STUDENT RETENTION: THE IMPACT OF SEASONAL AFFECTIVE DISORDER ON STUDENT SUCCESS

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Abstract

Student persistence and success are complicated phenomena with many factors. This qualitative research illustrates the impact of Seasonal Affective Disorder (SAD) on student persistence and success rates by comparing student experiences in New England, where winters are dark and long, and Florida, where winters are typically sunny and mild. This research aims to understand a new angle that may impact student retention rates and offer universities and policy makers data-driven strategies to increase student graduation rates.

Keywords: student retention, mental health, higher education.

Introduction

The connection between students' mental health and their academic success is strong and undeniable (Khalil, 2021; Holland, 2016; Eyler 2022). Academic persistence and success rates are deeply rooted in the emotional, psychological, and mental well-being of college students; many students suffer from high levels of anxiety and depression during their college experience (Holland, 2016). The literature on student retention and persistence has successfully examined the *traditional* factors—such as the institutional, academic, and social variables—that have a direct impact on college students' mental health (Khalil, 2021; Castello and Schwartz 2013; Clark, 2017; Eisenberg, Gollust, Golberstein, & Hefner, 2007; Holland 2016). Literature on student

retention cites the social aspect and the concept of connection to campus or the lack thereof as two of the foundations for students' mental wellbeing and sense of belonging (Tinto 1975, 1987, 2006).

As an offshoot of the social dimension and its impact on student retention, many studies have indicated that students are susceptible to struggles related to navigating the complexities of their social environments—a dynamic that leads to a lack of feelings of belonging among student populations (Horne, Anson, & Jacobson 2018). This hypothesis led to the following assumption and practice: If higher education institutions provide students with a strong social network, such a dynamic will protect their mental health, and by extension, their academic success will have better prospects (Tinto 2006; Morrow & Ackermann 2012; Davis, Hanzsek-Brill, Petzold, & Robinson, 2019; Horne et al., 2018).

Furthermore, and from a different perspective, the literature on student retention assesses the academic impact on mental health, and how such an impact could either hamper or fuel students' motivation (Eyler 2022). Another important aspect that has been the center of the research on student retention in the American higher education system is the financial aspect of attending colleges and universities and its impact on students' mental health (Khalil, 2021; Britt, Ammerman, Barrett, & Jones 2017). On this significant subject, the literature on retention successfully shows how the potential of a long-term debt is deeply concerning for many students, and how, subsequently, this dynamic has a powerfully negative impact on their mental health and their academic persistence and success (Nora, Oseguera, Mortenson, Mina, Morrison, Silverman, Tinto, Schuh, Ramirez, Salter, Lyons, Bibo, E., Burkum, Berger, Seidman, Astin, Hagedorn, LaNasa, Gansemer-Topf, Gabrera, & Crisp 2012).

While all of these points are edifying, a careful exploration shows that only a limited amount of literature on student retention has assessed the impact of seasonal affective disorder (SAD) on student persistence and retention. Additionally, while the scientific community offers evidence that less exposure to sunshine over a long period causes the seasonal affective disorder (SAD) (Dunham, 1992; Harrison, 2004), the research on retention has minimally considered the seasonal depression variable and its impact on student motivation and persistence. Often, the SAD phenomenon could be intensified for students who may encounter weather patterns that are significantly

different from what they have known and experienced in their respective states and home countries, as in the case of international students (Kampfer & Mutz, 2013).

Despite this fact, the literature on student retention has minimally examined the effects of climate-induced seasonal depression on college students' mental well-being and its connection to their academic persistence and success in the U.S. This subject has been investigated internationally, as the case is in a study entitled, "The Risk for Seasonal Affective Disorder (SAD) on Perceptions of Stress and Mental Health in Canadian University Students" (Kumar, Drysdale, & Callaghan, 2024). Similarly, in Pakistan, a study entitled "An Investigative Study of Seasonal Affective Disorder and its Influence on Students' Quality of Life in Peshawar, Khyber Pakhtunkhwa, Pakistan" explored the subject of the impact of the seasonal affective disorder on students' success (Khalil & Solehria, 2025). However, this topic has had a minimal examination in the United States. The seasonal affective disorder is a common and a recurrent phenomenon in large parts of the United States—with a more powerful and a noticeable impact in the northern states (Dunham, 1992; Mayo Clinic, 2023).

Bean and Eaton (2001) offer a retention model that focuses on the psychological aspect through four lenses: (1) attitude-behavior theory, (2) coping-behavior theory, (3) self-efficacy theory, and (4) locus of control theory—a combined, multi-sided model to student retention, in which, they assess internal and external factors that impact students' ability to persist. Particularly, the attitude-behavior theory posits that students' attitudes influence their behaviors: "When [students] develop positive attitudes toward their institution, feel they fit in, achieve good grades, and want to graduate from the school, they are more likely to succeed and graduate" (Bean and Eaton, 2001, p.85).

The second aspect of this retention model is the coping behavior theory, which focuses on how students handle academic stress (Bean & Eaton, 2001). The theory argues that students cope well with their college environment when they seek help to their academic problems instead of embracing an avoidance behavior and surrendering to stress: ". . . exposure to new and more effective problem-solving skills assist students in broadening their repertoire of coping skills. . . [and] allow students to persist under stress" (Bean & Eaton, 2001, p.79).

Self-efficacy theory, the third aspect of this retention model, is "an individual's perception of his or her ability to act in a certain way to assure certain outcomes" (Bean and Eaton, 2001, p.75). This aspect suggests that the social and academic skills students gain through peer interaction and academic experiences directly influence their integration and persistence—a concept that ties directly with Tinto's theory of academic integration (1975, 1978) and Astin's theory of student involvement (1999).

Bean and Eaton (2001) also propose the locus of control theory, which argues that "[a]n individual with an internal locus of control believes she or he is instrumental in her or his own successes or failures, whereas a person with an external locus of control believes past successes or failures are due to fate or chance" (p. 77). From this lens, students who possess an internal locus of control have higher persistence rates and a better likelihood for a successful academic experience (Bean & Eaton, 2001). Accordingly, further research to understand the connection between climate-induced depression and student retention, if, indeed, such a connection exists, is necessary. This paper aims to accomplish this goal and add another layer of data to the literature on student retention in the United States.

Theoretical Framework

The Seasonal Affective Disorder has a negative impact on mental health (Mayo Clinic, 2023). To assess the impact of SAD on student retention, the three researchers in this study chose the Bean and Eaton model (2001) because it offers a theoretical framework that "accounts for the role of psychological processes in traditional retention theory" (p. 74). This retention model is deeply rooted in the *psychological* dimension of student retention—factoring in the mental aspect and variables, such as students' values and personal character, and how these variables play a role in students' decisions to stay in college and cross the graduation line.

More specifically, through this multi-sided model, the researchers assess student retention from four lenses: (1) attitude-behavior theory, (2) coping-behavior theory, (3) self-efficacy theory, and (4) locus of control theory. Firstly, the attitude-behavior theory posits that students' attitudes influence their behaviors, so the stronger their existing attitudes are, the more persistent they become (Bean and Eaton, 2001). In this study, students' attitude toward the climate, whether positive or negative, influenced their behavior and their acclamation to the demands of their collegiate and academic

environment. When students' attitude is characterized by a rejection to the cold and dark weather around them, they become less likely to complete the assigned tasks.

Secondly, the coping behavior theory focuses on how students handle academic stress (Bean & Eaton, 2001). The theory argues that students cope well with their college environment when they demonstrate an approach behavior by seeking help for their academic problems, rather than embracing an avoidance behavior like withdrawing from college and surrendering to anxiety and stress (Bean & Eaton, 2001). In this study, students' attitudes toward dark and long winters dictate how they adapt and modify their behavior in a way that is geared toward solving problems and alleviating anxiety, rather than by dropping out or seeking admission at a different college with different weather patterns.

Thirdly, the self-efficacy theory suggests that possessing social and academic confidence that students develop through peer interaction and academic experiences directly influences their persistence and integration—a concept that ties directly with Tinto's theory of academic integration (1975, 1978) and Astin's theory of student involvement (1999). This study assesses how weather patterns impact students' social mobility and their ability to engage in on-campus activities that could enrich their connection to the college culture and alleviate the impact of isolation and seasonal depression.

Fourthly, Bean and Eaton (2001) also propose the locus of control theory, in which they argue that students who possess an internal locus of control have higher persistence rates, better chances to earn a good grade point average, and an increased likelihood for a successful academic and social integration into their campus culture. This study examines the impact of SAD on students' ability to control their internal emotions in a constructive way. In other words, it analyzes the extent to which students can maintain their motivation and commitment toward degree completion during moments of winter-induced depression. Accordingly, the Bean and Eaton (2001) retention model is the best theoretical framework for this study.

Methodology

To ensure the accuracy of the results in this empirical research, the three researchers created two research questions to offer the participants the opportunity to reflect upon their personal experiences, describe their feelings, and share their voices

candidly (Grossoehme, 2014). Accordingly, the researchers created the following guiding questions:

Does the climate impact students' academic persistence, as perceived by the participating students?

Does the climate impact students' choices of universities, as perceived by the participating students?

While there is a limited amount of both quantitative and qualitative studies on SAD and student success published, this qualitative study adds to the existing literature. Creswell and Poth (2018) argue that researchers conduct a qualitative study when the purpose is to explore a phenomenon. To understand the participants' experiences of living in cold and warm climates, and to capture their perceptions regarding the phenomenon of seasonal depression and its impact on their motivation during the academic year, the researchers chose a qualitative approach. Furthermore, the researchers purposefully chose two regions of the United States, New England and Florida, where climate is significantly different, to understand students' perspectives in both warm and cold environmental conditions. The researchers were unable to conduct a comparative study on the subject because of the lack of the requisite number of participants to warrant a quantitative study.

[1] Data Collection

A. Recruitment

The three researchers sent an email to students at their respective colleges and invited them to participate. The email explained the purpose of the study and the benefits of participating in it. The email also informed the participants of their right to confidentiality and the right to withdraw if they chose to do so. The email explained that participation is voluntary.

B. Population and Sample

The three researchers recruited college students as their primary population. The two selected sub-populations included college students in New England and another population of college students in Florida. Specifically, the three researchers invited ten New England students and ten Florida students to participate in this study. Eight Florida students agreed to participate, and two declined, whereas ten students in New England agreed to participate, and none declined (See Table 1). The participating students in New

England were all freshmen students, whereas the participating students in Florida had different academic classifications—including bachelor's and master's levels. The researchers chose to include these different groups of students to diversify the sample and get a collective view of how students perceive the impact of SAD on their success and motivation rates.

Table 1.

Location	Number of Participants	Response Rate	Age Group	Classification
New England	10	10/10	18 – 21	All Freshmen Students
Florida	10	8/10 2 students declined	18 - 35	3 Freshmen Students 5 Master's Students
Total Number of Participants	20	18/20		

The researchers used purposeful sampling because they wanted to collect data from students in the two regions where climate patterns are different, and this approach meets the objective of the study. The researchers also used convenience sampling because they targeted students in their own institutions to maximize participation. The research suggests that name recognition of professors increases students' participation in surveys and research studies when these professors invite students to participate (Saleh & Bista, 2017).

C. Procedure

The three researchers collected data in New England and Florida using 60-minute Zoom interviews, guided by a semi-structured interview protocol (see Appendix A). The interview protocol was designed with clear, neutrally phrased questions that avoided a leading language or assumptions. Thoughtful question construction is a well-established strategy for minimizing the influence of the interviewer on participants' responses, as emphasized by Patton (2015), who notes that neutral wording helps with eliciting the authentic perspectives of the participants. The three researchers intentionally used the interview tool to provide an opportunity to probe for additional thoughts and perspectives through conversations with the participating students. The participants

were informed that the interviews would be recorded and that they could turn their cameras off and change their screen names before the beginning of the recording. The participants were asked to describe their experiences and the impact of climate-induced seasonal depression on their motivation and will to persist in college during long and dark winters in New England and the warm and mostly sunlight days in Florida.

[2] Data Analysis

Creswell and Poth (2018) suggest that researchers conduct a qualitative study when the purpose is to explore a phenomenon through the voices of the participants. For this research, the phenomenon was capturing students' perceptions and sentiments toward long and dark winters as opposed to sunny months and their impact, if any exists, on students' motivation levels and persistence rates.

Creswell (2009) recommends that the researchers seek answers to questions, such as ". . . what general ideas are participants saying? What is the tone of the ideas" while conducting the data analysis of a study (p. 185). Additionally, Mayan (2009) recommends that researchers formulate themes by reviewing the codes to find broad and meaningful patterns that explain the research phenomenon and strengthen the data analysis process. For this study, student voices were extracted from interview transcripts by the three researchers who read, reread, annotated, and marked up the transcripts with their initial thoughts and emphasized them with codes. This process continued until a .80 inter-rater reliability rate was reached.

The researchers also used cross-checking of codes that they independently developed and used to evaluate the themes they arrived at independently (Creswell & Creswell, 2018). Then, the researchers followed a strict adherence to the coding system that they used to arrive at the emerging themes. The researchers also used rich and thick descriptors to convey the findings (Creswell & Creswell, 2018). Importantly, the researchers created the interview protocol in a way that aligns with the tenants of the theoretical framework—including self-efficacy, behavior, internal locus control, and attitude. The researchers' objective was to also align the interview instrument with the research questions (see Appendix A). The researchers used member checking by providing the participants an opportunity to change, add, or delete their responses where they chose (Merriam & Tisdell, 2016).

Data analysis was an inductive process that helped the researchers with coding and identifying straightforward patterns and themes which were then supported by participant voices to emphasize the formed conclusions (Thomas, 2003). The three researchers did one comparison based on a collective student population in New England against a collective student population in Florida without considering the variables of gender, race, classification, and age because the number of participants was not sufficient to examine these variables and their potential impact on the data. The researchers used inter-reliability through cross-coding because three researchers analyzed the data (Creswell & Creswell, 2018). As a result, the researchers identified many significant themes and presented them in the results section.

Results

The coding and data analysis led the three researchers to five emerging themes: (1) Winter as an Inhibitor of Academic Work, (2) The Effects of Daylight-Saving Time on Energy Levels, (3) The Comparison of the Effects of Summer vs Winter, (4) Climate as an Influencing Factor to Stay, and (5) Factors Beyond Weather Influence. The following section explores the emerging themes in detail.

Themes

(1). Winter as an Inhibitor of Academic Work*:*

The participating students shared their observations and described their energy levels regarding the completion of college-related assignments during the long and dark winter months in New England, where a part of the research took place. Similarly, the participating students in Florida expressed compatible opinions with their peers in New England regarding the impact of winter on their energy levels. Furthermore, students in New England have collectively emphasized winter's deenergizing power and how it noticeably decreases their motivation and mental ability to complete their academic obligations. As a case in point, a student from New England stated, ". . . I often feel tired and cannot focus when it's dark out." Another participant opined, ". . . I feel like my body is being told to go to sleep when it is dark and cloudy for a long time . . . and it's kind of discouraging when it comes to school." Moreover, a New England student made the following statement:

> . . . I go to school early in the morning when the sun is barely out, then I go to work in the afternoon, and I do not get out until 4:00ish [p.m.], and so,

> by then, the sun is already gone. . . so by the time I am home, I honestly feel like I have zero energy to do any assignments.

What is also noteworthy and consistent with the above perceptions is the following opinion by another participating student who stressed that winter "is depressing," while another participant characterized his mood as "pessimistic" and a returning student describing his general state as "lazy."

(2). The Effects of Daylight-Saving Time on Energy Levels:

Students from Florida communicated similar thoughts as their peers in New England regarding their energy levels; however, in Florida, rather than expressing concerns toward having long nights, students expressed that daylight-saving time affected them. During daylight-saving time, the days are shorter, and students felt there was a sense of physical confusion because the darkness led to their bodies feeling lethargic and tired, despite it being late afternoon. On this note, a student stated, "The time change sometimes does [reduce energy] because my body feels like it's a certain time, but then it's not." Additionally, one participating student in Florida said: "When I see it get dark outside, it's like my body feels like it's asking why it is so dark." One student specifically mentioned the impact of long nights on her academic progress, stating the following words: "I feel like, in the long days, I have more time, and short days just make me tired and lazy. My assignments get neglected." One Florida participant who is a mother of two children stated: "I feel groggy, and no energy, and my activities change" and "I am happier in the summer than in the winter."

(3). The Comparison of the Effects of Summer vs Winter:

Importantly, during the same interviews, participants from New England and Florida, alike, offered their perceptions on how summer and fall seasons, as opposed to winter, impact their mental health and their willingness to pursue their academic goals positively. One participant, for instance, said, ". . . when it's summer, I feel great! I feel like I can do so much, and the days are long, so I feel like I always have time to do stuff." Another student also stated, ". . . the fall season is my favorite, and I feel like I am always in a good mood, and that definitely motivates me to do well in school." Moreover, one of the participants opined: ". . . it is amazing to me how different of a person I feel when the seasons change. . . sunshine, I believe, is important for my mental health, so when the sun goes down early in the winter, I don't feel like I have the energy to do anything."

It is noteworthy to mention that Florida students mentioned repeatedly that they chose the state because of the warm weather and its effects on their ability to complete daily tasks and avoid illnesses. As a case in point, one student said, "I chose Florida because it's hot, and it helps me not get sick so much." Another participant also perceived his happiness to be attributed to warm weather when he said: "I am happier in the summer than in the winter." Another student mentioned that his decision to attend a university in Florida was directly related to weather and shared the following words: "I have family in Chicago, but it's too cold, so I chose Florida for its warm weather."

(4). Climate as an Influencing Factor to Stay:

Importantly, the impact of the diverse student classification on the findings remains unclear. Specifically, many participants expressed intentions to leave New England after the completion of their degrees and a desire to pursue employment opportunities in regions of the United States, where the climate is friendlier. These participants cited places, such as Florida, Georgia, and Texas, during the interview process. Such statements and opinions highlight the negative impact of seasonal depression—including the Seasonal Affective Disorder—on students' mental health, motivation, and the will to persist academically. Based on the data, the researchers found that this dynamic goes beyond the borders of academic experiences; it indicates that the participants seem to be interested in employment in regions that tend to offer a longer exposure to sunshine and warmer temperatures as a path for escape. This was the case in New England.

The participating students who are currently attending college in Florida reflected on their decision to choose their school with climate as an influencing factor. They emphasized how the warm and sunny climate had a positive impact on their feelings of wellness and good health. They agreed that the warm and sunny climate had a positive effect on their mental health, positive attitude and emotional well-being. In addition, the participants suggested that they had a higher energy level and felt more motivated to complete assignments because winters in the location of their university are relatively mild. Most of the participants would not consider climate as a major factor in choosing a specific employment location after graduation. This was the case in Florida.

(5). Factors Beyond Weather Influence:

Interestingly, however, and despite the various reasons students gave for attending their chosen university, when asked about staying after graduation, Florida students gave mixed opinions. Some specifically stated they would stay because of the weather, like this student who said: ". . . I love Florida, the weather, the culture, the sites that I can visit." In contrast, some students mentioned professional and athletic opportunities as their reasons for staying or leaving: ". . . my decision is based on the opportunities I can get. That's what will determine if I go or if I stay, not the weather." Another participant in Florida said: ". . .weather will not be an influence in my decision; it will be my professional opportunities, jobs." Others believed they have better lives back home despite weather patterns. On this note, one participant stated, "The climate does not impact this decision. I will go home where I have a better life there."

Implications

This study suggests the need to address the mental health and wellness of university students to help them with their mental, emotional, and psychological development as it relates to climate-influenced challenges. The National Institute of Health (2023) points out that research supports the notion that sunlight regulates brain chemicals that affect mood, perhaps prompting negative thoughts or actions when sunshine is absent for a long period, as the case is during winters in places like New England. Resulting consequences include a significant impact on academic productivity. The absence of sunlight in New England seems to be an added source of depression among college students.

What makes this issue significant is that, according to the participants' responses, it adds a new layer of depression to an already existing and ubiquitous phenomenon of depression and anxiety cases among college students in America. In one university located in the southeastern part of the United States, statistics that were shared in March 2023 indicated the importance of this issue. Specifically, the gathered statistics indicated that about 14% of campus students (387 individuals) sought mental health assistance during the academic year of 2022 - 2023. In addition, the statistics also showed that mental health hospitalizations during the same academic year were at the highest level on record.

Furthermore, access to online services with college counselors, since the beginning of the 2022-2023 academic year through March of 2023, was up 40.3%. The

same data also indicated that after-hours crisis calls and safety assessments during the previous 12 months reached a total of 129—the highest figure over the past 16 years. What is also noteworthy was the fact that prevention outreach and mental health awareness events impacted 1062 students over 39 different events, which was also the highest recorded student percentage that needed mental health services, according to the university's Office of Counseling Services.

Therefore, providing services in the areas of individual counseling and therapy by licensed professionals, group counseling, community networking, and referrals is a reliable strategy to enhance student wellness and retention (NIMH, 2023). In addition, offering preventive education in the areas of substance abuse, relationship issues, eating disorders and anxiety and depression may be beneficial. Providing free and accessible services that are confidential to the extent allowed by law should be available to students 24 hours a day, seven days a week. What is especially important is the access to after-hours crisis calls. It's imperative to recognize the needs of college-age students beyond the classroom. While only focusing on the variable of climate, this study can lead the call to action for enhanced attention to the well-being of university students.

Recommendations

A limited amount of research has been conducted to examine the impact of climate and Seasonal Affective Disorder (SAD) on students' motivation and success rates. The objective of this study was to view other variables that may influence student retention rates and reveal the effects of long winters on student retention, motivation, and mental health. The results of this study add to any existing literature on this subject, and they hand policy makers recommendations for policy changes and possible practices that can mitigate the impact of this issue in places like New England and other regions in the United States that traditionally have long and dark winters.

The researchers recommend establishing Break Halls—large rooms on campus with bright lights, such as what is locally known as "happy lights" or projector-like lights. Equipping halls with this type of light boxes can be helpful because they ". . . are designed to deliver a therapeutic dose of bright light to treat symptoms of SAD" (Mayo Clinic, 2022). Asher's research (1982) found that, a "daily regimen of exposure to high-intensity full-spectrum fluorescent lights . . . buoys the mood of some depressed patients who suffer from seasonal disturbances" (p. 595).

This practice can offer students who may suffer from Seasonal Affective Disorder a break from the oppressive darkness of winters by simulating day light on campus. Research on this subject found that a "light therapy box mimics outdoor light . . . [which] may cause a chemical change in the brain that lifts [the] mood and eases other symptoms of SAD, such as being tired most of the time and sleeping too much" (Mayo Clinic, 2022). In cases of funding challenges, the researchers recommend seeking grants to provide the necessary equipment for break halls.

Additionally, the researchers recommend increasing the frequency and the physical presence of social activities to keep students engaged, energized, and connected to campus. This recommendation also aligns with Tinto's Theory of Integration (Tinto, 1975, 1987, 2006) and Astin's Theory of Student Development (1999)—theories that underscore the importance of students' sense of belonging to campus as a motivator for college completion. Moreover, the researchers recommend increasing the availability of licensed counseling professionals and mental-health experts on campus—especially during the winter months. Following this recommendation would provide an essential practice for addressing this issue that, evidently, has a wide impact on many students' mental well-being in the American college system.

Finally, given the novelty of this dimension, the impact of seasonal depression on student success, the researchers believe that further assessments of this issue are worthy. One area to expand this research is to look at other geographical locations with stark climatic patterns to collect and assess more data. Another area that could help with expanding this study is character. The researchers realize that personality traits could also be potential variables that may have an impact on student success during harsh weather and challenging climate conditions. Perseverance, patience, motivation, and persistence can all be the subject of climatic influence during winter; therefore, the researchers recommend furthering this study to include character traits as variables in assessing the impact level of seasonal depression on student success. Expanding this study can provide data-driven guidance for universities and help them craft better retention strategies, a more effective support system, and higher retention, persistence, and success rates.

Conclusion

The researchers used the Bean and Eaton model (2001), which offers a psychological lens to examine the impact of the Seasonal Affective Disorder (SAD) on student success rates. The researchers assessed students' attitudes toward the climate, whether positive or negative, and how these attitudes influenced their behavior and their coping levels to the demands of their collegiate and academic environments. Students' attitudes, the acceptance, rejection, or coping with the cold and dark weather, gave an indication of their ability to persist in their chosen institutions.

In two culturally and climatically different regions of the United States, New England and Florida, the three researchers interviewed students with different classifications. The objective was to examine students' experiences, assess their observations, and hear their voices regarding their college experiences during the long and dark winters of New England, as well as the mild and short winters in Florida. Another purpose of this study was to widen the circle of assessment of other potential variables that may impact student retention rates.

In thinking outside of the box and looking beyond traditional and institutional factors that may impact student success, the researchers sought to add a new dimension to the literature on student retention—an issue that, for decades, has experienced ebb and flow that significantly impacted and continues to impact the financial well-being of higher education institutions in America.

Appendix A

Interview Questions. The interview should last no more than 60 minutes.

1. Does the exposure to sunshine or the lack thereof impact your mood? In what ways do long nights during winter impact your energy levels and motivation? Explain.
2. Does the climate, in general, impact your desire to engage in activities? Do you feel a difference in your willingness or motivation to complete your assignments during winter and overcast days as opposed to sunny summer days? Explain.
3. Do seasonal changes impact your optimism about your academic success? Please describe your feeling/perception.
4. Do seasonal changes impact your sleep and ability to focus on your academic tasks? Please describe your feeling/perception.
5. Does the climate impact your decision on which region you may choose to attend your college/university? Does the climate impact your decision on whether to stay or leave the region where your selected college is located after graduation?

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