



Online ISSN: 3070-5320 Print ISSN: 3070-5312

*American Journal of Medicine and Health Studies*

Volume 3 (2026), pp. 26-41

Star Scholars Press

<https://ojed.org/med>

<https://doi.org/10.32674/9s52sq89>

## Mental Health and Well-Being, Perceived Academic Stress, and Dual Enrollment Students

Christine Junker<sup>1</sup>, Dave D. Hochstein<sup>2</sup>, Joshua Ricker<sup>2</sup>, Angie Clayton<sup>2</sup>, Joelle De Lisle<sup>2</sup>,  
and Stephen J. Jacquemin<sup>2</sup>

<sup>1</sup>Wright State University, United States of America

<sup>2</sup>Wright State University - Lake Campus, United States of America

---

### ABSTRACT

*The mental health and well-being of high school and college students have been decreasing in recent years, representing a significant challenge to the institutions that serve them. Academic stress is often a contributor to poor mental health and reduced well-being, which can cascade into a myriad of other negative effects. Identifying students who are at risk and struggling is essential. One group of students that has been understudied regarding academic stress and mental health is dual enrollment students. Dual enrollment programs are growing in nearly every state, and while the academic benefits are well-documented, previous research has largely ignored this unique group of students who are simultaneously enrolled in high school and in college. Therefore, our study objectives were to compare the perceived academic stress and mental health and well-being of high school students, dual enrollment students, and college students at a Midwestern regional campus and the surrounding community.*

**Keywords:** academic stress, college retention, dual enrollment, mental health, student well being,

**Corresponding Author:** Christine Junker, 475 Allyn Hall, Wright State University, 3640 Colonel Glenn Hwy, Fairborn, OH 45324, [christine.junker@wright.edu](mailto:christine.junker@wright.edu), <https://orcid.org/0000-0002-0295-4065>

---

Editors: Robin Butler | Akanksha Anand | Ismatara Reena | Natalie Anthony | Reshma Gopal | Cristina Kelly

---

Recent studies have demonstrated a steady decline in nearly all mental health measures for college-aged students, with the recent COVID-19 pandemic hastening these effects on the college environment only increasing these challenges (Gandhi et al., 2024; Duffy et al., 2019). Major depressive disorder (MDD) and generalized anxiety disorder (GAD) are the most common mental health challenges college students face, and while colleges and universities around the country have been making substantial efforts to address this issue, it remains a persistent challenge (Hirshberg et al., 2022). Despite the increase of mental health awareness and mental health decline, most college counseling centers report the same, or even fewer, visits from students; in fact, only about 11.3% of college students visit free college counseling centers (Bruns et al., 2024). This suggests a troubling trend, wherein college students are struggling but are not necessarily engaging in the help-seeking behaviors that would ameliorate their struggles, even when those resources are free. Beyond the toll of individual suffering, this issue presents a challenge to higher education, since poor mental health is a significant predictor of leaving college without earning a degree (Auerbach et al., 2016).

Likewise, particularly since COVID, maintaining mental health has been a challenge for high school students. It is estimated that as many as one in three high school students experience significant mental health challenges, with almost half of students reporting persistent feelings of sadness and/or hopelessness (Verlenden et al., 2023). As with college students, high school students faced a number of significant changes during COVID-19, and these changes resulted in an increase in depression symptoms, particularly for students who were in areas with lengthier lockdowns (Barendse et al., 2023). While sexual risk behaviors and substance abuse decreased from 2013-2023, all other measures of mental health risk increased, including continued feelings of sadness and hopelessness, thoughts of suicide, and experiences of violence (CDC, 2024). At particular risk, are girls and those who are a part of the LGBTQ+ community (CDC, 2024). Unfortunately, the availability and use of mental health services is variable across demographics. For example, students from rural areas are less likely to have access to comprehensive mental services within schools or the community (Shelton & Owens, 2021). Overall, less than half of students who are diagnosed with DSM-IV disorders receive mental health counseling, with students who are in schools with in-house mental health services much more likely to receive or be referred for care (Greif-Green, 2013). As with college students, mental health challenges are likely to affect high school students in a wide variety of negative ways, impacting everything from social connection to academic performance.

For both college and high school students, a significant contributor to overall mental health challenges are academic stressors. For high schoolers, academic stress emerges most strongly in the form of being concerned about not earning “good grades” and overall class performance, with about half of students reporting that they don’t experience significant stress outside of school (Stromájer et al., 2023). Academic stress, in turn, contributes to poor sleep quality and decreased subjective well-being (Cheng et al., 2025). For college students, academic stress is often related to the quantity of coursework expected, exams, and internal and external pressures to be academically successful (Paralkar & Knutson, 2023), and about seventy-five percent of college students report feeling stressed (Barbayannis et al., 2022). College students often experience the additional pressures related to moving to new environments, including loneliness, homesickness, financial concerns, as well as academic stress (Acharya et al, 2018). As with high school students,

perceived academic stress for college students is associated with a variety of negative outcomes, most notably a significant decrease in mental health and well-being (Barbayannis et al., 2022). Perceived academic stress, then, is not simply a matter of discomfort for students, or an inevitable part of schooling that can be safely ignored; rather, perceived academic stress is an important predictor of reduced mental health, which has a wide variety of negative consequences, individually and collectively.

These two populations (high school and college) overlap in the increasingly popular dual enrollment programs, in which high school students enroll in college courses and earn college credit, while remaining enrolled and often also taking classes at their high school. The number of students in the U.S. who are part of dual enrollment has increased immensely: in 2015, about 325,000 students were part of dual enrollment in the United States; by the 2022-2023 academic year, that number had increased to 2.5 million (Velasco et al., 2024). Approximately 33% of high school students participate in some form of dual enrollment (Schaller et al., 2025). The benefits of dual enrollment programs are well-documented and extensive: students who earn college credit while still in high school are more likely to go to college full-time after high school, and while there, they tend to earn higher GPAs, earn more credits, and are more likely to complete their degree than students who do not participate in dual enrollment programs (Johnson et al., 2024; Velasco et al., 2024). Though states vary in the way they implement dual enrollment programs, it is clear that dual enrollment benefits students who want to attend college in terms of their academic achievement (Liu et al., 2026a). How dual enrollment students fare in other domains, such as mental health, is less clear, however, and it seems reasonable to believe that high school students who are already experiencing mental health challenges due to perceived academic stress may be at an increased risk if and when they add dual enrollment to their already busy schedules.

On the other hand, dual enrollment students also may have a range of protective factors that are not available to their college-level peers, such as living at home, having strongly established support networks, and being able to negotiate the challenges of increased academic work without also managing the challenges of being independent for the first time, making new friends, and learning to navigate entirely new institutional systems without a lot of support. Compared to their high school peers, too, dual-enrollment students may also experience an increased confidence because they are taking college courses early and being granted more independence, without many of the challenges that often accompany that independence.

Understanding the mental health status of dual enrollment students, then, is essential for both K-12 and college settings, so that this population is served and supported effectively. However, to date, very little research has focused on this population. Thus, this study proposes to address this research gap, using mental health survey data collected from students enrolled in the College Credit Plus (Ohio's dual enrollment program) at a midwestern regional campus with a high dual enrollment population and comparing those results with students enrolled in local high schools and students who are enrolled exclusively in college classes.

## **Hypotheses**

The following hypotheses were proposed:

- H<sub>1</sub>: Mental Health Inventory-5 scores will vary between high school students, college students, and dual enrollment students
- H<sub>2</sub>: Perceptions of Academic Stress scores will vary between high school students, college students, and dual enrollment students.

## **METHOD**

The current study involved the distribution of a survey that was adapted from The Mental Health Inventory-5 (MHI-5) and the Perceptions of Academic Stress (PAS), two established and validated measures. The MHI-5 has the advantage of being brief and validated as accurately measuring anxiety and depression among those under the age of 18, as well as in adults (Rivera-Riquelme et al., 2109; Ten Have et al., 2024). The MHI is a brief questionnaire that asks questions aimed at measuring depression (assessed with questions like, “Have you felt so down in the dumps that nothing could cheer you up?”), anxiety (“Have you been a very nervous person?”), overall well-being (“Have you felt calm and peaceful?”), and “Have you been a happy person?”). The PAS is also relatively brief and specifically focuses on academic stress, which is one of the areas anticipated to potentially differ between different groups of students (Bedewy & Gabriel, 2015). The PAS consists of 18 questions, which are arranged into three subsets: stresses related to academic expectations, stresses related to faculty work and examinations, and stresses related to students’ academic self-perceptions. Stresses related to academic expectations include questions that aim to understand how students perceive academic pressure coming from outside sources, including peers, parents, and teachers. Stress related to faculty work and tests are related to how students perceive the size of the expected workload, including homework and exams, and their perceptions of the difficulty of tests. Finally, stresses related to students’ academic self-perceptions measure how well students feel like they are going to be able to meet the academic expectations of others and successfully negotiate the academic demands, whether that’s completing all the required work or performing well on tests.

### **Survey Distribution and Collection**

These surveys were distributed at a regional college campus as well as at local high schools, electronically and on paper. All participants were voluntary, provided assent, and were informed that their responses were confidential. Overall, the dataset included 207 respondents from one regional college campus and three high schools, all from within the counties in the service range of the college campus. Students included a total of 36 dual enrollment students, 70 college students, and 101 high school students. Participants included 44% male and 53% female with 3% preferring not to say or identifying as non-binary. The vast majority of these participants were White (90%), Black (3%), and Hispanic (4%) with 1% identifying as Pacific Islander, Asian, or American Indian. Outside

of the classroom, 66% were employed with 34% unemployed while 47% were athletes compared with 53% as non-athletes. Parents' education levels included 34% high school graduates, 57% associate or bachelor's degree holders, and 9% graduate degree recipients.

### Survey Data Analysis

To analyze survey data, responses were grouped by student type (e.g. dual enrollment (CCP), college, high school) and then tested whether variation in responses related to these groupings using a series of general linear models. Post hoc interpretation of effect size and between group differences was done through interpretation of mean response scores and Tukey tests. Given the relatively low number of survey respondents we were unable to account for variation related to interactions or nestedness among demographics (e.g. gender x student type, etc.). In an attempt to limit any family-wise error rates inherent with excessive comparisons, we grouped and analyzed PAS survey responses by mean scores arranged by the 3 primary categories. For all statistical testing and subsequent interpretation, alpha was set at 0.05 for significance with 0.1 used as a test cutoff point for suggesting a marginal signal.

### RESULTS

Mental Health Inventory-5 (MHI-5) scores revealed statistically significant differences by group (i.e. college, high school, and college credit plus dual enrollment) for 'happiness' but not for the other four questions related to either depression or anxiety (Table 1). Specific to the MHI-5, college students and dual enrollment students were found to be significantly happier than high school students ( $F(2,202) = 3.4, p = 0.03, \eta^2=0.033$ ). Perceptions of Academic Stress (PAS) scores showed the most significant differences in academic self-perceptions with composite scores seeing high school and college students' self-reporting a statistically significant higher level of stress (by about 17 percentage points) related to academic self-perception, compared to that reported by CCP students ( $F(2,203) = 4.8, p = 0.01, \eta^2=0.045$ ) (Table 2). Questions related to faculty workload and academic expectations did not differ by grouping (Table 2). Questions related to academic expectations revealed a trend of both High School and CCP students experiencing 8-9% more stress regarding academic expectations than their college peers ( $F(2,200) = 2.3, p = 0.10, \eta^2=0.022$ ), and while suggestive of a signal this observational trend was not a statistically significant difference (Table 2).

**Table 1: MHI 5 Questions and Scores Arranged by Study Group.**

MHI - 5 Questions	Dual Mean	College Mean	HSchool Mean	Dual <i>SD</i>	College <i>SD</i>	HSchool <i>SD</i>	ANOVA Results
Very nervous person	3.47	3.31	3.66	1.36	1.36	1.59	$F=1.2$ , $p=0.32$
Felt so down in the dumps that nothing could cheer you up	4.58	4.46	4.26	1.25	1.47	1.43	$F=0.8$ , $p=0.45$
Felt calm and peaceful	3.67	3.39	3.73	1.15	1.21	1.25	$F=1.7$ , $p=0.19$
Felt downhearted and blue	4.64	4.36	4.41	0.99	1.25	1.28	$F=0.7$ , $p=0.52$
Happy person	3.92	4.00	3.53	1.11	1.12	1.34	$F=3.4$ , $p=0.03$ , $\eta^2=0.033$
MHI - 5 Composite Score (Scaled 0 to 100 in accordance with better health)	63.60	62.40	63.41	8.80	9.60	15.10	$F=0.2$ , $p=0.84$

*Note.* MHI-5 questions were scored from 1 (none of the time) to 6 (all of the time). HSchool = High School. *SD* = standard deviation.

**Table 2: PASS Questions and Scores Arranged by Study Group.**

PASS Questions	Dual Mean	College Mean	HSchool Mean	Dual SD	College SD	HSchool SD	ANOVA Results
<i>Stresses Related to Student's Academic Self-Perceptions</i>							
Am confident that I will be a successful student	1.58	2.14	2.41	0.77	1.00	1.32	
Am confident that I will be successful in my future career	1.58	1.77	2.36	0.77	0.81	1.32	
I can make academic decisions easily	2.39	2.59	2.67	0.93	1.13	1.18	
I fear failing courses this year	2.54	3.07	2.93	1.67	1.48	1.61	
I think that my worry about tests is weakness of character	2.71	2.96	2.78	1.38	1.27	1.24	
Even if I pass my tests, I am worried about getting a job after graduating	2.97	3.54	3.36	1.52	1.42	1.52	
Academic Self-Perceptions Category Composite	2.28	2.68	2.76	0.73	0.76	0.86	$F=4.8, p=0.01, \eta^2=0.045$

*Stresses Related to Faculty Work and Examinations*

The time allocated to classes and academic work is enough	2.58	2.40	2.72	1.05	1.12	1.09	
---	------	------	------	------	------	------	--

The size of the curriculum (workload) is excessive	3.14	2.88	3.37	1.06	1.24	1.22	
I believe that the amount of work assignments is too much	3.06	2.97	3.36	0.97	1.15	1.22	
I am unable to catch up if getting behind the work	2.74	2.75	2.82	1.15	1.34	1.37	
I have enough time to relax after work	3.14	2.99	2.94	1.25	1.42	1.31	
The test questions are usually difficult	3.46	3.58	3.18	0.82	0.95	1.02	
Test times are often too short to complete the answers	2.23	2.16	2.94	1.09	1.09	1.10	
Timed tests are very stressful to me	3.40	3.61	3.67	1.29	1.27	1.26	
Faculty Work and Examinations Category Composite	2.98	2.92	3.13	0.62	0.74	0.73	$F=1.9, p=0.15$

*Stresses Related to Academic Expectations*

My teachers are critical of my academic performance	3.40	3.53	3.31	1.03	1.06	1.10	
	2.49	2.43	2.80	1.09	1.14	1.24	

---

Teachers have unrealistic expectations of me							
The unrealistic expectations of my parents stresses me out	3.03	2.70	3.06	1.34	1.32	1.45	
Competition with my peers for grades is quite intense	3.17	2.51	3.00	1.20	1.31	1.29	
Academic Expectations Category Composite	3.02	2.79	3.04	0.76	0.74	0.84	$F=2.3,$ $p=0.10,$ $\eta^2=0.022$

---

*Note.* PASS questions were scored from 1 (no stress) to 5 (highest stress). HSchool = High School. *SD* = standard deviation.

## DISCUSSION

While it was anticipated that dual-enrollment students would have the highest levels of perceived academic stress because they are negotiating two different sets of academic expectations, as well as taking more rigorous courses than their high school peers, we found that dual-enrollment students had significantly lower levels of perceived academic stress. Despite maintaining the more time-intensive high school schedule, working, often participating in athletics, and taking college courses, dual-enrollment students had the lowest levels of perceived academic stress, perhaps because their academic self-perceptions levels were quite high and outpaced both their college and high school peers.

College and career readiness (CCR) comprises a wide variety of elements, including aspirations and beliefs, academic preparation, knowledge and information, and fortitude and resilience (Kurlander et al., 2019). One way to think of these findings is that those who are enrolled in dual enrollment programs are simultaneously demonstrating and increasing their college readiness, with the traits that make up college readiness being more significant than the time and energy demands placed on dual enrollment students. Since participation in dual-enrollment programs is voluntary, it is possible that students who enroll in these programs already have a stronger sense of academic self-efficacy; it is also possible that both their self-efficacy, overall academic knowledge and academic preparation increase as a result of taking college courses while still in high school. Through their participation in

dual enrollment programs, they are building their overall academic knowledge and academic preparation. This is consistent with recent research on dual enrollment programs and student self-efficacy (Liu, Minaya, & Xu, 2026b). While some dual-enrollment students might discover that college is harder than anticipated, it seems that for most of the students we surveyed, this did not happen; instead, they felt more confident in their ability to do well academically and professionally than did their high school or college peers. This finding is especially significant because some researchers (e.g. Giani et al., 2021) have found that academic self-efficacy and college expectations are a better predictor of academic success than is academic preparation. Dual-enrollment students with higher academic self-efficacy are more likely to do well in their classes, at both the high school and the college level.

This is an interesting and relevant finding for the population of students who participated in this study, since they are largely rural students, who are, on average, likely to have a lower academic self-efficacy and have less access to curriculum intensity (Roberts & Grant, 2021). Dual enrollment programs, for these students, offer an opportunity to counter these gaps and potentially help bring rural students into alignment with their suburban counterparts, who are more likely to complete four-year degrees within six years (Roberts & Grant, 2021).

In addition, compared to traditional college students, who are managing a number of transitions, dual enrollment students are able to begin adjusting to college level academic requirements with fewer transitions to navigate. It is helpful to consider Nancy Schlossberg's theory of transitions (2011), which differentiates between anticipated transitions (such as going to college, graduating, getting married, or retiring), unanticipated transitions (such as job loss or a divorce), and nonevent transitions (such as not going to college when one planned to do so, or not having children). Although all transitions involve challenges, the way one navigates transitions is dependent on four major factors: situation, self, support, and strategies (Schlossberg, 2011). Dual enrollment students are navigating a significantly different situation and have different levels of support from their college peers because they are not moving out of their homes, living among new people and in a new place, and negotiating new friend groups. It is likely that, for college students, the pressures and challenges of navigating several transitions at once compounds the sense of perceived academic stress, while for dual enrollment students, the increased support structures of family and friends helps combat academic stress.

High school and dual-enrollment students were similar in their perceptions of the stress caused by the academic expectations placed on them by parents and teachers, with both groups experiencing more academic stress in this area than college peers. It makes sense that for both high school and dual-enrollment students, parental expectations about academic performance would be in the forefront of their minds. Parents are often notified of student grades and academic performance through programs like Progress Book, or other automated online alert program, and high school teachers often monitor grades on a fairly regular basis as well. This attentiveness to grades and academic performance can be helpful to students if it is accompanied by appropriate academic support, but too much pressure from parents and teachers can also increase anxiety, which in turn actually decreases academic performance, as well as leads to a variety of other unwanted effects such as depression and burnout (Haspolat & Yalcin, 2023). The parents of college students, in contrast, are less likely to monitor students' grades, not least of all because laws like

FERPA prevent them from doing so. Likewise, college faculty often perceive their students as adults and thus more responsible for monitoring their own learning and academic performance. There were no significant differences between the three groups in terms of perceived stress related to academic demands (encapsulated in perceptions regarding the difficulty of tests and the size of the workloads for classes).

The only significant difference in scores for the MHI-5 between the three groups was in the category of happiness. Despite their lower level of perceived academic stress, dual-enrollment students were less happy than college students. While higher academic stress has been demonstrated to correlate with higher levels of anxiety and depression, our results suggest that the *absence* of perceived academic stress does not necessarily contribute to overall happiness. Dual-enrollment students have the most academic confidence and are least concerned about not meeting academic expectations, and yet they are not the happiest group. College students show less academic confidence in themselves, yet they also show the highest levels of happiness. High school students who are not enrolled in college courses experience the highest amount of perceived academic stress *and* are the least happy. Interventions aimed at reducing academic stress for all these groups, then, are crucial.

It is interesting to note that we did not find any significant differences in the MHI-5 results related to anxiety or depression between the groups of students. Just as the absence of perceived academic stress does not correlate with increased happiness for dual enrollment students, perceived lower levels of anxiety and depression do not necessarily lead to increased happiness. This could be due to different happiness vs. anxiety/depression self-constructs, ceiling or floor effects with regard to within and between group variation that make detection challenging, context differences in what constitutes happiness or depression between groups, varying positive or negative stress coping mechanisms between groups that may change self-reporting, dimensionality in these variables, or likely some combination. Of more importance is that the average score on the MHI-5 for all students was consistent with those who could be diagnosed with mood disorders. According to Ten Have et al. (2024), scores on the MHI-5 lower than 68 are consistent with participants' results who have a mood disorder, and the average of each of the groups (overall average 63.10) surveyed were below that cut off point. These clinically abnormal scores for all groups could have contributed to an inability to detect differences between groups. This finding is in keeping with previous research that points to an increase in depression and anxiety for young people, high school and college alike.

## Implications

This research suggests that high school, dual-enrollment, and college students could all benefit from increased academic and mental health support. While dual-enrollment students are at no higher risk than their peers, and participation within these programs comes with the sizable benefits of dual enrollment for students, this does not negate the finding that dual-enrollment students, as well as high school and college students, need more mental health support than they are currently getting. Within interventions, particular attention should be paid to making sure that the specific needs of dual-enrollment students

are not forgotten, since their needs will span the needs of high school and college students. One avenue of increased support for dual enrollment students could be to encourage them to use the additional support services colleges offer, such as academic advising, tutoring services, and counseling and wellness. Though many dual enrollment students report knowing that these services are available to them, most of them do not use those supports (Adkins et al., 2025). Counseling and wellness services have an especially important role to play for dual-enrollment students, since mental health challenges are of concern for college and dual-enrollment students alike, and dual enrollment students are less likely to use the services than their college peers. This research suggests that part of dual enrollment orientations should include increasing and incentivizing the use of college services, including tutoring, advising, and counseling.

Future research in this area would be helpful, particularly with an attention to a more diverse sample, both in terms of demographics as well as location. Rural students tend to have lower college readiness compared to their suburban counterparts, and those differences increase within other categories such as race and socioeconomic status (Roberts & Grant, 2021). This may be one reason why rural students have been found to benefit more from dual enrollment than their urban and suburban peers (Edmunds et al., 2026). One of the limitations of our research sample was that it consisted primarily of White, rural students, and replicating this study with a broader diversity of participants would be beneficial, as would incorporating students from a wider variety of university settings. Extending this, adding to the sample size would facilitate more within and cross group comparisons incorporating a myriad of relevant interactions. Moreover, it would be helpful to compare perceived academic stress across other pertinent factors, such as credit hour course load, the modality of courses (online, hybrid, face-to-face at a college campus, face-to-face at a high school campus), and other obligations such as caregiving, athletics, and jobs. A larger sample size would allow for more meaningful distinctions between different aspects of student lives that may affect both their perceived academic stress and their mental health and well-being.

### **Disclosure Statement**

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements and received approval for the study undertaken in accordance with IRB Protocol #2025-799. Written assent was obtained from all participants, in accordance with the above IRB Protocol.

### **Acknowledgment**

*In the preparation of this manuscript, we utilized Artificial Intelligence (AI) tools for content creation in the following capacity:*

None

Some sections, with minimal or no editing

- *Some sections, with extensive editing*
- *Entire work, with minimal or no editing*
- *Entire work, with extensive editing*

## REFERENCES

- Acharya, L., Jin, L., & Collins, W. (2018). College life is stressful today – Emerging stressors and depressive symptoms in college students. *Journal of American College Health, 66*(7), 655-664. <https://doi.org/10.1080/074481.2018.1451869>
- Adkins, C., Manapat, P., García, L., & Bohlig, E. M. (2025). The varied nature of the dual enrollment student experience. *Educational Considerations, 50*(2). <https://doi.org/10.4148/0146-9282.2427>
- Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., Bruffaerts, R. (2016). Mental disorders among college students in the World Health Organization World Mental Health Surveys. *Psychological Medicine, 46*(14), 2955-2970. <https://doi.org/10.1017/S0033291716001665>
- Barbayannis, G., Bandari, M., Zheng, X., Humberto, B., Pecor, K. W., Ming, X. (2022). Academic stress and mental well-being in college students: Correlations, affected groups and COVID-19. *Frontiers in Psychology, 13*.
- Barendse, M. E. A., Flannery, J., Cavanagh, C., Aristizabal, M., Becker, S. P., Berger, E., Breaux, R., Campione-Barr, N., Church, J. A., Crone, E. A., Dahl, R. E., Deniss-Tiwary, T. A., Dvorsky, M. R., Pfeifer, J. H. (2023). Longitudinal changes in adolescent depression and anxiety symptoms from before to during the COVID-19 pandemic. *Journal of Research in Adolescence, 33*(1), 74-91.
- Bedewy, D. & Gabriel, A. (2015). Examining perceptions of academic stress and its sources among university students: The perception of academic stress scale. *Health Psychology Open, 2*(2).
- Bruns, C., LeVinness, P., Herman, M., Carusone, K. L., Chin, C., Hurst, T., & Fitzpatrick, N. Y. (2024). Annual survey for Association of University and College Counseling Center Directors. <https://taucccd.memberclicks.net/assets/documents/Survey/2023-2024%20Annual%20Survey%20Report%20Public.pdf>
- CDC. (2024). Youth risk behavior survey: Data summary and trends, 2013-2023. <https://www.cdc.gov/yrbs/dstr/pdf/YRBS-2023-Data-Summary-Trend-Report.pdf>
- Cheng, R., Yang, L., & Kang, S. (2025). A study on the relationship between high student's sleep quality, physical exercise, academic stress, and subjective well-being. *BMC Psychology, 13*(180).
- Duffy, M. E., Twenge, J. M., & Joiner, T. E. (2019). Trends in mood and anxiety symptoms and suicide-related outcomes among US undergraduates, 2007-2018: Evidence from two national surveys. *Journal of Adolescent Health, 65*(5), 590-598.
- Edmunds, J. A., Phillips, B., Mulhern, C., Hutchins, B. C., & Visser, M. (2026). The urban/rural divide: Exploring variations in dual enrollment participation and impacts

- by locale. *Journal of Research on Educational Effectiveness*, 1-21.  
<http://doi.org/10.1080/19345747.2025.2598263>
- Gandhi, S., Jordan, A., Glaman, R., & Morrow, B. (2024). Unmasking the impact of COVID-19 on the mental health of college students: A cross-sectional study. *Frontiers in Psychiatry*, 15.
- Giani, M. S., Krawietz, C. E., & Whittaker, T. A. (2023). The role of student beliefs in dual-enrollment courses. *Research in Higher Education*, 64(8), 1113-1142.
- Greif-Green, J., McLaughlin, K. A., Alegria, M., Costello, E. J., Gruber, M. J., Hoagwood, K., Leaf, P. J., Olin, S., Sampson, N. A., & Kessler, R. C. (2013). School mental health resources and adolescent mental health service use. *Journal of the American Academy of Child & Adolescent Psychiatry*, 52(5), 501-510.
- Haspolat, N. K., & Yalçın, İ. (2023). Psychological symptoms in high achieving students: The multiple mediating effects of parental achievement pressure, perfectionism, and academic expectation stress. *Psychology in the Schools*, 60, 4721-4739. <https://doi.org/10.1002/pits.23012>
- Hirshberg, M. J., Colaianne, B. A., Greenberg, M. T., Inkelas, K. K., Davidson, R. J., Germano, D., Dunne, J. D., & Roeser, R. W. (2022). Can the academic and experiential study of flourishing improve flourishing in college students? A multi-university study. *Mindfulness*, 13(9), 2243-2256.
- Johnson, J. M., Paris, J. H., Curci, J. D., & Horchos, S. (2024). Beyond college access: an exploration of the short-term impact of a dual enrollment program. *Journal of College Student Retention: Research, Theory, & Practice*, 26(1), 41-63.
- Liu, V. Y. T., Chelliah, B., Saunders, T., Ju, H., & Viera, C. (2026a). The more the merrier? The dosage effect of dual enrollment credits earned in high school on college enrollment and degree completion? *Research in Higher Education*, 67(1), <https://doi.org/10.1007/s11162-025-09872-4>
- Liu, V. Y. T., Minaya, V., & Xu, D. (2026b). The impact of dual enrollment on college application choice and admission success. *The Journal of Higher Education*, 97(1), 58–89. <https://doi.org/10.1080/00221546.2025.2521198>
- Paralkar, U., & Knutson, D. (2023). Coping with academic stress: Ambiguity and uncertainty tolerance in college students. *Journal of American College Health*, 71(7), 2208-2216.
- Rivera-Riquelme, M., Piqueras, J. A., & Cuijpers, P. (2019). The revised mental health inventory-5 (MHI-5) as an ultra-brief screening measure of bidimensional mental health in children and adolescents. *Psychiatry Res.* 274, 247-253.
- Roberts, J. K., & Grant, P. (2021). What we know and where to go: A systematic review of the rural student college and career readiness literature and future directions for the field. *The Rural Educator*, 42(2), 72–94. <https://doi.org/10.35608/ruraled.v42i2.1244>
- Schaller, T. K., Routon, P. W., Partridge, M. A., & Berry, R. (2025). A systematic review and meta-analysis of dual enrollment research. *Journal of College Student Retention: Research, Theory & Practice*, 27(1), 263–289. <https://doi.org/10.1177/15210251231170331>
- Schlossberg, N. K. (2011). The challenge of change: The transition model and its applications. *Journal of Employment Counseling*, 48(4), 159–162. <https://doi.org/10.1002/j.2161-1920.2011.tb01102.x>

- Shelton, A.J. & Owens, E.W. (2021). Mental Health Services in the United States Public High Schools. *Journal of School Health, 91*: 70-76. <https://doi.org/10.1111/josh.12976>
- Stromájer, G.P., Csima, M., Iváncsik, R., Varga, B., Takács, K., & Stromájer-Rácza, T. (2023). Stress and anxiety among high school adolescents: Correlations between physiological and psychological indicators in a longitudinal follow-up study. *Children, 10*(9):1548. <https://doi.org/0.3390/children10091548>.
- Ten Have, M., Van Bon-Martens, M.J.H., Schouten, F., Van Dorsselaer, S., Shields-Zeeman, L., & Luik, A.I. (2024). Validity of the five-item mental health inventory for screening current mood and anxiety disorders in the general population. *Psychiatric Research, 33*(3). Doi: <https://doi.org/10.1002/mpr.2030>
- Velasco, T., Fink, J., Bedoya, M., & Jenkins, D. 2024. The postsecondary outcomes of high school dual enrollment students: A national and state-by-state analysis. *Community College Research Center*. <https://ccrc.tc.columbia.edu/publications/postsecondary-outcomes-dual-enrollment-national-state.html>
- Verlenden, J. V., Fodeman, A., Wilkins, N., Jones, S. E., Moore, S., Cornett, K., Sims, V., Saelee, R., & Brener, N. C. (2023). Mental health and suicide risk among high school students and protective factors – Youth risk behavior survey. *MMWR Supplement, 73*(3), 79-86. DOI: <http://dx.doi.org/10.15585/mmwr.su7304a9>.

---

#### *Author bios*

---

**CHRISTINE JUNKER**, PhD, is a Professor of English in the School of Humanities and Cultural Studies at Wright State University. Her primary research interests include environmental literature, empathy and literature, and student success. Email: [christine.junker@wright.edu](mailto:christine.junker@wright.edu)

**DAVE D. HOCHSTEIN**, PhD, is an Associate Professor of Psychology in the College of Science and Mathematics at Wright State University - Lake Campus. His primary research interests include student anxiety, memory, and student success. Email: [dave.hochstein@wright.edu](mailto:dave.hochstein@wright.edu)

**JOSHUA RICKER**, PhD, is a Psychology Lecturer in the College of Science and Mathematics at Wright State University - Lake Campus. His research interests include the effects of experiencing awe on mental health, decision making, and concussions. Email: [joshua.ricker@wright.edu](mailto:joshua.ricker@wright.edu)

**ANGELA CLAYTON, MS**, is an Integrated Science Lecturer in the College of Science and Mathematics at Wright State University - Lake Campus. Her research interests include biostratigraphical analysis of bonebed formations, paleobiology of the Permian Extinction, and wetland remediation of nutrient rich waterways. Email: [angie.clayton@wright.edu](mailto:angie.clayton@wright.edu)

**JOELLE DE LISLE**, B.A., is a graduate student at Wright State University in the Leadership Development M.S. program. Her primary research interests include awe, stress and anxiety, overstimulation, and student success. Email: [joelle.delisle@wright.edu](mailto:joelle.delisle@wright.edu)

**STEPHEN J. JACQUEMIN**, PhD, is a Professor of Biological Sciences in the College of Science and Mathematics at Wright State University – Lake Campus. His primary research interests include wetland conservation, fish assemblages and freshwater habitat, environmental science, water quality, as well as student success and development. Email: [stephen.jacquemin@wright.edu](mailto:stephen.jacquemin@wright.edu)

---