



Assessing the Relationship Between Resilience, Humor Styles, and Retention Across Semesters

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ABSTRACT

Humor styles have been connected to benefits and detriments to mood that are closely related to the trait of resilience. Furthermore, traits related to positive humor styles like mindfulness and openness to experience were linked to higher retention rates. The relationships between humor styles (affiliative, self-enhancing, aggressive, and self-defeating), resilience, and retention are largely understudied with mixed findings and limitations in methodology necessitating the need for further exploration. Using data from a sample of 405 university students, the study examines the predictive role of affiliative, self-enhancing, aggressive, and self-defeating humor styles on well-being through multiple regression analysis. Results indicate that affiliative and self-enhancing humor are positively associated with life satisfaction and positive affect, whereas aggressive and self-defeating humor are linked to increased negative affect. There was no association found between humor styles and retention. These findings underscore the complex role of humor in psychological well-being and suggest that retention may be influenced by other factors than humor styles.

Keywords: Humor Styles, Resilience, Retention, Life Satisfaction, University Students.

INTRODUCTION

Humor is a very serviceable trait, providing laughter, increasing bonds in relationships, and creating stress relief in people every day [3]. There are complex aspects of humor, called humor

styles, that are fundamental to the development of lasting relationships. Research has shown that measuring humor is a challenging subject due to the broad nature of the concept. Indeed, measuring humor may be difficult as it is a subjective experience [17]. Martin et al. [17] attempted to tackle the problem of defining a measurable humor trait by creating a multidimensional scale of four "humor styles." The grid-like theory split humor components into two columns in which there are positive and negative affect, and two rows with humor towards the self and the other respectively. This creates four distinct humor styles: (1) self-enhancing (positive affect towards the self), (2) self-defeating (negative affect towards the self), (3) affiliative (positive affect towards others), and (4) aggressive (negative affect towards others). The scale is scored so that each participant receives four scores - one score for each humor style. On each scale, higher scores indicate an increased preference for using that type of humor, while lower scores indicate a decreased preference for the particular humor style.

In the initial observations in the creation of this scale, Martin et al. [16] found that there was distinct mood differences based on humor style preferences. Positive humor styles have a relationship with qualities such as cheerfulness and lower levels of depression. Moreover, negative humor styles were associated with anger, anxiety, and depression. The maladaptive nature of the negative humor styles may be explained by the inability to overcome stressful emotions in a manner that encourages a positive outlook on life [4]. Although sense of humor can differ amongst cultures, positive humor styles were consistent in building subjective well-being with negative humor styles hurting subjective well-being [11]. Gender differences in humor styles were also found, such that men were shown to have higher scores on both negative types of humor. The potential reason behind this, as explained by the researchers is likely relating to heightened masculinity, as well as low levels of agreeableness, both commonly found in men.

Additionally, variation in humor style scores were found between the Big 5 Personality Test traits [10]. There were many significant findings in these observations, including extraversion showing strong correlation to both positive types of humor styles, agreeableness showing negative correlations with both negative types of humor styles, and conscientiousness also showing negative relationships with both negative types of humor styles. It is worth mentioning that conscientiousness had no significant correlation with affiliative, nor self-enhancing traits, and agreeableness only had a small significant relationship with self-enhancing humor style. This is reflective of the fact that these humor styles do not directly polarize each other, and that having high scores in one humor style does not imply that a participant will have a low score in the opposite humor style. With positive life outcomes being found to correlate with the positive humor styles, and negative outcomes found to correlate with the negative humor styles, examining potential causes as to why these relationships exist could potentially be useful.

Greengross et al. [8] conducted another study examining the link between humor styles and personality, and they also assessed the relationship with general intelligence. Using a sample of college students, results were similar to the aforementioned study, specifically extraversion being linked to affiliative humor. It was also found that affiliative humor had links to openness to experience and agreeableness. Another study found that suicidal ideation had significantly decreased in community individuals as their affiliative humor increased, demonstrating the potential benefits of an affiliative humor style [6]. On the contrary, Schall et al. [22] did not find

the same positive association between affiliative humor and quality of life. In terms of the measurements of intelligence, they found that lower intelligence predicted an aggressive humor style. This further supports the notion that using negative humor towards others indicates lower levels of general intelligence, and it is a poor sign if one's main source of humor is being hurtful towards other people [19].

Development of humor styles has been studied and found to be strongly related to one's environment [18]. In this study, participants were gauged on their humor styles and perceived socioeconomic status in childhood. The purpose was to find evidence of both learned and environmental factors important in the formation of a person's humor style, as well as the interaction with psychopathology. Results indicated that there was a significant relationship between aggressive humor style and psychopathy when moderated by lower socioeconomic status. This indicates that there can be environmental factors that ultimately shape humor styles. Additionally, prior studies reflect that mood was shown to relate to humor styles [7]; however, this link to traits that are indicators of actual mental impairments are significant findings in terms of linking humor styles to various levels of psychopathy. This correlation does make intuitive sense as financial stressors have been shown to lead to a plethora of both physical and mental trials; one of these being damaged interpersonal relationships [21]. This is a very important relationship and indicator that humor styles are a very useful scale at predicting some negative life outcomes. Once again, there is a significant relationship with aggressive humor style and negative traits, reflecting that an individual who directs hurtful jokes towards others is at risk of a multitude of problems. A better understanding of the link between traits and humor styles would help mitigate those risks. Directing harm towards others within relationships has been correlated with stress [21]. Finding an effective way to cope with stress could be impactful in lowering the effects of negative based humor styles.

Connor-Davidson Resilience scale (CD-RISC) scale, a scale that measures resilience [5], an incredibly positive trait to possess for working around and overcoming stress which is essential in multiple job environments and academic settings. In initial usage of this scale, Connor and Davidson's participants were undergoing treatment for different mental illnesses, such as anxiety and PTSD. The results of this study found that those who had higher resilience scores were more responsive to treatment and had more improvement in their general well-being. Being that improvement to one's mental health after being diagnosed with one of these disorders can be a difficult struggle, it is fascinating to see that there was significant improvement based on this trait alone. This is incredible and helpful to note the value of having high resilience and the benefits that it can bring someone. This scale was then used on a grand scale with the United States Air Force over a two-year timespan. Specifically, Bezdjian et al. [1] utilized the CD-RISC scale on Air Force recruits to measure their resilience at the time of entry into the military. This is the largest usage of this scale, totaling over 50,000 participants. Results of the study found that participants with higher resilience were more likely to remain in the forces, having lower unsuitability attrition rates. Additionally, there was a negative correlation found between participants with high resilience at a mental health diagnosis within the first six months of entry. Longitudinal studies using this scale are effective as they give a better idea of what this trait can fundamentally do for someone over the course of time. The participants in the study generally reported higher overall resilience scores than the general population. The initial entry to the service can be both physically and mentally taxing, so having participants immediately scored on their resilience was helpful to reflect the value of this trait in these

participants. This matches with prior notions provided from the earlier study on resilience in which people who have higher scores can stay in programs longer, as well as perform harder jobs. These findings support the fact that resilience is a meaningful positive life outcome, and that having this trait can help in achieving long term goals.

Resilience follows a similar pathway to early life contributing factors of the aggressive humor style development [18] in terms of having a childhood effect that predicts certain levels of resilience. Zolkoski and Bullock [24] examined children's stress levels as well as their trait resilience to see if there would be any relationship. The relationship between children's stress levels and resilience when graphed in terms of stress levels resembles a normal distribution. Frequent occurrences of low stress will often lead to low levels of resilience over time as there are less stressful opportunities for the child to overcome and ultimately learn from. On the other side of the graph, frequent occurrences of high stress also result in low resilience. This is often due to the fact that, during childhood development, the level of mental multitasking that is required for frequent high stress situations is simply impossible to execute. As a result, the most effective way for a child to build up their resilience to stress is through medium levels of stress. There must be a degree of challenge for a child so there is a real sense of accomplishment in terms of overcoming a goal at the end. However, the challenge cannot be so difficult to the point where the child is constantly being met with challenges that are too hard to overcome. Challenges throughout development need to be reasonable and match with the child's level of intelligence in order to adequately boost their resilience. Resilience is an essential trait to have and the most effective way to learn this trait is through progressive, reasonable stress inducing activities and assignments throughout development.

With the current study observing connections between humor styles and resilience, it is important to investigate if there have been prior connections linking these two traits. Kokkinos et al. [12] examined connections between resilience and humor styles, as well as the Big 5 personality traits. The study organized participants in three categories, one of these categories being resilient individuals. The general findings in this study were mirrored in prior studies in terms of connecting positive traits with the more positively related humor styles. Additionally, the group that was lower in resilience was strongly associated with self-defeating humor style (as well as negatively associated with the positive humor styles). These comparisons accurately reflect what can be expected based on prior literature in terms of seeing higher susceptibility to depression and anxiety with -self-defeating humor styles and more confident traits related to positive humor styles [6].

There is benefit to having both aspects of high resilience as well as more positively affecting related humor styles. In addition to these traits being beneficial, they also strongly relate to traits that promote stronger interpersonal relationships, such as extraversion and agreeableness [16]. Additionally, there is a hindrance to incorporating negative based humor styles into one's humor as it can lead to ultimately worse traits, such as psychopathy [18]. A trait worth examining would be trying to find a connection between a professional life outcome, and either humor styles or resilience. In an academic setting, a strong marker of success is GPA, however an understudied factor of academic success is retention.

Retention as a concept is intuitive in the sense the result of this factor is either if the student retained information or not. This variable has been shown to connect to a lot of factors, some

of which have been examined within previous literature. Laskey and Hetzel [14] examined students at a university and their Big 5 Personality traits, to see if these would have a link to retention across semesters. When trying to relate this to the previously mentioned variables, it can be predicted that positive personality traits, like extroversion, will relate with increased likelihood to retain and a negative personality trait, such as neuroticism, would be associated with lower retention rates. Results of the study found no significance with retention and any of the personality traits. There was a strong correlation between extraversion and lower retention rates, however this did not meet the criteria of significance. None of the other variables in the study indicated any sort of relationship with retention across semesters. There was however a link between conscientiousness, openness to experience, and accessing the tutoring resources provided by the university. This usage of tutoring ultimately did have a connection to retention rates and higher GPA. While there are no direct links to personality traits and retention, there is plausibility to think that generally positive traits could correlate with higher retention rates across semesters, being that academic success can be, and have been linked with positive traits.

The Present Study

The present study aimed to examine the connection between resilience, humor styles and retention rates across semesters. Examining this relationship can be beneficial as to determining what predicts higher retention rates in college students. For instance, a stronger self-concept indicated by a self-assuring positive humor style could imply behaviors responsible for better retention of information such as seeking out methods to overcome challenges and stress. A relationship between humor style and retention could place an importance of integrating entertaining ways to deliver information with humor so the information becomes more memorable and engaging. (something about finding benefits in retention, would love help on this). The study hypothesizes that the following relationships will be present within the sample

- Affiliative humor style will predict higher resilience and increased likelihood for retention.
- Self-enhancing humor style will predict higher resilience and increased likelihood for retention.
- Aggressive humor style will predict lower resilience and decreased likelihood for retention.
- Self-defeating humor style will predict lower resilience and decreased likelihood for retention.

METHODS

Procedures

Recruitment for this study was conducted using Texas State University's SONA system. This system uses a sample of undergraduate students. Participants were informed that they could complete this survey for a portion of their SONA credits required for their undergraduate course. After accessing the survey through the SONA site, participants gave their informed consent before completing the demographics questionnaire and self-report measures. Participants in the sample completed the Humor Styles Questionnaire, The CD-RISC resilience measure, and the demographics questionnaire. This study was ruled as exempt by the University's Institutional Review Board.

Participants

421 participants completed the entire survey, but 16 participants were ultimately excluded from data analysis. The final sample consisted of 405 participants of Texas State University undergraduate students (53.3% Cisgender non-trans women, 95.8% in the age range 18-20, 41.5% white, 40.7% first generation college student).

Measures**Demographics Information:**

The demographics questions were administered to the participants first on the survey. This portion of the survey consisted of asking participants about their ethnicity, gender identity, age, and disability status. Additionally, participants reported the number of credits completed at the time of the survey, prior history of college dropouts, and first-generation college student status.

Connor-Davidson Resilience Scale:

The Connor-Davidson Resilience Scale (CD-RISC) is a common measure used to assess resilience [5]. In this scale, resilience is defined as a measure of coping ability in clinical patients and the general population. The CD-RISC is rated on a five-point Likert scale with responses ranging from (0) rarely true to (4) true nearly all the time. Higher scores on the scale reflect increased levels of resilience and lower scores reflect decreased levels of resilience. The scale proved to have adequate internal consistency with a Cronbach's alpha of 0.89. In addition, the scale also had good test-retest reliability, convergent validity, and discriminant validity (Connor and Davidson, 2003). The scale demonstrated validity when compared to other resiliency-related measures such as stress and hardiness. It also exhibited differentiating levels of resilience as predicted with different populations and samples relative to their degree of resilience. Overall, the CD-RISC has sound psychometric properties and thus is a reliable and valid scale to measure resilience.

Humor styles Questionnaire:

The Humor Styles Questionnaire (HSQ) is a multidimensional self-report measure that evaluates four dimensions that relate to the utilization of humor [16]. Two dimensions being measured indicate psychosocial well-being while the other two do not have a relationship with or may negatively impact well-being. The four dimensions are affiliative humor, self-enhancing humor, aggressive humor, and self-defeating humor. All four were found to have good internal consistencies, with a Cronbach's alpha of greater than or equal to .77 for each subscale. There is evidence for construct and criterion validity, with significant correlations found between corresponding dimensions. The HSQ is a reliable and valid scale to use when measuring humor styles.

Retention:

Retention for this study was measured as a dichotomous outcome variable (The student either retained or did not). The retention measure was determined on if the student returned to participate in courses by the university's census date within that semester. The first wave of retention data was for the Spring 2023 semester, and the second was collected for the Fall 2023 semester.

Data Analytic Strategy

One participant was excluded from this study due to the amount of time taken on the survey. The

same participant additionally scored the maximum value on all four humor styles, ultimately reflecting an absence of attention throughout the survey. In order to establish a baseline of what can be excluded, for time taken, any value outside the doubled median in either direction was excluded. Participants who fell outside of this threshold were ultimately excluded. Additionally, another 15 participants were excluded from analyses due to incomplete data on the variables being tested. To measure the relationship between resilience across the four different humor styles, a linear regression framework was used to identify which humor styles predict levels of resiliency. A logistic regression framework was used to incorporate the retention variable into the analysis. The outcome variable when incorporating retention is binary; either the participant retained across semesters, or they did not. The five predictors (four humor styles and resilience) are then measured to see if they can predict if the participant will come back to school across the two semesters measured.

RESULTS

Preliminary Analyses

Preliminary analyses assessed the differences between the variables of interest and the participants' demographic characteristics. There were no gender and ethnicity differences within resilience or humor styles; however, significant differences were found in resilience scores among participants based on disability status. Participants who self-identified as having a form of disability has lower levels of resilience ($B = -.096$, $SE = .031$, $p < .001$, $CI: [.855, .965]$). Self-enhancing humor style had a significant relationship with disability status. Specifically, those who reported having some form of disability had lower levels of self-enhancing humor style ($B = -.066$, $SE = .029$, $p = .024$, $CI: [.883, .991]$). Self-defeating humor style also had a relationship with disability status, with individuals who identified as having a disability, scoring higher on this humor style ($B=.065$, $SE = .025$, $p = .009$, $CI: [1.016, 1.121]$).

Examining Resilience and Humor Styles

The next analysis examined the four varying humor styles, to see if they could predict a person's level of resilience. The overall model was significant ($F(4,400) = 15.59$, $R^2 = .135$, $p < .001$). Affiliative humor style did not have a significant relationship with resilience scores. Aggressive humor style also did not significantly regress onto resilience. Self-enhancing humor style did significantly predict resilience ($B = .314$, $SE = .034$, $p < .001$, $CI: [.230, .399]$). Specifically, those who scored high on self-enhancing humor had higher resilience scores than those with lower self-enhancing humor traits. Additionally, self-defeating humor style also significantly predicted resilience scores ($B = -.134$, $SE = .036$, $p < .001$, $CI: [-.206, .06]$). Specifically, those who scored high on self-defeating humor traits were more likely to have lower resilience scores overall see Table 1.

Table 1: Correlation Matrix Between Humor Styles and Resilience

	1	2	3	4	5	<i>M</i>	<i>SD</i>
1. AFF HS	-	.231**	.015	.105*	-.028	29.96	3.64
2. AGG HS		-	.282**	.263**	.039	32.35	4.66
3. SE HS			-	.188**	.320**	38.41	6.49
4. SD HS				-	-.117	30.84	7.61
5. RES					-	26.64	5.70

*- $P < .05$, **- $P < .01$

Evaluating Retention

Data for this study was collected in the Fall 2022 academic semester for retention across semesters. For the Spring 2023 semester, 384 of the participants did continue at the university, and 21 did not. The Nagelkerke R^2 for the overall model was .032 with our variables ultimately accounted for 3.2% of the variance in this study. None of the predictors (the four humor styles and resilience) were able to significantly predict retention for the Spring 2023 semester see Table 2. In the fall semester, 345 participants continued at the university, and 60 did not. The Nagelkerke R^2 for the overall model was .027, with our variables accounting for 2.7% of the variance in the study. Similar to the spring semester, none of the predictors in this model significantly predicted retention in the Fall 2023 semester see Table 3.

Table 2: Logistic Regression Examining Spring 2023 Retention

	B	SE	p	Odds Ratio	95% CI [LL, UL]
Affiliative	-.012	.065	.850	.988	[.870, 1.122]
Aggressive	.002	.049	.962	1.002	[.910, 1.104]
Self-Enhancing	.041	.038	.283	1.042	[.967, 1.122]
Self-Defeating	.035	.032	.277	1.035	[.973, 1.102]
Resilience	-.054	.044	.224	.948	[.869, 1.033]
Constant	2.002	2.684	.436		

Table 3: Logistic Regression Examining Fall 2023 Retention

	B	SE	P	Odds Ratio	95% CI [LL, UL]
Affiliative	-.067	.037	.076	.936	[.869, 1.007]
Aggressive	-.023	.033	.488	.978	[.917, 1.042]
Self-Enhancing	.019	.024	.447	1.019	[.971, 1.069]
Self-Defeating	.025	.020	.212	1.025	[.986, 1.066]
Resilience	.011	.026	.674	1.011	[.960, 1.065]
Constant	2.737	1.508	.070		

DISCUSSION

The aim of this study was to examine if there was a relationship between humor styles and resilience. Additionally, this study looked to examine if these variables could predict if a student would return to school across semesters. First, examining the relationships between humor styles and resilience, we found that self-enhancing humor style had a positive relationship with resilience, and self-defeating humor style had a negative relationship with resilience. We then examined retention rates for the Spring 2023 and Fall 2023. For these variables, none of the measured variables had any ability to significantly predict retention in either of the semesters. Overall, some of our hypotheses did mirror our results, and some did not.

Preliminary analyses found significant relationships between disability status and resilience, as well as self-defeating and self-enhancing humor style. These relationships were unexpected but give further insight as to how humor styles and resilience might be connected. Disability status can likely not be used to explain the relationship between the self-related humor styles and resilience due to only a small number of participants identified as having a form of

disability. This is however still worth mentioning as it could be helpful to fully include in hypotheses for future studies.

Half of the humor styles and resilience hypotheses did line up to prior research. Our hypotheses were that positive related humor styles (affiliative and self-enhancing) would predict high resilience, and the negative related humor styles (aggressive and self-defeating) would predict low resilience. We found that the humor styles related to oneself were both found to be significant in the direction hypothesized. A prior study done on resilience and humor styles did find similar results, self-defeating humor predicting low resilience, as well as both positive humor styles [12]. A potential reason as to why the self-related humor (self-defeating and self-enhancing) were found to be significant with resilience is that resilience is a trait solely related to oneself. Resilience is measured as personal stress relief and stress management. The perspective that positive traits will ultimately be strongly associated with positively affected humor styles might have been flawed. Despite this, the direction predicted for these humor styles was correct, seeing that self-enhancing humor style predicted high resilience and self-defeating humor style predicted low resilience. These can be intuitively inferred (as one continuously picks them up in a humorous sense, they will build a stronger shell for themselves, and vice versa).

Retention was found to be non-significant with all of the predictors in the study. This constant held true throughout both semesters. The first semester of data collection only saw about 5% of students not return to school for that semester. Upon seeing these results, initial thoughts were that there were not enough participants to form an adequate sample size for any noteworthy significant differences for the Spring 2023 retention data. Follow-up observations conducted in the Fall 2023 semester gave a wider scope as to what was present in the dataset, and that there was a greater issue than sample size limitations. In this semester, over 14% of students did not return to school. This percentage was more than adequate to provide significant results; however none were found. This is likely due to the high number of factors that encompass retention in our study, and resilience and humor styles are unable to reflect those factors.

Retention in this study was used as a metric for academic success, where retaining is considered academically successful, and not retaining would be considered academically unsuccessful. A clear caveat in this formula for the study is it ignores the fact that students could have still been academically successful, without signing up for courses in the next semester. It is highly unlikely that any of the participants in the study graduated as the sample was taken from an intro to study course; a course likely not given in a student's last two semesters. However, this measure of retention does not account for students transferring to another university and continuing their education elsewhere. In order to be considered retained, the student must have enrolled in classes at the university where the study was conducted. The whereabouts of the 14% that did not retain are unknown, and they could have still possibly enrolled in a different college or university.

Another potential reason for humor styles or resilience not being able to predict retention is the amount of real-world factors that impact retention. Financial stressors as well as family support are leading causes as to why a student might not be physically able to return to classes [13]. This notion has been replicated as recently as 2019, as a study found 42% of students list

financial stressors as the primary reason as not being able to return to class [2]. Other top reasons include family and lack of time. In order to incorporate this into future studies, it would be essential to add measures that could capture these additional variables and add them to the model framework. Retention has too many extraneous variables that need to be included in order to find an additional factor for why a student might not return.

Future Studies and Direction

Redesigning this study could take two potential routes with the idea of keeping the same framework. The first potential study direction is keeping the same exact framework and adding measures that could capture more of what the prior studies found on retention. Measures of income and parental stress could be added to find if these factors have relationships that can moderate the relationship between humor styles, resilience, and retention. Adding these measures would still not account for students' still continuing their academic journey, just at a different university. As a result, a more effective direction could be reworking the measure of academic success and changing it to a more consistently measurable number, such as GPA. Prior studies have found that some of the factors that impact retention also have an impact on GPA, such as financial stress [15]. As a result, it would still be necessary to examine financial stress and potentially family pressure. There are a multitude of factors that predict GPA, and one of which could be examined is risk behaviors. Risk behaviors have been seen to predict GPA, where increased engagement in risk behaviors predict a lower GPA [9]. Examining these factors alongside humor styles and resilience could bring potential findings that the present study was unable to produce.

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