

# Relationship Between Humor Styles and Subjective Well-being in University Students: Extracurricular Engagement as a Mediator\*

Relación entre los estilos de humor y el bienestar subjetivo en estudiantes universitarios: La participación en actividades extracurriculares como mediador

Received: 16 march 2021 | Accepted: 21 november 2023

SHIH-YUAN HUANG

National Taiwan Normal University, Taiwan

ORCID: <https://orcid.org/0000-0002-5068-8304>

MENG-HUA TSAI

Chang Gung University, Taiwan

ORCID: <https://orcid.org/0000-0002-8950-9641>

HSUEH-CHIH CHEN<sup>a</sup>

National Taiwan Normal University, Taiwan

ORCID: <https://orcid.org/0000-0003-2043-0190>

HSIAO-FENG SHIH

National Taiwan University of Science and Technology, Taiwan

## ABSTRACT

Recent studies have found that university students' engagement in extracurricular activities (ECAs) influences their physical and mental development and well-being. Nevertheless, the psychological mechanism underlying these effects remains largely uninvestigated. Accordingly, this study examined the relationships among degree of engagement in ECAs, humor style, and subjective well-being (SWB) in university students to determine whether engagement in ECAs had a mediating effect on humor style or SWB. A total of 640 university students (289 men and 351 women) who regularly engaged in ECAs were recruited. This study has three main findings. First, compared with men, women used affiliative humor significantly more and less often, respectively. In addition, women had a higher level of SWB than did men. Second, engagement in ECA was positively correlated with engagement in affiliative humor, overall SWB score, satisfaction with life, and positive affect. Third, engagement in ECA mediated the effects of affiliative humor and SWB, indicating that students who used affiliative humor were able to enhance their individual SWB through engagement in ECAs. The findings of this study elucidate the subjective mechanism through which engagement in ECAs affects the humor style and SWB of university students.

## Keywords

university students; humor styles; subjective well-being; engagement in extracurricular activities; extracurricular engagement.

<sup>a</sup> Correspondence author. Email: [chejyh@gmail.com](mailto:chejyh@gmail.com)

*How to cite:* Huang, S. Y., Tsai, M. H., Chen, H. C., & Shih, H. F. (2023). Relationship between humor styles and subjective well-being in university students: extracurricular engagement as a mediator. *Universitas Psychologica*, 22, 1-11. <https://doi.org/10.11144/javeriana.upsy22.rbus>

## RESUMEN

Estudios recientes han encontrado que la participación de los estudiantes universitarios en actividades extracurriculares (ECA) influye en su

desarrollo físico, bienestar mental y general. Sin embargo, el mecanismo psicológico subyacente a estos efectos sigue sin explorarse. En consecuencia, este estudio examinó las relaciones entre el grado de participación en ECA, el estilo de humor y el bienestar subjetivo (SWB) en estudiantes universitarios, con el fin de determinar si la participación en ECA tenía un efecto mediador sobre el estilo de humor o el SWB. Se seleccionó un total de 640 estudiantes universitarios (289 hombres y 351 mujeres) que participaban regularmente en ECA. El estudio arrojó tres hallazgos principales. Primero, en comparación con los hombres, las mujeres utilizaron el humor afiliativo con más frecuencia y el humor agresivo con menor frecuencia. Además, las mujeres presentaron un nivel más alto de SWB que los hombres. Segundo, la participación en las ECA se correlacionó positivamente con el uso de humor afiliativo, el puntaje general de SWB, la satisfacción con la vida y el afecto positivo. Tercero, la participación en las ECA medió los efectos del humor afiliativo y el SWB, lo que indica que los estudiantes que emplearon el humor afiliativo y el SWB podían mejorar su SWB a través de la participación en las ECA. Los hallazgos de este estudio aclaran el mecanismo subjetivo a través del cual la participación en ECA afecta el estilo de humor y el SWB de los estudiantes universitarios.

**Palabras clave**

estudiantes universitarios; estilo de humor; bienestar subjetivo; participación en actividades extracurriculares; participación extracurricular.

Researchers have increasingly focused on the positive aspects of mental health (e.g., happiness and resilience) rather than the negative aspects (e.g. depression and grief) since the advent of positive psychology in the 1980s (Snyder, 2000). Research has found that a sense of humor can improve an individual's physical and mental health, with regard to personality, physiology, and stress management (Cann et al. 2010; López-Pérez & Fernández-Castilla, 2018; Martin & Lefcourt, 1983). Furthermore, among the environmental factors that affect the psychosocial development of university students, continual engagement in informal campus organizations (e.g. club activities and other extracurricular activities [ECAs]) give students a social support system and sense of purpose (Byl et al., 2016; Schulz, Schulte, Raube, Disouky, & Kandler, 2018). Astin (1993) found a significant correlation

between weekly amount of time spent engaged in ECAs and the quality of students' leadership ability and interpersonal relationships. Accordingly, engagement in ECAs may mediate the relationship between sense of humor and personal well-being, and an investigation of the correlations among degree of engagement in ECAs, humor styles, and subjective well-being (SWB) may deepen our understanding of the effect of the degree of university students' engagement in ECAs on SWB.

## Relationship Between Humor Styles and SWB

The beneficial influence of humor on individuals' physical and mental health merits attention and may derive from cognitive, emotional, or interpersonal aspects (Martin, 2016; Marino, Vieno, Lenzi, Fernie, Nikčević, & Spada, 2018). With regard to cognition, humor enables an individual to cope with life stressors and exhibits a moderating effect when individuals encounter stressful events and situations, allowing individuals to fend off threats to their physical and mental health and reducing their anxiety and sense of helplessness (Morrish, Rickard, Chin, & Vella-Brodrick, 2018; Morse, Xiong, Ramirez-Zohfeld, Seltzer, Barish, & Lindquist, 2018). With regard to emotion, humor is also a key mechanism for emotional regulation and stress management and give individuals the equanimity to find solutions to stress-inducing problems (Franke, Huebner, & Hills, 2017; Fredrickson, 2001). Finally, with regard to interpersonal relationships, humor brings people closer together and ameliorates conflict (Denovan & Macaskill 2017; Karakuş, Ercan, & Tekgöz, 2014; Yip & Martin 2006).

Humans express humor in a variety of ways. Martin, Puhlik-Doris, Larsen, Gray, and Weir (2003) identified four humor styles, with positive (adaptive) styles consisting of affiliative humor and self-enhancing humor and with negative (nonadaptive) styles consisting of aggressive humor

and self-defeating humor. In addition, that study developed the Humor Styles Questionnaire (HSQ) to assess differences among individuals' use of humor. The HSQ measures potentially beneficial and potentially injurious humor styles and can shed light on the styles spontaneously adopted by individuals in everyday life, including how individuals respond to social interaction and life stressors.

Furthermore, the HSQ can help illuminate the different humor styles on SWB. In a study with 123 participants, Heintz (2017) found that positive humor behaviors and SWB were positively correlated; specifically, greater use of humor as a response mechanism enhanced the participants' life satisfaction and positive affect. In addition, on the basis of a sample of 287 students, Çalışandemir and Tagay (2015) found that life satisfaction indicated SWB at the cognitive level and that a positive and harmonious humor style was positively correlated with life satisfaction. Nevertheless, regarding these research findings, a need to confirm the effects of the various dimensions of humor styles on SWB remains, and whether different humor styles or related factors have different effects on SWB warrants further investigation.

### **Mediating role of the degree of engagement in ECAs**

Multiple intelligences (MI) theory, which was proposed by Gardner (1983), suggests that education should aim to not only convey knowledge but also develop MI in individuals; such MI can be cultivated through the autonomy and active exploration that ECAs provide. Many studies have revealed that ECAs offered by schools can positively affect students' academic performance, learning motivation, interpersonal interactions, and social

development (Balyer & Gunduz, 2012; Denault & Guay, 2017; Shulruf, Tumen, & Tolley, 2008). Additionally, engagement in organized ECAs can affect adolescents' self-esteem and well-being, and in particular, the establishment of social networks through participation in ECAs could provide adolescents with spaces to engage in further learning, acquire skills, and receive emotional support (Kort-Butler & Hageman, 2011; Nie, Teng, Bear, Guo, & Liu, 2018; Zaborskis, Grincaite, Lenzi, Tesler, Moreno-Maldonado, & Mazur, 2018). Larson (2000) suggested that by enabling teenagers to engage in healthy ECAs, school clubs can help them use their leisure time effectively and can promote growth and personal development.

Notably, humor helps individuals maintain positive personality traits and cope with negative affect. A sense of humor can benefit not only physical and mental health but also SWB (Cann et al. 2010; Headey & Yong, 2019). Fritz (2020) found that social support indirectly mediated the relationship among self-enhancing and affiliative humor and health difficulties, and that social support indirectly mediated the relationship between aggressive humor and increased health problems. That is, a sense of humor and social support are key factors that help individuals maintain their physical and mental health and well-being, and social activities can alleviate the negative effect of negative humor and mental health.

Among studies regarding the relationship between engagement in ECAs and SWB, Fredricks and Eccles (2006) found that adolescents' engagement in ECAs predicted favorable psychological skills and peer relationships and positively influenced academic performance and situational adaptation. In addition, studies have found that humor style and SWB are correlated; for example, university students who tend to employ affiliative and self-enhancing humor

experience greater life satisfaction and fewer negative symptoms. Studies have also shown that humor styles can predict well-being (Dyck & Holtzman 2013). SWB concerns the manner in which people assess their lives in relation to two key aspects: the individual's overall life satisfaction at the cognitive level and their positive and negative emotional responses at the affective level (Diener, Suh, Lucas, & Smith, 1999; Helliwell, 2017). Furthermore, positive humor styles and SWB are positively correlated, and individuals' preferred humor styles and their humor behaviors are also correlated (Heintz, 2017; Wang, Zou, Zhang, & Hou, 2018). Thus, humor styles and SWB are key factors affecting university students' physical and mental health and subjective perceptions.

In summary, university students' engagement in ECAs is crucial in both school and everyday life, and research has clearly indicated that students' engagement in ECAs is closely correlated with humor styles and SWB. Hence, the degree of university students' engagement in ECAs may have a mediating effect on their humor styles and SWB.

## Present study

Although previous studies have clearly demonstrated that humor style is correlated with SWB (Cann et al. 2010; Dyck & Holtzman, 2013), further empirical research is required to explain the factors and subjective mechanisms explaining how and why individuals use a given humor style and experience SWB. At present, we are certain that humor style is correlated with life satisfaction, that positive and negative affect are correlated with SWB, and that individuals' engagement in ECAs is a key indicator of situational adaptation and psychological health (Booker & Dunsmore, 2018; Kort-Butler & Hagewen, 2011; Park & Wang, 2018). Hence, engagement in ECAs, humor style, and SWB are correlated. However, few studies have investigated the effect of university students' engagement in ECAs on their humor styles and SWB.

Accordingly, the present study explored the humor styles of college students, differences between male and female students in SWB, the relationship between humor style and the degree of engagement in ECAs, and the relationship between SWB and the degree of engagement in ECAs. In addition, this study analyzed the mediating effect of the degree of engagement in ECAs on the relationship between humor styles and SWB. Accordingly, the following study hypotheses were developed:

Hypothesis 1: Men and women differ in humor style and SWB score.

Hypothesis 2: Humor styles and SWB are related to engagement in ECAs.

Hypothesis 3: Engagement in ECAs mediate the relationship between humor styles and SWB.

## Method

### *Participants and procedure*

We sampled 640 university students who regularly engaged in ECAs. Male students accounted for 43% of the sample, and female students accounted for the remaining 57%. The percentages of freshmen, sophomores, juniors, seniors, and graduate students in the sample were 18%, 25%, 39%, 14%, and 4%, respectively ( $M = 2.61$ ,  $SD = 1.05$ ). The students were distributed among the northern, central, southern, and eastern regions of Taiwan and came from 11 different schools. The researchers first explained the study's goals, implementation procedures, and instructions for completing the questionnaire to the participating students and informed them that the results of the experiment would not be factored into their class evaluations. The students were then allowed to decide whether to participate in the study. This study was approved by the Research Ethics Committee. All participants were informed of the study procedure and provided informed consent before commencement of the study.

### *Instruments*

The Humor Styles Questionnaire (HSQ) (Chan et al., 2011) covers four humor styles: affiliative and self-enhancing humor, which are considered positive styles. The HSQ-TC used in this study is a translated version of the HSQ developed by Martin, Puhlik-Doris, Larsen, Gray and Weir (2003). Each subscale of the HSQ consists of eight questions, resulting in a total of 32 questions, and each subscale is scored on a 7-point Likert-type scale, with a higher score indicating a greater tendency for the humor style under analysis. The Cronbach's  $\alpha$  values for the four subscales of affiliative, self-enhancing, aggressive, and self-defeating humor were 0.88, 0.82, 0.73 and 0.77, respectively, indicating that the questionnaire had excellent reliability and reasonable construct validity. In summary, the HSQ-TC used in this study had excellent reliability and validity.

The Positive and Negative Affect Scale (PANAS) (Watson et al. 1988) employs descriptive language ranging from positive-to negative-sounding language and helps assess subjects' impressions of positive affect and negative affect. The PANAS is completed using a 5-point scale and consists of 20 questions designed to discern positive and negative emotional traits. The internal consistency ratings of positive affect and negative affect were indicated by Cronbach's  $\alpha$  values of 0.87 and 0.88, respectively. Previous testing of the reliability and validity of the PANAS scale indicated that this scale possessed excellent reliability and validity (Watson et al. 1988).

The Satisfaction with Life Scale (SWLS) (Diener et al. 1985) was employed in the present study to assess the participating university students' overall life satisfaction. The SWLS is completed using a 7-point scale and consists of five questions, with a higher score indicating greater overall satisfaction with life. The scale's internal consistency and reliability were both 0.88.

The ECA Engagement Degree Scale enabled the students in the present study to assess

their degrees of engagement in ECAs. Created by the present authors, this scale employs both quantitative and qualitative definitions, with the quantitative portion inquiring into years of participation in ECAs and time spent engaged in ECAs each week and with the qualitative portion inquiring into personal impressions of the respondent's degree of engagement in ECAs. The scale on the years of participation was constituted by the points of less than 1 year, 1-2 years, 2-3 years, and more than 3 years of being involved in an ECA. The scale on weekly time spent on ECAs was constituted by the points of less than 10 hours, 10-20 hours, 20-30 hours, and more than 30 hours weekly. Finally, the participants indicated whether their degree of engagement in ECAs was low, moderate, moderate to high, or high. The scale on degree of ECA engagement was reliable, with Cronbach's  $\alpha$  of 0.64.

Finally, SWB was assessed in this study using the SWLS and PANAS, both of which were administered to groups of students (in a on-site group setting). The researchers first explained the content of the questionnaire, asked the participants to sign an informed consent form, and instructed the students to complete the questionnaire. The questionnaire was then completed in approximately 40 minutes.

### **Results**

This study used the Sobel test (Sobel, 1982) and bootstrapping (Preacher & Hayes, 2008) to investigate the mediating effect of the degree of university students' engagement in ECAs on the relationship between these humor styles and SWB (Figure 1).

#### *Analysis of gender differences*

Table 1 presents the mean SWB values and standard deviations of scores on the humor styles scale for the two different genders. Women tended to use affiliative humor significantly more than did men ( $t = -2.53$ ,  $p < 0.05$ ,  $d =$

-0.20), whereas men tended to use aggressive humor significantly more than did women ( $t = 6.73, p < 0.001, d = 0.53$ ). The women's overall SWB score and life satisfaction were significantly higher than those of the men ( $t = -2.84, p < 0.01, d = -0.22$ ), indicating a significant gender difference.

**Table 1**

Gender differences in humor style and SWB ( $N = 640$ )

Scale	Male ( $N = 289$ )		Female ( $N = 351$ )		$t$	$d$
	Mean	SD	Mean	SD		
Affiliative	4.93	0.90	5.11	0.93	-2.53*	-0.2
Self-enhancing	4.34	0.89	4.42	0.80	-1.23	-0.1
Aggressive	3.39	0.84	2.96	0.78	6.73***	0.53
Self-defeating	3.74	0.91	3.69	0.90	0.82	0.06
SWB (Total score)	3.25	0.51	3.36	0.49	-2.84**	-0.22
Life Satisfaction	3.88	1.08	4.09	1.18	-2.36*	-0.19
Positive Affect	3.26	0.72	3.32	0.61	-1.26	-0.10
Negative Affect	2.62	0.63	2.67	0.62	-1.22	-0.10

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

### Relationship between humor style and SWB

Table 2 presents the correlations between humor styles, life satisfaction, and negative affect. The positive humor styles (i.e., affiliative humor and self-enhancing humor) were positively correlated with the overall SWB score, life satisfaction, and positive affect. Furthermore, affiliative humor was positively correlated with overall SWB score ( $r = 0.31, p < 0.001$ ), life satisfaction ( $r = 0.25, p < 0.001$ ), and positive affect ( $r = 0.42, p < 0.001$ ). Self-enhancing humor was also positively correlated with overall SWB score ( $r = 0.39, p < 0.001$ ), life satisfaction ( $r = 0.40, p < 0.001$ ), and positive affect ( $r = 0.49, p < 0.001$ ). With regard to negative humor styles, aggressive humor was negatively correlated with overall SWB score ( $r = -0.15, p < 0.001$ ), life satisfaction ( $r = -0.16, p < 0.001$ ), and positive affect ( $r = -0.19, p < 0.001$ ). Self-defeating humor was negatively correlated with life satisfaction ( $r = -0.14, p < 0.001$ ) and positively correlated with negative affect ( $r = 0.34, p < 0.001$ ). In addition, self-defeating humor had no direct relationship with the overall SWB score or positive affect. In summary, the positive humor

styles were positively correlated with the overall SWB score, life satisfaction, and positive affect, whereas negative humor styles were correlated with life satisfaction and negative affect.

**Table 2**

Correlation coefficients among humor styles and SWB ( $N = 640$ )

Scale	Humor style			
	Affiliative	Self-enhancing	Aggressive	Self-defeating
SWB (Total score)	0.31***	0.39***	-0.15**	0.04
Life satisfaction	0.25***	0.40***	-0.16***	-0.14***
Positive Affect	0.42***	0.49***	-0.19***	0.01
Negative Affect	-0.16***	-0.29***	0.11**	0.34***

\*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

### Relationship among engagement in ECAs, humor style, and SWB

As indicated in Table 3, degree of engagement in ECAs was linked to affiliative humor, overall SWB score, life satisfaction, and positive affect. Specifically, degree of engagement in ECAs was positively correlated with affiliative humor ( $r = 0.14, p < 0.01$ ), overall SWB score ( $r = 0.17, p < 0.001$ ), life satisfaction ( $r = 0.10, p < 0.05$ ), and positive affect ( $r = 0.19, p < 0.001$ ). In addition, the correlations of the degree of engagement in ECAs with self-enhancing humor, aggressive humor, self-defeating humor, and negative affect did not differ significantly. These findings indicate that engagement in ECAs was directly and positively correlated with affiliative humor, the overall SWB score, life satisfaction, and positive affect.

**Table 3**  
Correlation coefficients among engagement in ECAs,  
humor styles and SWB (N = 640)

Scale	Engagement in ECAs
Affiliative humor	0.14**
Self-enhancing humor	0.07
Aggressive humor	0.01
Self-defeating humor	0.02
Life satisfaction	0.17***
Positive affect	0.10*
Negative affect	0.19***

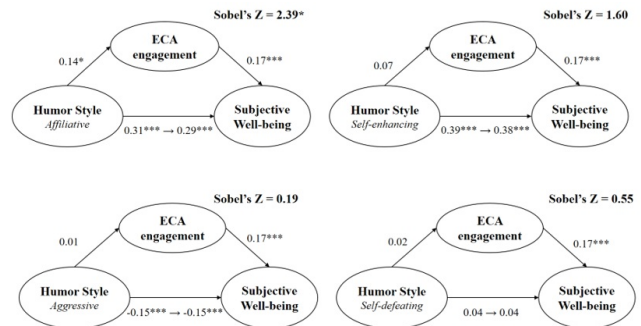
\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

### Mediation analyses

This study used mediation analysis to investigate the influence of engagement in ECAs on the relationship between humor styles and SWB. Our results indicated that the degree of engagement in ECAs has a mediating effect on the relationship between affiliative humor and SWB (Figure 1). We tested the ECAs in these mediational models, with age and gender controlled for. The Sobel test indicated that engagement in ECAs had a mediating effect on the relationship between affiliative humor and SWB ( $Z = 2.39$ ).

Bootstrapping involves the use of resampling procedures to obtain the mean values and 95% confidence interval (CI) of mediating effects. If the 95% CI of a mediating effect after 5 000 rounds of sampling does not include 0, the null hypothesis of the absence of mediating effect can be rejected (Shrout & Bolger, 2002). We applied bootstrapping to the 640 sets of raw data obtained from the participating students. Table 4 presents the effect of engagement in ECAs on the 95% CI of the relationship between humor styles and SWB. Our findings indicated that engagement in ECAs had a significant mediating effect on the relationship between affiliative humor and SWB (95% CI = 0.003-0.018 [0 not included]).

The results obtained through the aforementioned two statistical methods were consistent, demonstrating that engagement in ECAs mediated the relationship between humor styles and SWB and the relationship between affiliative humor and SWB.



**Figure 1.**  
Engagement in ECAs mediates the relation between humor style and SWB.

**Table 4**  
95% confidence intervals of the indirect effect of  
humor style on SWB through engagement in ECAs

Humor style	SWB
Affiliative	0.0027 to 0.0182
Self-enhancing	−0.0004 to 0.0149
Aggressive	−0.0073 to 0.0088
Self-defeating	−0.0054 to 0.0092

### Discussion

This study explored students' humor styles, SWB, including gender differences, the relationship between humor styles and the degree of engagement in ECAs, and the relationship between SWB and the degree of engagement in ECAs. In addition, this study analyzed whether the degree of university students' engagement in ECAs had a mediating effect on the relationship between humor styles and SWB. The results of this study support the hypothesis that compared

with men, women tend to use more affiliative humor and have correspondingly higher SWB and life satisfaction. Men, by contrast, appear to favor aggressive humor; this finding is also consistent with those of previous studies (Matud et al. 2014; Tsai et al., 2023; Wu et al., 2016). Furthermore, the results indicated that among the participating university students' affiliative and self-enhancing humor were positively correlated with overall SWB, life satisfaction, and positive affect, these findings are also consistent with those of previous studies (Heintz, 2017; Wang, Zou, Zhang, & Hou, 2018). Moreover, aggressive humor was negatively correlated with overall SWB, life satisfaction, and positive affect, and self-defeating humor was negatively correlated with life satisfaction and positively correlated with negative affect among the participating university students; these findings are partially consistent with those of previous research (Civitci, 2015; Torres-Marín et al. 2018). Finally, engagement in ECAs was directly positively correlated with affiliative humor, overall SWB, life satisfaction, and positive affect.

This study is the first to demonstrate that university students' engagement in ECAs mediate the relationship only between affective humor and SWB. The lack of any mediation effect of engagement in ECAs on the relationship between self-defeating humor and SWB was likely because self-defeating humor did not directly affect SWB. In addition, self-enhancing humor is an internally oriented form of humor (i.g., an intrapsychic function of humor), indicating that the university students who used self-enhancing humor already had relatively high levels of SWB and thus did not require engagement in ECAs to boost their SWB further. Moreover, aggressive humor proved to be an outwardly oriented (i.g., interpersonal) and injurious form of humor that may be detrimental to interpersonal relationships. The students who favored aggressive humor tended to use humor to attack others and were relatively unlikely to engage in ECAs. Consequently, aggressive humor was

unable to influence SWB through engagement in ECAs.

Finally, our results support the findings of many related studies that men have a greater tendency to use aggressive humor, whereas women tend to employ more affiliative humor (Dyck & Holtzman, 2013; Tsai et al., 2023; Wu et al., 2016). In addition, we discovered that women in the present study had higher levels of SWB and life satisfaction than did men. According to SWB theory (Oishi et al. 2018), when an individual has a positive affect balance, they tend to experience happiness, life satisfaction, and a high level of SWB. Regarding the influence of SWB, women tend to experience a higher level of life satisfaction, a key indicator of SWB, than do men (Kim & Hatfield, 2004; Zhou & Peng, 2018). The results of the current study suggest that when university students engage in ECAs, those who adopt affiliative humor are more likely to enhance their SWB. Affiliative humor is a positive humor style, and through engagement in ECAs, such humor can promote relationships with others, minimize tension in interpersonal interactions, and foster harmony with others through spontaneous goodwill, which in turn can boost the positive affect of the individual engaging in such humor.

In summary, this study discovered that engagement in ECAs affected university students' SWB differently depending on the humor style adopted. Furthermore, by investigating the mediating effect of engagement in ECAs, this study found that university students who employ affiliative humor more frequently are more likely to experience greater SWB and to exhibit greater participation in ECAs, indicating that both engagement in ECAs and humor styles have an interactive effect on SWB. This finding suggests that a positive humor style can positively affect an individual's SWB and that the social skill of using positive humor can increase an individual's positive affect. Finally, this study deepens understanding of SWB among university students participating in ECAs with respect to different in humor styles.



## Acknowledgements

This work was financially supported by the Institute for Research Excellence in Learning Sciences, the Social Emotional Educational and Development Center, and the Chinese Language and Technology Center of National Taiwan Normal University from The Featured Areas Research Center Program within the framework of the Higher Education Sprout Project by the Ministry of Education in Taiwan.

## References

- Astin, A. W. (1993). What Matters in College? *Liberal Education*, 79(4), 4-15.
- Balyer, A. & Gunduz, Y. (2012). Effects of structured extracurricular facilities on students' academic and social development. *Procedia - Social and Behavioral Sciences*, 46, 4803-4807. <https://doi.org/10.1016/j.sbspro.2012.06.338>
- Booker, J. A. & Dunsmore, J. C. (2018). Testing Direct and Indirect Ties of Self Compassion with Subjective Well Being. *Journal of Happiness Studies*. <https://doi.org/10.1007/s10902-018-0011-2>
- Çalışandemir, F. & Tagay, Ö. (2015). Multidimensional perfectionism and humor styles the predictors of life satisfaction. *Procedia - Social and Behavioral Sciences*, 174, 939-945. <https://doi.org/10.1016/j.sbspro.2015.01.715>
- Cann, A., Stilwell, K., & Taku, K. (2010). Humor styles, positive personality and health. *Europe's Journal of Psychology*, 6(3), 213-235. <https://doi.org/10.5964/ejop.v6i3.214>
- Civitci, A. (2015). Perceived Stress and Life Satisfaction in College Students: Belonging and Extracurricular Participation as Moderators. *Procedia - Social and Behavioral Sciences*, 205, 271-281. <https://doi.org/10.1016/j.sbspro.2015.09.077>
- Denault, A.-S. & Guay, F. (2017). Motivation towards extracurricular activities and motivation at school: A test of the generalization effect hypothesis. *Journal of Adolescence*, 54, 94-103. <https://doi.org/10.1016/j.adolescence.2016.11.013>
- Denovan, A. & Macaskill, A. (2017). Stress and Subjective Well-Being among First Year UK Undergraduate Students. *Journal of Happiness Studies*, 18, 505-525. <https://doi.org/10.1007/s10902-016-9736-y>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2), 276-302.
- Dyck, K. T. H. & Holtzman, S. (2013). Understanding humor styles and well-being: The importance of social relationships and gender. *Personality and Individual Differences*, 55, 53-58. <https://doi.org/10.1016/j.paid.2013.01.023>
- Franke, K. B., Huebner, E. S., & Hills, K. J. (2017). Cross-Sectional and Prospective Associations Between Positive Emotions and General Life Satisfaction in Adolescents. *Journal of Happiness Studies*, 18, 1075-1093. <https://doi.org/10.1007/s10902-016-9763-8>
- Fredricks, J. A. & Eccles, J. S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology*, 42(4), 698-713. <https://doi.org/10.1037/0012-1649.42.4.698>

- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*, 56(3), 218-226. <https://doi.org/10.1037/0003-066X.56.3.218>
- Gardner, H. (1983). *Frames of Mind*. New York: Basic Books Inc. <https://doi.org/10.1177/001698628502900212>
- Headey, B., & Yong, J. (2019). Happiness and Longevity: Unhappy People Die Young, Otherwise Happiness Probably Makes No Difference. *Social Indicators Research*, 142(2), 713-732. <https://doi.org/10.1007/s11205-018-1923-2>
- Heintz, S. (2017). Putting a spotlight on daily humor behaviors: Dimensionality and relationships with personality, subjective well-being, and humor styles. *Personality and Individual Differences*, 104, 407-412. <https://doi.org/10.1016/j.paid.2016.08.042>
- Helliwell, J. F. (2017). What's Special about Happiness as a Social Indicator? *Social Indicators Research*, 135(3), 965-968. <https://doi.org/10.1007/s11205-017-1549-9>
- Karakuş, Ö., Ercan, F. Z., & Tekgöz, A. (2014). The Relationship between Types of Humor and Perceived Social Support among Adolescents. *Procedia - Social and Behavioral Sciences*, 152, 1194-1200. <https://doi.org/10.1016/j.sbspro.2014.09.298>
- Kim, J. & Hatfield, E. (2004). Love types and subjective well-being: A cross-cultural study. *Social Behavior and Personality: An International Journal*, 32(2), 173-182. <https://doi.org/10.2224/sbp.2004.32.2.173>
- Kort-Butler, L. A., & Hageman, K. J. (2011). School-based extracurricular activity involvement and adolescent self-esteem: A growth-curve analysis. *Journal of Youth and Adolescence*, 40, 568-581. <https://doi.org/10.1007/s10964-010-9551-4>
- Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist*, 55, 170-183. <https://doi.org/10.1037/0003-066X.55.1.170>
- López-Pérez, B. & Fernández-Castilla, B. (2018). Children's and adolescents' conceptions of happiness at school and its relation with their own happiness and their academic performance. *Journal of Happiness Studies*, 19, 1811-1830. <https://doi.org/10.1007/s10902-017-9895-5>
- Marino, C., Vieno, A., Lenzi, M., Fernie, B. A., Nikčević, A. V., & Spada, M. M. (2018). Personality traits and metacognitions as predictors of positive mental health in college students. *Journal of Happiness Studies*, 19, 365-379. <https://doi.org/10.1007/s10902-016-9825-y>
- Martin, R. A. (2016). Humor and mental health. In H. S. Friedman (Eds.), *Encyclopedia of Mental Health* (pp. 350-353). Waltham: Academic Press. <https://doi.org/10.1016/B978-0-12-397045-9.00044-6>
- Martin, R. A., & Lefcourt, H. M. (1983). Sense of humor as a moderator of the relation between stressors and moods. *Journal of personality and social psychology*, 45(6), 1313. <https://doi.org/10.1037/0022-3514.45.6.1313>
- Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., & Weir, K. (2003). Individual differences in uses of humor and their relation to psychological well-being: Development of the humor styles questionnaire. *Journal of Research in Personality*, 37, 48-75. [https://doi.org/10.1016/S0092-6566\(02\)00534-2](https://doi.org/10.1016/S0092-6566(02)00534-2)
- Matud, M. P., Bethencourt, J. M., & Ibáñez, I. (2014). Relevance of gender roles in life satisfaction in adult people. *Personality and Individual Differences*, 70, 206-211. <https://doi.org/10.1016/j.paid.2014.06.046>
- Morrish, L., Rickard, N., Chin, T. C., Vella-Brodrick, D. A. (2018). Emotion Regulation in Adolescent Well-Being and Positive Education. *Journal of Happiness Studies*, 19, 1543-1564. <https://doi.org/10.1007/s10902-017-9881-y>
- Morse, L. A., Xiong, L., Ramirez-Zohfeld, V., Seltzer, A., Barish, B., & Lindquist, L. A. (2018). Humor doesn't retire: Improvisation as a health-promoting intervention for older adults. *Archives of Gerontology and Geriatrics*, 75, 1-5. <https://doi.org/10.1016/j.archger.2017.10.013>

- Nie, Q., Teng, Z., Bear, G. G., Guo, C., & Liu, Y. (2018). Hope as mediator between teacher–student relationships and life satisfaction among Chinese adolescents: A between and within Person effects analysis. *Journal of Happiness Studies*. <https://doi.org/10.1007/s10902-018-0052-6>
- Oishi, S., Diener, E., & Lucas, R. E. (2018). Subjective well-being: The science of happiness and life satisfaction. In C. R. Snyder, S. J. Lopez, L. M. Edwards, & S. C. Marques (Eds.), *Oxford Handbooks Online*. New York: Oxford University Press. <https://doi.org/10.1093/oxfordhob/9780199396511.013.14>
- Park, K. & Wang, S. (2018). Youth activities and children's subjective well-being in Korea. *Journal of Happiness Studies*. <https://doi.org/10.1007/s10902-018-0048-2>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models. *Behavior Research Methods*, 40(3), 879-891. <https://doi.org/10.3758/BRM.40.3.879>
- Schulz, P., Schulte, J., Raube, S., Disouky, H., & Kandler, C. (2018). The Role of Leisure Interest and Engagement for Subjective Well-Being. *Journal of Happiness Studies*, 19(4), 1135-1150. <https://doi.org/10.1007/s10902-017-9863-0>
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422-445. <https://doi.org/10.1037/1082-989X.7.4.422>
- Shulruf, B., Tumen, S., & Tolley, H. (2008). Extracurricular activities in school, do they matter? *Children and Youth Services Review*, 30, 418-426. <https://doi.org/10.1016/j.childyouth.2007.10.012>
- Snyder, C. R. (2000). Hypothesis: There is Hope. In C.R. Snyder (Eds.), *Handbook of Hope Theory, Measures and Applications* (pp.3-21). San Diego: Academic Press. <https://doi.org/10.1016/B978-0-12-654050-5.X5000-3>
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312. <https://doi.org/10.2307/270723>
- Torres-Marín, J., Navarro-Carrillo, G., & Carretero-Dios, H. (2018). Is the use of humor associated with anger management? The assessment of individual differences in humor styles in Spain. *Personality and Individual Differences*, 120, 193-201. <https://doi.org/10.1016/j.paid.2017.08.040>
- Wang, M., Zou, H., Zhang, W., & Hou, K. (2018). Emotional Intelligence and Subjective Well Being in Chinese University Students: The Role of Humor Styles. *Journal of Happiness Studies*, 20(4), 1163-1178. <https://doi.org/10.1007/s10902-018-9982-2>
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070. <https://doi.org/10.1037/0022-3514.54.6.1063>
- Yip, J. A. & Martin, R. A. (2006). Sense of humor, emotional intelligence, and social Competence. *Journal of Research in Personality*, 40(6), 1202-1208. <https://doi.org/10.1016/j.jrp.2005.08.005>
- Zaborskis, A., Grincaite, M., Lenzi, M., Tesler, R., Moreno-Maldonado, C., & Mazur, J. (2018). Social Inequality in Adolescent Life Satisfaction: Comparison of Measure Approaches and Correlation with Macro-level Indices in 41 Countries. *Social Indicators Research*, 141(3), 1055-1079. doi: 10.1007/s11205-018-1860-0
- Zhou, D. & Peng, L. (2018). The relationship between the gender gap in subjective well-being and leisure activities in China. *Journal of Happiness Studies*, 19, 2139-2166. <https://doi.org/10.1007/s10902-017-9913-7>

## Notes

- \* Research article.