



A Sage and a Guru Walk into a Bar: Wisdom and Humor Styles

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Abstract

Two studies investigated the relationship between wisdom, humor styles, comic styles, and wellbeing. In Study 1, 325 English-speaking college students completed the Self-Assessed Wisdom Scale (SAWS) and the Humor Styles Questionnaire. As predicted, overall wisdom, as well as all five wisdom subscales, was positively correlated with adaptive humor styles. Furthermore, the SAWS humor subscale correlated positively with all humor styles, most strongly with the adaptive styles. In Study 2, 189 German-speaking university students and adults from the general population completed the SAWS, the Comic Style Markers, and measures of positive mental health (meaning in life, optimism, and resilience). The SAWS subscales and especially the humor subscale correlated positively with all comic styles, except for sarcasm. SAWS humor and the comic styles incrementally predicted three of the four mental health outcomes, and a significant interaction between SAWS humor and benevolent humor suggests that humor and wisdom are both relevant for mental health. Overall, the study extends our understanding of the complex interplay between different aspects of wisdom and different humor-related styles as well as their relevance for mental health.

Keywords Self-Assessed Wisdom Scale · Humor styles · Comic styles · Wellbeing · Mental health · Emotional regulation

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Is humor an important correlate of wisdom? Are there particular styles of humor more integral to wisdom than other styles? If so, do wise people employ humor in ways that enhance their mental health? The current paper provides new evidence supporting the affirmation of the above questions.

Wisdom is an ancient construct currently experiencing revitalized conceptual and empirical attention in psychology (e.g., Sternberg and Glück 2019). Throughout history, and across cultures, wisdom has been considered an important individual-difference variable (e.g., Curnow 2011). Many cognitive, emotional, and social qualities have been attributed to wise persons since antiquity, and this complexity has made precise measurement of wisdom difficult (Karelitz et al., 2010). Despite the complex and multi-faceted nature of wisdom, there is an emerging consensus among experts in the field concerning important aspects of definition, measurement, and outcomes (Bangen et al., 2013; Grossmann et al. 2020).

One important area of contemporary work involves the continual development and refinement of psychometrically sound measuring instruments of wisdom and their nomological network (i.e., relationships to other measures and concepts). One such concept is humor, which commonly denotes “an umbrella term for all phenomena of the funny, including the capacity to perceive, interpret, and enjoy but also create and perform non-serious incongruous communications” (Ruch, Heintz, Platt, Wagner and Proyer 2018, p. 2). In addition to this broad definition, models of the sense of humor often distinguish more fine-grained humor, such as coping humor (Martin and Lefcourt 1983), four wellbeing-related styles (affiliative, self-enhancing, aggressive and self-defeating; Martin et al., 2003), or eight comic styles (fun, benevolent humor, nonsense, wit, irony, satire, sarcasm, and cynicism; Ruch et al. 2018).

Recent reviews (e.g., Glück, König, Naschenweng, Redzanowski, Dorner, Straszer and Wiedermann 2013; Kunzmann & Glück 2019; Webster, 2019) suggest that humor is one important, yet neglected, correlate of wisdom. Beginning with initial empirical studies, several authors have noted that humor might play an important role in wisdom (e.g., Clayton & Birren 1980; Jason, Reichler, King, Madsen, Camacho, and Marchese 2001; Labouvie-Vief 1990; Staudinger 2019; Staudinger, Dorner, and Mickler 2005; Swartwood & Tiberius 2019; Taranto 1989) and these views correspond with survey findings from recruited experts in the field (e.g., Jeste et al., 2010). Laypersons also note the role of humor with respect to personal wisdom (e.g., Montross-Thomas et al., 2018), and several wise nominees are noted for their humorous traits (e.g., Gandhi, Dalai Lama). As empirical studies have not universally supported a strong relation between humor and wisdom (e.g. Clayton & Birren 1980), a further investigation on their interplay seems an important gap in the literature.

There are several reasons why humor is considered an important correlate of wisdom. For instance, certain styles of humor constitute one of the more mature coping mechanisms (e.g., Martin and Lefcourt 1983; Vaillant 2000), have well-documented prosocial consequences (e.g., Martin 2007), and are an important component of emotional regulation (e.g., Samson & Gross 2012) and stress reduction (e.g., Tagalidou et al., 2018), which are outcomes shared with wisdom. Humor is also considered an important character strength within the field of positive psychology (Edwards & Martin, 2014; Ruch et al. 2018) and has been shown to be associated with many adaptive processes and mental health outcomes such as psychological well-being (e.g.,

Cann & Collette 2014). While humor as a character strength was placed in the virtue of transcendence in the Character Strengths and Virtues classification (Peterson & Seligman, 2004), recent empirical studies showed that humor was most compatible with the virtues of humanity and wisdom/knowledge (Beermann & Ruch, 2009; Ruch et al., 2020). Finally, humor satisfies one of the criteria of wisdom proposed by Thomas et al. (2019), namely, that it has unique neuroanatomical locations (e.g., temporal-occipital-parietal junction or TOPJ; Neely, Walter, Black, and Reiss 2013).

Nevertheless, it is important to distinguish different styles of humor as only some are consistently related to adaptive outcomes (e.g., affiliative, self-enhancing, and benevolent), whereas other styles are more predictive of ‘darker’ aspects of human behavior (e.g., aggressive and sarcastic; e.g., Martin et al., 2012; Martin et al., 2003; Ruch et al., 2018a, b). Wise persons recognize that contextually sensitive, appropriate use of humor enhances social relationships, models mature behavior, and enables coping with difficult life experiences (e.g., Staudinger & Glück 2011). In line with these ideas, there is initial empirical evidence that certain styles might be more compatible with wisdom than others. Ruch et al. (2018a) found the strongest relationships with intellectual strengths (similar to the virtue of wisdom) with the comic styles wit, satire and nonsense, all of which involve cognitive sophistication and knowledge and more benign or moral forms of humor. Hence, both positivity and sophistication of humor seem to be relevant in determining the strength of the relationship of humor and wisdom.

Despite such reviewed evidence that humor plays an important role in wisdom (e.g., Jeste et al., 2010), only one wisdom model, the H.E.R.O.E. model (Humor, Experience, Review, Openness, and Emotion; Webster 2014) explicitly includes humor as a major component. Webster conceptualized wisdom as a latent variable indexed by the integration of five interrelated components: Critical life experiences, openness, reminiscence/reflectiveness, emotional regulation, and humor. These five components are measured via the Self-Assessed Wisdom Scale (SAWS), which is considered to be a well-validated, psychometrically sound instrument (e.g., Glück et al., 2013) associated with many positive psychosocial outcomes such as optimism, ego-integrity, self-esteem, and posttraumatic growth.

The H.E.R.O.E. model assumes that these five elements are necessary and interrelated facets of wisdom, which is seen as a synthesis of all five. For instance, many people face critical life experiences. By itself, this would not constitute wisdom—the other elements would also be necessary. For example, without the reminiscence/reflectiveness component, a person could not learn valuable life lessons. Some of those lessons might invoke strong emotions, and unless the person is open to, and capable of, modulating these experiences, full wisdom does not develop. One way in which we can manage their emotions is to employ humor, which allows our reflections on critical life events to be more open and emotionally rewarding or psychologically productive. For instance, humor and irony take the sting out of negative experiences, which means we are more likely to be open to new experiences, reflect on them, and feel in control of our emotional reactions to them. In such ways, humor is related to the other four elements of wisdom.

Webster (2010) suggested that the humor seen in wise persons reflects prosocial types of interactions as well as self-enhancing functions. The former includes bond-

ing with others and putting others at ease, whereas the latter includes using humor as a coping technique, not taking oneself too seriously, and laughing at life's ironies. In contrast, negative humor interactions (caustic sarcasm, malicious putdowns, and maladaptive self-derogation) are not part of wisdom. Although convergent relationships have been demonstrated for the openness (Webster et al., 2014), critical life experiences (Webster, 2013), and reminiscence/reflectiveness (Webster et al., 2014) components, the theoretical claims concerning humor have not yet been formally tested.

The goal of the current set of two studies, therefore, is to evaluate the extent to which the different wisdom components captured by the H.E.R.O.E. model and measured by the SAWS relate to specific humor and comic styles. In Study 1, we evaluate whether the SAWS overall, and the humor factor in particular, are related to both adaptive and maladaptive humor styles (using Martin et al.'s four-humor styles model, 2003) in theoretically consistent ways. Study 2 provides a conceptual replication of Study 1 using a different measure of humor (eight comic style; Ruch et al. 2018), and investigates how humor and wisdom are related to positive mental health outcomes.

1 Study 1

Given the above review, for Study 1 we make the following predictions. At the global level, wisdom will be positively correlated with both adaptive humor styles (i.e., self-enhancing and affiliative), and uncorrelated with both maladaptive humor styles (i.e., aggressive and self-defeating) in Martin et al.'s model of four humor styles. At the level of subscales, the SAWS humor subscale will be positively correlated with both adaptive humor styles and uncorrelated with negative styles. Additionally, since humor can be seen as a type of emotions regulator (e.g., Paez, Mendiburo Seguel, and Martinez-Sanchez 2013), we predict that the emotional regulation subscale of the SAWS will show a similar, but weaker correlation pattern to the humor styles than the SAWS humor subscale.

1.1 Methods

1.1.1 Participants

Three hundred and twenty-five ethnically diverse participants (134 men, 190 women, and 1 person who did not indicate their gender) ranging in age from 18 to 50 years ($M=22.03$, $SD=4.82$) completed the current study. Participants were recruited from 1st and 2nd year psychology classes at a large, demographically diverse community college in Vancouver, Canada, and received nominal course credit for participation.

1.1.2 Measures

Wisdom. Wisdom was measured with the Self-Assessed Wisdom Scale (SAWS; Webster 2010), a 40-item questionnaire reflecting the following five components of wis-

Table 1 Descriptive Statistics and Zero-Order Correlations among Main Variables in Study 1

Scales	Sum	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
SAWS											
(1) Total	176.71	21.99									
(2) Humor	36.03	6.07	0.75								
(3) Emotional regulation	33.54	5.71	0.69	0.51							
(4) Reminiscence/reflection	36.42	6.30	0.71	0.37	0.33						
(5) Openness	34.55	5.78	0.70	0.44	0.32	0.35					
(6) Critical experiences	36.16	6.30	0.78	0.43	0.39	0.52	0.48				
HSQ											
(7) Self-enhancing	35.35	8.10	0.48	0.57	0.41	0.24	0.28	0.23			
(8) Affiliative	42.15	6.77	0.39	0.50	0.30	0.20	0.17	0.25	0.27		
(9) Aggressive	28.37	7.08	-0.03	0.11	-0.03	-0.10	0.00	-0.09	-0.04	0.14	
(10) Self-defeating	29.46	8.55	0.08	0.19	0.00	0.08	0.05	-0.01	0.11	0.12	0.24

Notes. N=325. SAWS=Self-Assessed Wisdom Scale, HSQ=Humor Styles Questionnaire. All significant correlations are in bold (correlations $\geq|0.20|$ were significant at the 0.001-level; correlations $\geq|0.15|$ were significant at the 0.01-level; correlations $\geq|0.11|$ were significant at the 0.05-level)

dom: Critical life experiences: “I have experienced many painful events in my life”; Reminiscence/reflectiveness: “Reviewing my past helps me gain perspective on current concerns”; Openness to experience: “I like to read books which challenge me to think differently about issues”; Emotional regulation: “I am very good about reading my emotional states”; and Humor: “Now I find that I can really appreciate life’s little ironies”. Participants respond to each question using a Likert type scale where 1 = *strongly disagree* to 6 = *strongly agree*. Cronbach’s alphas for the total SAWS, and experience, reminiscence/reflectiveness, openness, emotional regulation, and humor subscales in the current study were 0.89, 0.78, 0.81, 0.64, 0.72, and 0.77, respectively.

Humor. Humor was measured with the Humor Styles Questionnaire (HSQ: Martin et al., 2003) which assesses four types of humor. Affiliative humor involves the positive use of humor directed at others to support or build relationships (e.g., “I laugh and joke a lot with my closest friends”). Aggressive humor involves attempts to demean or belittle others (e.g., “If someone makes a mistake, I will often tease them about it”). A self-enhancing humor style involves using humor to change perspective and regulate emotions (e.g., “If I am feeling depressed, I can usually cheer myself up with humor”). A self-defeating humor style reflects negative, self-directed humor designed to create humor at one’s own expense in order to gain favor with others (e.g., “Letting others laugh at me is my way of keeping friends and family in good spirits”). Eight items assess each of the four humor styles, and respondents indicate the degree to which they agree with each item on a 7-point scale (1 = *totally disagree* to 7 = *totally agree*). Cronbach’s alphas for the affiliative, self-enhancing, aggressive and self-defeating subscales were 0.73, 0.78, 0.61, and 0.78, respectively.

1.2 Results

As can be seen in Table 1, the predicted relationships among global wisdom (i.e., total SAWS) and the four humor styles were confirmed. In line with our expectations,

wisdom was positively correlated with self-enhancing and affiliative humor styles, but uncorrelated with aggressive and self-defeating humor styles.

At the level of specific wisdom and humor subscale associations, the predicted relationships (with one exception) were also supported. In particular, the SAWS humor subscale was strongly correlated with affiliative and self-enhancing humor, weakly correlated with self-defeating humor, and uncorrelated with aggressive humor. As expected, the SAWS emotional regulation subscale was also positively correlated with both affiliative and self-enhancing humor, but, as predicted, this relationship was weaker than that for the SAWS humor subscale (Steiger's Z for affiliative and self-enhancing = 4.07, $p < .001$ and 3.48, $p < .001$, respectively). One unexpected finding was the weak, yet significant, correlation between the SAWS humor subscale and the self-defeating humor style. This suggests that wise persons sometimes belittle themselves in social contexts. We suggest that there is a very important explanatory caveat to this finding, which is addressed in the [discussion](#) section.

1.3 Discussion

Study 1 investigated the relationship between wisdom and humor styles in order to test the theoretical claim (Webster, 2010) that wisdom is associated with adaptive, rather than negative or maladaptive, humor characteristics. Wise persons are concerned about the optimal development of both self and others. As such, they should employ humor to enhance their own well-being as well as nurture positive relationships with others. This can be accomplished, in part, by engaging in self-enhancing and affiliative styles of humor (e.g., Dyck & Holtzman 2013).

The current findings provide the first direct empirical support for such theoretical assertions. At the global level, wisdom was associated with adaptive, but not maladaptive, humor styles. These results were driven most strongly by the humor subscale of the SAWS, and to a smaller extent by the emotional regulation subscale, as predicted. Noteworthy though, all five subscales of the SAWS were positively correlated with adaptive humor styles (see Table 1), showing that also the non-humor related wisdom components tapped into humor. This strengthens previous findings and models by showing that all components of wisdom overlap with humor, but only with benevolent styles of humor.

The weak, but significant correlation between the SAWS humor subscale and the HSQ self-defeating subscale may initially seem counterintuitive, as self-defeating humor has been associated with a host of negative psychological outcomes (e.g. Martin et al., 2003). The current findings suggest that a modest amount of this style of humor, when contextually sensitive and originating from a position of higher wisdom, may indeed be adaptive. For instance, the HSQ statement “Letting others laugh at me is my way of keeping friends and family in good spirits” shares similar attributes with the SAWS statement “I can make fun of myself to comfort others”. Both are attempts to enhance the well-being of others. If this type of humor is over disparaging, and/or used exclusively, then there may well be a mental-health cost (cf. Heintz & Ruch, 2018); in contrast, if used sensitively for a particular purpose, in contextually appropriate fashion, then there may actually be positive social and

individual dividends (i.e., both the individual and the group receiving the humorous exchange benefit; see also McGhee 2010).

To address this issue, future research might include relevant moderator variables (e.g., measures of self-worth) to determine whether mild self-deprecating humor has divergent mental-health outcomes for those individual high and low on self-worth. Further, although wisdom has been investigated in young adults in several previous studies, future research would benefit from the inclusion of older adults as the limited evidence to date suggests that, on average, they score lower on the SAWS humor subscale (Webster et al., 2014). In addition to the limited age range in Study 1, it should also be noted that all participants were Psychology students, which might limit the generalization of the findings to other sociodemographic groups.

Nevertheless, these findings support the humor-wisdom link and suggest interesting future work. For instance, it is important to verify that the Study 1 results are not restricted to the particular measure of humor employed. By extending the results to other measures of humor we can demonstrate conceptual replication. Moreover, connecting our results to psychosocial outcomes (e.g., positive mental health) provides additional evidence for the putative association between wisdom and adaptive consequences. The focus of Study 2 primarily concerns these latter two issues.

2 Study 2

A recent update to humor styles (Ruch et al., 2018a) suggests that eight styles of humor can be distinguished. Specifically, the comic styles approach entails two styles that are strongly positively connoted (fun and benevolent humor), four styles that related to mockery (irony, satire, sarcasm, and cynicism), and two more affectively neutral styles (nonsense and wit). Fun is strongly aligned with the affiliative humor style, benevolent humor with the self-enhancing humor style, and sarcasm with the aggressive humor style (Heintz & Ruch, 2019). Hence, replicating the hypotheses and findings from Study 1, we expect fun and benevolent humor to be positively related to wisdom, and sarcasm to be unrelated to wisdom. Benevolent humor is the style most closely aligned with the SAWS humor conceptualization, as both focus on detecting humor in everyday life and in difficult situations and in being able to laugh at oneself.

Going beyond the HSQ humor styles, the comic styles also entail components of sophistication and cleverness (wit, irony, nonsense) and of morality (satire and cynicism). People with higher scores in wisdom, particularly the humor subscale, can be expected to engage in more sophisticated and moral styles to produce positive outcomes for themselves and others. For example, they might make a spontaneous clever remark on a current topic (wit), play with words and ideas (nonsense), and correct other people's or institutions wrongdoings in a humorous fashion (satire). Irony and cynicism are mixed styles, as they contain elements that can be expected to be positively and negatively related to wisdom. Specifically, irony denotes an indirect and challenging expression of humor (by saying the opposite of what is meant), while it can also contribute to excluding people who are not in the in-group and might not understand the irony. Similarly, cynics have an underlying moral standard, yet they

can exhibit mockery and derision to express their dissatisfaction with others meeting these moral standards.

As mentioned in the General Introduction, one previous study investigated the relationships between these eight comic styles and character strengths of the virtue wisdom, as defined in the Character Strengths and Virtues classification (Peterson & Seligman, 2004; Ruch et al., 2018a) found positive correlations of all comic styles, except for sarcasm, with intellectual character strengths. All effects were small to medium-sized, with wit showing medium to large relationships. These findings suggest that the positivity of styles might not be the only relevant variable that influences the relationship between humor and wisdom. In addition, sophistication and morality seem additional relevant elements in humor that drive its overlap with wisdom.

Investigating multiple components of wisdom hence enables revealing more differentiated relationships to the different comic styles. Based on the constructs and previous findings, we predict that at the global level, wisdom will be positively correlated with all comic styles except for sarcasm. At the level of subscales, we expect the SAWS humor subscale to be most strongly and positively correlated with benevolent humor. The relationships between the other comic styles and wisdom subscales will be investigated in an exploratory fashion. Moreover, we will test whether both comic styles and SAWS humor contribute to explaining three different positive mental health outcomes (optimism, meaning in life, and resilience). As both the comic styles, especially fun, benevolent humor, and wit (Ruch et al., 2018b), and wisdom have been positively related to wellbeing (Webster et al., 2014; Webster et al. 2017), we expect that they will be able to incrementally predict the positive mental health outcomes. Finally, to better understand the interplay between the two similar concepts, the SAWS humor subscale and benevolent humor, we investigate their interactive effects in predicting the wellbeing outcomes. If both capture very similar constructs, no interaction should be observed; if they however do capture subtle differences in humor, an interaction effect would support the notion that high scores in both might be beneficial, and low scores in both detrimental, to mental health.

2.1 Methods

2.1.1 Participants

Two hundred and seventy participants initially started the study, which was conducted at a university in a German-speaking part of Switzerland. Four participants were excluded due to insufficient language skills (i.e., not fluent in German), 61 did not complete the questionnaires, and 16 participants answered the questions too quickly (i.e., more than 20 items/minute).¹ This left a final sample of 189 participants to be included in the analyses (37 men, 150 women, and 2 people who did not indicate their gender) ranging in age from 18 to 87 years ($M=27.12$, $SD=12.16$). Participants' nationalities were Swiss (65%), German (23%), or others (12%). Participants were recruited via mailing lists and websites to participate in the online survey. Most par-

¹The number of dropouts observed in this study was 30%, which is comparable to other online studies, especially considering this was part of a larger data collection with multiple measures.

ticipants were psychology undergraduates, who received nominal course credit for participation. Participants could also receive a general feedback on the study if interested, and one donation for planting a tree was made for every complete participation (via <https://www.plant-for-the-planet.org/>).

2.1.2 Measures

Wisdom. Wisdom was measured with the German version of the SAWS (Glück et al., 2013). Items and scales were the same as in the original English version (see Study 1). Cronbach's alphas for the total SAWS, and experience, reminiscence/reflectiveness, openness, emotional regulation, and humor subscales in the current study were 0.85, 0.75, 0.60, 0.65, 0.67, and 0.67, respectively.

Humor. Humor was measured with the Comic Style Markers (CSM; Ruch et al., 2018a) which assesses eight styles of humor. Fun (good-natured, social humor; e.g., "I am a funny joker"), benevolent humor (serene and accepting attitude; e.g., "When my humor is aimed at human weaknesses, I include both myself and others"), nonsense (playing with ideas and logic; e.g., "I like nonsensical humor"), wit (spontaneous and clever wordplay; e.g., "I have the ability to tell something witty and to the point"), irony (saying the opposite of what is meant; e.g., "My irony unveils who is smart enough and understands something and who does not"), satire (criticizing moral wrongdoings; e.g., "I parody people's bad habits to fight the bad and foolish behavior"), sarcasm (critical and bitter mockery; e.g., "Biting mockery suits me"), and cynicism (critical and derisive attitude; e.g., "I tend to show no reverence for certain moral concepts and ideals, but only scorn and derision"). Six items assess each of the eight comic styles, and respondents indicate the degree to which they agree with each item on a 7-point scale (1 = *totally disagree* to 7 = *totally agree*). Cronbach's alphas for fun, benevolent humor, nonsense, wit, irony, satire, sarcasm, and cynicism were 0.71, 0.53, 0.78, 0.82, 0.84, 0.79, 0.80, 0.87, respectively.

Meaning. Meaning was measured with the Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, and Kaler 2006; German version by Proyer et al., 2005). It assesses the presence of meaning in life (e.g., "I understand my life's meaning") and seeking meaning in life (e.g., "I am always looking to find my life's purpose"). Five items assess each of the meaning subscales, and respondents indicate the degree to which they agree with each item on a 7-point scale (1 = *absolutely untrue* to 7 = *absolutely true*). Cronbach's alphas for MLQ-Presence and MLQ-Search were 0.79 and 0.91, respectively.

Resilience. Resilience was measured with the Brief Resilience Scale (Smith et al., 2008; German version by Chmitorz et al., 2018). It assesses recovery from stress in the face of adversity with six items (e.g., "I tend to bounce back quickly after hard times"). Respondents indicate the degree to which they agree with each item on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Cronbach's alpha was 0.85.

Optimism. Optimism was measured with the Life-Orientation-Tests (LOT-R; Scheier et al., 1994; German version by Glaesmer et al., 2008). It assesses the disposition to expect positive vs. negative outcomes with six items (e.g., "I tend to bounce back quickly after hard times"), plus four filler items that are not scored. Respondents

indicate the degree to which they agree with each item on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Cronbach's alpha was 0.85.

2.1.3 Procedure and Analyses

Participants first completed the CSM, followed by the SAWS. The three wellbeing measures were presented in a randomized order for each participant. Other measures were included in the survey that are not relevant for the present study. Importantly, none of the present findings have been reported previously. To reduce the length of the study, we implemented the SAPA technique for the CSM and the SAWS. With this method, participants randomly completed around 50% of the items. Hence, the scales were computed including all available data without imputing missing values, as recommended by Revelle et al. (2016). The analyses and visualisations were conducted with *R* (R Core Team 2020) and the packages *psych* (Revelle 2020) and *sjPlot* (Lüdtke, 2020).

2.2 Results

Table 2 shows the correlations between the comic styles, wisdom, and mental health. As expected, positive relationships were found between all comic styles, except for sarcasm, and the total wisdom score. Benevolent humor, nonsense, and wit also showed significant positive relationships with all aspects of wisdom. Satire correlated positively with all wisdom aspects except for emotional regulation. Fun correlated positively with reminiscence/reflection and humor, irony with critical experiences and reminiscence/reflection, sarcasm with openness, and cynicism with critical experiences and humor. As expected, benevolent humour correlated highest with the SAWS humor subscale, while sarcasm was unrelated to SAWS humor.

Next, we conducted multiple regressions to determine whether the comic styles and the SAWS humor subscale both contribute to explaining variance in the four mental health outcomes. Optimism was negatively predicted by satire ($b = -0.18$, $SE = 0.05$, $p = .001$; total $R^2 = 0.14$, $p = .001$). The presence of meaning was not significantly predicted by any aspect of humor (total $R^2 = 0.07$, $p = .163$). By contrast, the search for meaning was negatively predicted by SAWS humor ($b = -0.53$, $SE = 0.16$, $p < .001$) and positively predicted by irony ($b = 0.21$, $SE = 0.08$, $p = .010$; total $R^2 = 0.11$, $p = .014$). Finally resilience was only predicted by SAWS humor ($b = 0.27$, $SE = 0.09$, $p = .003$; total $R^2 = 0.10$, $p = .028$). Thus, SAWS humor and the comic styles each incrementally predicted three of the four mental health scales.

To further delineate the interplay between the SAWS humor subscale and benevolent humor, we investigated their interactive effect on the four mental health outcomes. To this end, we added the SAWS humor subscale, benevolent humor, and their interaction (by multiplying their grand-mean centered scores) as predictors in a standard multiple regression. The interaction was not significant for presence of meaning in life ($p = .918$) and search for meaning in life ($p = .145$), and significant for resilience ($b = -0.17$, $SE = 0.08$, $p = .034$) and optimism ($b = -0.27$, $SE = 0.08$, $p < .001$). To visualise these effects, we plotted the relationship between these two wellbeing outcomes and SAWS humor at three levels of benevolent humor scores ($-1 SD$, M ,

Table 2 Descriptive Statistics and Zero-Order Correlations among the Variables in Study 2

Scales	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Comic Styles																		
(1) Fun																		
(2) Benevolent	0.29																	
(3) Nonsense	0.34	0.25																
(4) Wit	0.41	0.38	0.38															
(5) Irony	0.09	0.10	0.18	0.20														
(6) Satire	0.33	0.39	0.29	0.31	0.30													
(7) Sarcasm	0.11	0.13	0.18	0.19	0.33	0.37												
(8) Cynicism	0.10	0.29	0.16	0.18	0.37	0.51	0.58											
SAWS																		
(9) Exp.	0.11	0.21	0.21	0.24	0.19	0.20	0.13	0.20										
(10) Emot.	0.09	0.31	0.20	0.37	0.14	0.11	0.03	0.05	0.11									
(11) Rem.	0.19	0.27	0.18	0.27	0.21	0.16	-0.01	0.07	0.39	0.21								
(12) Humor	0.29	0.44	0.28	0.27	0.12	0.22	0.03	0.15	0.26	0.40	0.40							
(13) Openness	0.06	0.27	0.28	0.25	0.14	0.19	0.15	0.08	0.50	0.16	0.29	0.25						
(14) Total	0.22	0.45	0.35	0.43	0.24	0.27	0.10	0.17	-	-	-	-	-	-	-	-	-	-
Wellbeing																		
(15) Optimism	-0.01	-0.04	-0.12	0.05	-0.19	-0.27	-0.10	-0.15	-0.20	0.23	-0.06	0.06	0.01	0.02				
(16) Meaning-P	-0.06	0.13	0.02	0.07	-0.03	-0.01	0.01	-0.08	0.08	0.33	0.13	0.15	0.08	0.23	0.38			
(17) Meaning-S	0.04	0.00	0.11	0.05	0.15	-0.04	-0.03	-0.02	0.19	-0.15	0.18	-0.18	0.13	0.05	-0.14	-0.32		
(18) Resilience	0.05	0.19	0.05	0.14	-0.03	0.07	0.07	0.03	-0.13	0.44	-0.09	0.26	-0.03	0.13	0.31	0.33	-0.27	
M	4.21	5.08	4.46	4.65	4.47	3.64	3.52	3.35	4.38	4.17	4.28	4.41	4.40	4.33	4.49	4.58	4.30	4.22
SD	1.26	0.89	1.30	1.26	1.36	1.36	1.41	1.45	0.75	0.76	0.67	0.72	0.78	0.48	0.81	1.18	1.39	0.80

Notes. N = 189, SAWS = Self-Assessed Wisdom Scale; Emot. = SAWS emotional regulation; Rem = SAWS reminiscence/reflection; Exp = SAWS critical experiences; Meaning-P = presence of meaning in life; Meaning-S = search for meaning in life

All significant correlations are in bold (correlations $\geq |0.23|$ were significant at the 0.001-level; correlations $\geq |0.19|$ were significant at the 0.01-level; correlations $\geq |0.15|$ were significant at the 0.05-level)

+1 *SD*). As can be seen in Figs. 1 and 2, at the lowest benevolent humor scores (-1 *SD*), the relationship between resilience/optimism and SAWS humor was positive. This slope was less steep at mean levels of benevolent humor, and became flat or even slightly negative at high levels of benevolent humor (+1 *SD*). Thus, the two humor scales had compensatory effects: The relationship of SAWS humor with mental health was especially pronounced at lower benevolent humor scores, but became smaller or close to zero if benevolent humor was high.

2.3 Discussion

Study 2 extended Study 1 by employing a more fine-grained measure of comic styles and by relating humor and wisdom to mental health. In line with our expectations, the total wisdom score was positively correlated with all comic styles except for sarcasm. This supports the idea that wisdom is not only related to positive or adaptive styles of humor, such as the affiliative and self-enhancing humor styles and the comic styles fun and benevolent humor. Sophisticated styles of humor (nonsense, wit, irony) and styles of humor related to morality (satire, cynicism; see Ruch et al., 2018a) seem to capture elements of wisdom as well. As expected, the SAWS humor subscale was positively correlated with benevolent humor. The other comic styles showed unique correlation patterns with the different aspects of wisdom. This further highlights the importance of distinguishing not only different aspects of wisdom, but also different aspects of humor when trying to understand their interplay. Additionally, both the comic styles and SAWS humor were able to uniquely predict three of the four mental health outcomes. Search for meaning (typically a negative indicator for wellbeing) was significantly predicted by both the comic styles and SAWS humor, while SAWS humor was a unique predictor of resilience and the comic styles a unique predictor of optimism. Additionally, SAWS humor and benevolent humor showed interactive effects in predicting optimism and resilience, as higher levels in one of the variables could compensate for lower levels in the other. This supports the notion that humor and wisdom could potentially mutually influence mental health. Investigating their interaction in experimental settings and interventions would be an important area for future research and applications.

A limitation of Study 2 is the lower reliability achieved for two comic styles (fun and benevolent humor) and for reminiscence/reflection, which might partially explain their lower-than-expected relationships with the mental health outcomes. Similar to Study 1, the sample mostly consisted of young Psychology students, which limits the generalizability of the findings.

3 General Discussion

The present set of two studies aimed at elucidating the relationships of five aspects of wisdom with four humor and eight comic styles. The results overall supported the hypothesis that adaptive styles (i.e., affiliative, self-enhancing, fun, and benevolent humor) positively relate to wisdom and its aspects. Maladaptive styles (aggressive and sarcasm), by contrast, were generally unrelated to wisdom. These findings extend

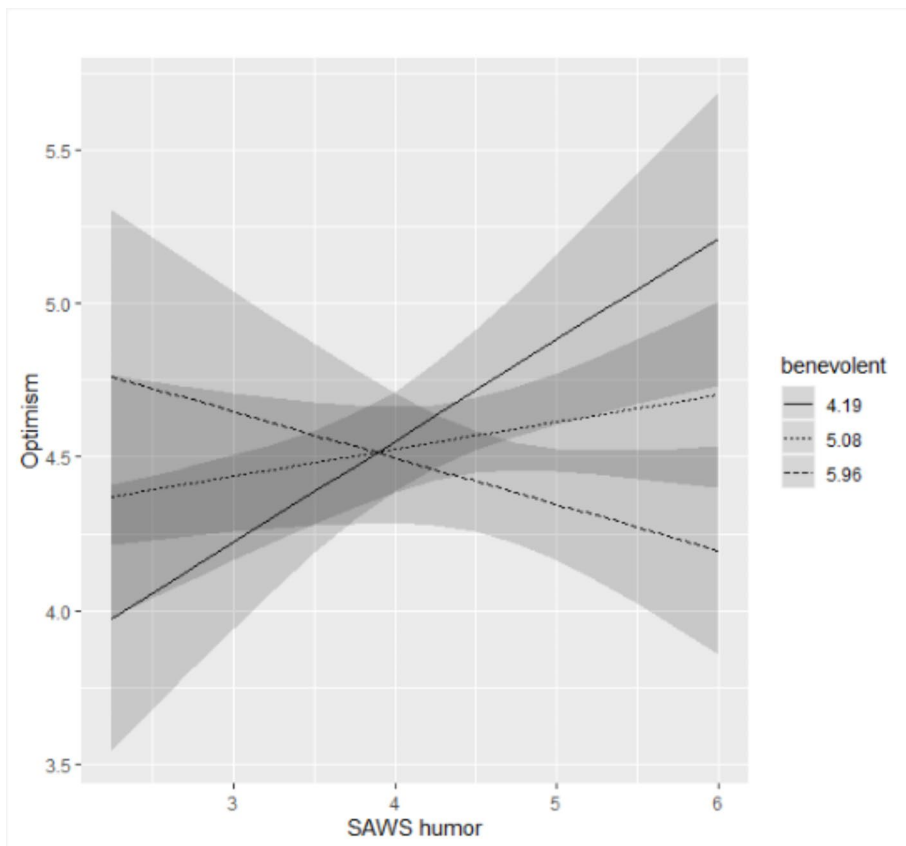


Fig. 1 Interaction between SAWS humor and benevolent humor in predicting optimism

the nomological network of the SAWS and support the notion that humor plays an important role in wisdom. Additionally, the SAWS humor subscale was found to incrementally predict two of the four mental health outcomes (Study 2). Together with the interactive effect found between SAWS humor and benevolent humor, these results suggest that future studies and applications would benefit from mutually considering wisdom and humor and from operationalizing both with measures that can distinguish different aspects and styles.

Furthermore, the present results painted a more complex picture of the relationships between humor and wisdom than previously assumed. While the focus in research on humor and mental health has been put on the idea of “adaptive” styles, Study 2 showed that sophistication (i.e., humor is cognitively challenging and engaging) and morality (i.e., virtuous forms of humor) are important dimensions to consider as well (see also Beermann & Ruch 2009; Ruch & Heintz, 2016). Future studies would benefit from integrating further positive psychological perspectives into research on humor, wisdom, and mental health, such as the Character Strengths and Virtues classification (Peterson & Seligman, 2004). Additionally, integrating wisdom and humor into the research areas on creativity and intelligence would help to widen the focus

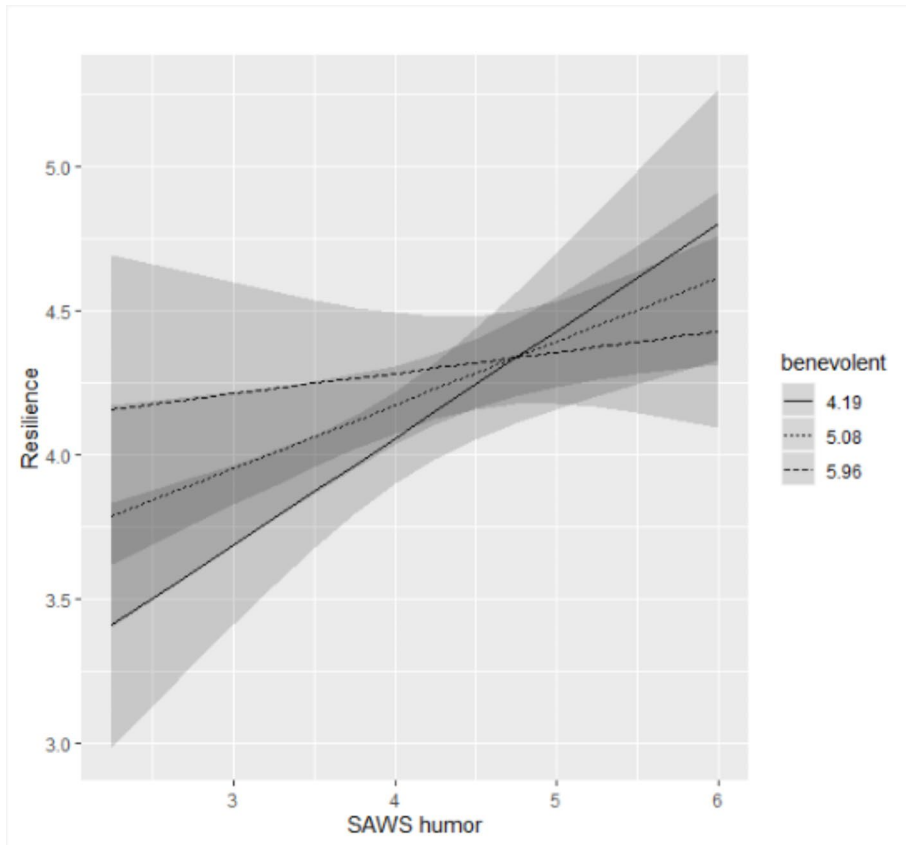


Fig. 2 Interaction between SAWS humor and benevolent humor in predicting resilience

from typical behavior to maximal performance. In other words, wisdom- and humor-related performance might show similar overlaps as those found for the self-report typical tendencies assessed in the present studies, and these overlaps could, in part, be driven by creativity and intelligence (for overviews, see Kellner & Benedek 2017; Ruch and Heintz 2019; Sternberg et al., 2019). Integrating performance tests (e.g., wisdom performance, humor production, psychometric intelligence tests, divergent thinking) would also allow generalizing the present findings beyond self-reports and questionnaires.

Another important area for future research is the generalizability of the present findings to other sociodemographic groups and cultures. The samples in both studies were largely young and well-educated adults (Psychology students), supporting the need for investigations into older adults populations and less well educated samples. This is especially relevant as both wisdom (e.g. Webster et al., 2014) and humor (e.g. Martin et al., 2003; Ruch et al., 2018a) have been shown to vary with age and education, so replications in diverse groups are required. Furthermore, cultural variations exist especially for humor. While we employed samples from two different countries (Canada and Switzerland) and two languages (English and German), and the samples

were also heterogeneous in their backgrounds, the strength or direction of the relationship between humor and wisdom might differ in other cultures. Nonetheless, the similarities across both studies are encouraging and a useful starting point for more detailed investigations of the overlaps between humor and wisdom.

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Author Contributions JDW was involved in Study 1's conception, design, material preparation, data collection and analysis. SH was involved in Study 2's conception, design, material preparation, data collection and analysis, with contributions from JDW. The first draft of the manuscript was written by JDW and SH and all authors commented on previous versions of the manuscript. All authors read and approved the revisions and final manuscript.

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Declarations

Conflicts of interest/Competing Interests Not applicable.

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Consent to Participate All participants provided informed consent.

Consent for Publication Not applicable

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