p < .001). The results are shown in Table 3._____

Results also showed that at a lower age, namely 21 years old, there is a significant positive relationship between social support and psychological well-being, p = 0.688, 95% CI [0.388, 0.988], t = 4.55, p < .001. At the age of 26, there also is a significant positive relationship between social support and psychological well-being, b = 0.615, 95% CI [0.354, 0.875], t = 4.68, p < .001. Then at the age of 56, there is only a non-significant positive relationship between social support and psychological well-being, b = 0.174, 95% CI [-0.106, 0.453], t = 1.23, p = 0.222. These results show that the relationship between social support and psychological well-being only emerges in people of a younger age.

Finally, to answer the exploring question, age does moderate the relationship between social support and psychological well-being. Age does not moderate the relationships between the humor styles and social support and between the humor styles and psychological wellbeing.

Table 1

Bivariate correlations between Humor Styles, Social support and Psychological Well-being.

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Discussion

The present study investigated the relationships between humor styles, psychological wellbeing, social support and age. It was expected that affiliative humor and self-enhancing humor would be positively associated with psychological well-being (hypotheses 1 and 2), and selfdefeating humor would be negatively associated with psychological well-being (hypothesis 3). Aggressive humor would not be associated with psychological well-being (hypothesis 4). Furthermore, it was expected that the relationships between the humor styles and psychological well-being would be mediated by social support (hypothesis 5). Finally, the study aimed to explore the moderating role of age in the relationships between the humor styles, social support, and psychological well-being (Exploring question).

The results showed that individuals who tend to use affiliative humor and self-enhancing The results showed that individuals who tend to use affiliative humor and self-enhancing The results showed that individuals who tend to use affiliative humor and self-enhancing The results showed that individuals who tend to use affiliative humor and self-enhancing The results showed that individuals who tend to use affiliative humor and self-enhancing The results showed that individuals who tend to use affiliative humor and self-enhancing The results showed that individuals who tend to use affiliative humor and self-enhancing The results showed that individuals who tend to use affiliative humor and self-enhancing

humor and self-enhancing humor <u>show</u> a higher psychological well-being. Individuals who tend to use self-defeating humor experience lower psychological well-being. Aggressive humor was not related to psychological well-being. <u>Therefor hypotheses 1,2,3 and 4 could be</u> <u>accepted.</u> The present study also investigated social support as a possible mediator for the relationships between humor styles and psychological well-being. Social support mediated the relationship between self-enhancing humor and psychological well-being (partially) and the relationship between self-defeating humor and psychological well-being (fully). <u>This meant</u> that hypothesis 5 could be partially accepted, because social support did not mediate the relationship between affiliative humor and psychological well-being. The study also explored a possible moderating role of age on the relationships between humor styles, social support, and psychological well-being. Results show<u>ed</u> a moderating role of age on the relationship between social support and psychological well-being, the relationship between social support and psychological well-being and psychological well-being between social support and psychological well-being only emerges at a younger age, not at an older age. Therefore, the exploring question showed that there is a moderation effect of age on the relationship between social support and psychological well-being.

The findings

concerning the positive relationship between affiliative humor and psychological well-being,

between self-enhancing humor and psychological well-being and the negative relationship between self-defeating humor and psychological well-being are as expected. <u>No</u> relationship <u>was</u> found between aggressive humor and psychological well-being, also as expected. <u>The</u> <u>finding concerning the relationship between self-enhancing humor and psychological wellbeing, is in line with the theoretical explanation, namely that dealing humorously with issues a person faces could facilitate a change of perspective and create a more positive reappraisal of the situation (Kuiper, <u>et al.</u>, 1993). The_findings are also in line with previous research (Alinia, <u>et al.</u>, 2009; Caird & Martin, 2014; Campbell, <u>et al.</u>, 2008; Cann & Collette, 2014; Cann, <u>et al.</u>, 2009; Dyck & Holtzman, 2013; Karou-ei, <u>et al.</u>, 2009; Kuiper, 2010; Mendiburo-Seguel, <u>et al.</u>, 2015;</u>

Saraglou, et al., 2010; Schneider, et al., 2018).

Furthermore, mediation effects of social

support on the relationship between self-enhancing humor and psychological well-being (partially) and between self-defeating humor and psychological well-being (fully) were found. This is in line with findings from previous research (Dyck, & Holtzman, 2013; Fritz, 2020; Fritz, <u>et al.</u>, 2017). _____However, previous research also found a However, previous research also found a

mediation effect of social support on the relationship between affiliative humor and psychological well-being (Dyck, & Holtzman, 2013; Fritz, 2020; Fritz<u>et</u> al., 2017). This <u>relationship</u> was not found in the present study. Positive relationships between affiliative humor and social support, social support and psychological well-being and affiliative humor and psychological well-being were found, but mediation was not. In the current body of literature on this subject, an explanation for not finding a mediation effect of social support on the relationship between affiliative humor and psychological well-being cannot be found. However, the measurement used to assess psychological well-being could possibly be an explanation for not finding the expected result. To measure psychological well-being, Fritz (2020) and Fritz et al. (2017) used a questionnaire assessing mood disturbance, Dyck and Holtzman (2013) used a questionnaire assessing global life satisfaction, and they all used a questionnaire to assess depressive symptoms. Current study used one questionnaire that assessed psychological well-being, which focused solely on the positive. The difference in measurement could possibly account for the different findings. Finally, the current study Finally, the current study aimed to explore the possible

moderating role of age in the relationships between the humor styles and social support, the humor styles and psychological well-being and social support and psychological well-being.

The moderating role of age on the relationship between

social support and psychological well-being was found. There is a relationship between social support and psychological well-being in younger individuals, but in older individuals this relationship does not exist. Where previous research did not find this moderation effect (Siedlecki, et al., 2014), the current study did.

Some limitations of the study need to be acknowledged. First,

the use of a convenience sample might have had <u>an</u>effect on the results. Participants were the use of a convenience sample might have had <u>an</u>effect on the results. Participants were the use of a convenience sample might have had <u>an</u>effect on the results.

Participants were predominantly from Noord-Brabant, of a younger age, more women than men and with a higher education level. This may lead to a limited

generalizability to other populations. For example, some more participants around the age of 60 and a more even range of women and men would have been better. As previously stated, there are age differences and gender differences in the use of humor styles. Older individuals use less affiliative humor and this could indicate that older individuals are less involved in social activities and have weaker social networks (Martin, et al., 2003). Research also showed that aggressive humor in males was related to higher levels of social support and aggressive humor in females was related to lower levels of social support (Dyck, & Holtzman, 2013).

Second, the

present study has a cross-sectional nature.

Previous research that found a relationship between humor styles and psychological wellbeing (Alinia, Dousti, Dehshiri, & Heydari, 2009; Caird & Martin, 2014; Campbell, Martin & Ward, 2008; Cann & Collette, 2014; Cann, Zapata & Davis, 2009; Dyck & Holtzman, 2013; Karou-ei, Doosti, Dehshiri, & Heidari, 2009; Kuiper, 2010; Mendiburo-Seguel, Páez, & Martínez-Sánchez, 2015; Saraglou, Lacour & Demeure, 2010) and about the role of social support (Dyck, & Holtzman, 2013; Fritz, Russek, & Dillon, 2017) were all of a crosssectional nature. Therefore, it might be that a humor style influences psychological wellbeing, or it could be that the relationship between humor styles and psychological wellbeing is reversed (psychological well-being ensuring a certain humor style). To further examine the direction of these relationships, longitudinal studies or daily diary studies are needed. For example, longitudinal studies and daily diary studies can help to get insight regarding the extent to which humor styles remain stable over time and across certain situations. These studies could also help to better understand the interaction between humor styles and contextual factors to possibly predict social support and psychological well-being.

Future research should also further investigate the role of social support. Previous research found that social support mediates the relationship between affiliative humor and psychological well-being (Dyck, & Holtzman, 2013; Fritz, 2020; Fritz, et al., 2017). The current research, however, did not find this mediating role of social support on the relationship between affiliative humor and psychological well-being. As stated previously, psychological well-being is related to numerous positive outcomes (Lyubomirsky, Sheldon, & Schkade, 2005). Therefore, it is important to understand factors that could contribute to psychological well-being. As a relationship between affiliative humor and psychological well-being has continuously been found (Alinia, et al., 2009; Caird & Martin, 2014; Campbell, et al., 2008; Cann & Collette, 2014; Cann, et al., 2009; Dyck & Holtzman, 2013; Karou-ei, et al., 2009; Kuiper, 2010; Mendiburo-Seguel, et al., 2015; Saraglou, et al., 2010; Schneider, et al., 2018), it is important to research factors that could be important in the explanation of this relationship. Future research should therefor further investigate the mediating role of social support on the relationship between affiliative humor and psychological well-being to determine whether it is indeed an explaining factor or if it is not. Furthermore, an interesting finding, which needs further investigation, is the moderating role of age on the relationship between social support and psychological well-being. The current study found that the relationship between social support and well-being is only present in people of a younger age. For people of an older age, the relationship cannot be found. It would be interesting to research if there is indeed no relationship between social support and well-being among older individuals. Previous research did not find a moderating role of age in this relationship (Siedlecki, et al., 2014), and other research shows that the relationship between social support and well-being among older individuals is not that clear. For example, a research that asked open ended questions to individuals over the age of 65 showed that 85% of the individuals did think social relationships contributed to their quality of life (Bowling, et al., 2003). However, Thomas (2010) suggests that receiving social support can threaten an older adult's identity and sense of competence, thereby creating a negative relationship between social support and psychological well-being. Future research should therefor focus on the influence of age on the relationship between social support and well-being. Learning about age differences is also interesting from a clinical perspective. If social support is indeed not that important for the psychological well-being of an older individual, this could be interesting for a clinician to

know. Nevertheless, if it does prove to be important, maintaining and developing social relationships could be advised to and practiced with a client to increase their psychological well-being.

Concluding, the current study found a relationship between humor styles and psychological well-being (positive relationship for affiliative humor and self-enhancing humor, negative relationship for self-defeating humor). The current study also found a mediating role of social support in the relationships between self-enhancing humor and psychological well-being and between self-defeating humor and psychological well-being. It also explored the moderating role of age and found that age moderates the relationship between social support and psychological well-being, where there is only a relationship between social support and wellbeing among the younger aged. The relationship between humor styles and psychological well-being has been tested multiple times, however research about the mechanisms that link humor styles with well-being is still scarce. The current study contributes to the field by demonstrating the consistent relationships between humor styles and psychological wellbeing, by demonstrating that social support could be a mechanism that link humor styles with well-being, and by creating new insights into age differences in the relationship between social support and psychological well-being. Future research needs to further evaluate the unique contribution of humor styles and social support to well-being, and it needs to look further into possible age differences. Longitudinal studies and daily diary studies could help determine the extent to which individuals remain stable in their use of certain humor styles across time and situations, and to better understand how contextual factors interact with a person's humor styles to predict day-to-day support and well-being.

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