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Empowering Undergraduate College Students through Behavior Modification: Perceptions, Self-Esteem, and Self-Efficacy in Promoting Positive Health Behavior Changes

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Abstract. This study examines the influence of behavior modification interventions on the self-efficacy and self-esteem of undergraduate college students during their transition to higher education. Participants engage in a behavior modification assignment, and their experiences are assessed through pre- and post-surveys and reflective inquiry responses. Through a mixed-methods approach, the research sheds light on how behavior modification strategies empower students to adopt physical and mental health habits, with the potential to enhance their psychological well-being and academic success. This study contributes to a deeper understanding of effective interventions to promote undergraduate well-being within educational contexts.

The empowerment of undergraduate college students to adopt and maintain positive health behaviors is important for their overall well-being and academic success during their transition to higher education. Wrench et al. (2014) noted that students reported an overall decline in health and well-being during their transition to university, attributing factors such as increased stress levels, loneliness, poor diet, lack of sleep, and reduced physical activity to this decline. Edwards et al. (2021) found that the absence of parental and family presence increased stress among first-year college students as they navigated this new phase independently. Finally, Walker (2022) supported this finding, noting challenges associated with the need to establish new routines in an unfamiliar environment without the support of family and friends, as well as social pressures, academic demands, and financial burdens. The disruptions caused by the COVID-19 pandemic further exacerbated these challenges, emphasizing the urgent need for enhanced support in promoting students' mental health and well-being (Worsley et al., 2022).

The present study aims to contribute to the existing body of knowledge by investigating the role of behavior modification in empowering undergraduate college students to adopt positive health behaviors. Specifically, this study focuses on examining the impact of behavior modification using basic operant conditioning principles on students' perceptions, self-esteem, and self-efficacy, and how these factors contribute to promoting positive health behavior changes. Students will participate in a behavior modification activity focused on changing personal habits by applying positive reinforcement strategies within a structured reinforcement schedule, including fixed ratio, variable ratio, fixed interval, and variable interval schedules as described in Skinner (1953). It is hypothesized that undergraduate students who engage in behavior modification incorporating goal setting and positive reinforcement will exhibit significant improvements in self-esteem and self-efficacy, which will positively influence their adoption of healthier behaviors compared to those who do not engage in such strategies. By understanding the relationships between these variables, the study seeks to inform the development of effective interventions and support strategies that can be integrated into the college curriculum to enhance student well-being.

The Role of Self-Efficacy and Self-Esteem

Self-efficacy is a concept introduced by Bandura (1977), who described the concept as one's ability to competently execute tasks and overcome obstacles. Since its introduction to the field of psychology, it has been identified as a significant factor in promoting well-being (Mascia et al., 2023). Higher levels of self-efficacy are associated with engagement in health-promoting behaviors, resilience, and greater life satisfaction. Similarly, self-esteem, referring to one's overall positive or negative feelings about oneself, significantly influences psychological well-being (Orth et al., 2020; Rosenberg, 1965). High self-esteem is associated with confidence, resilience, and positive outcomes, while low self-esteem is linked to negative consequences such as depression, anxiety, and difficulties in interpersonal relationships.

General self-efficacy has been found to play an essential role in mental health and resilience among college students (Qin et al., 2023). It positively predicts students' mental health status and psychological resilience, particularly during challenging times like the COVID-19 pandemic. Enhancing general self-efficacy through training equips undergraduates with skills and beliefs that promote resilience and improve their mental health status (Qin et al., 2023).

Promoting Student Well-Being and Mental Health in the University Environment

According to research conducted by Lockwood and Wohl (2012), incorporating instructional activities into the curriculum can promote behavior change in college students. They found that education alone was insufficient, but when combined with behavioral skills, psychological variables, and behavior change variables, learning and behavior change can occur. Positive impacts on physical self-efficacy were observed. Similarly, Conley et al. (2013) emphasized the importance of course-based interventions, such as a psychosocial wellness seminar, to promote adjustment and stress management in first-year college students. Their approach aimed to meet diverse needs and reduce barriers to seeking help. Edwards et al. (2021) suggested embedding well-being activities into the curriculum as a means of providing holistic support for students throughout their university journey. These studies support the inclusion of instructional activities in the curriculum to promote behavior change, mental health, adjustment, and overall well-being in college students (Conley et al., 2013; Edwards et al., 2021; Lockwood & Wohl, 2012). Further, Dvořáková et al. (2017) found that given the opportunity, students chose to participate in trainings focused on stress management. They also indicated an interest to take a course for credit that focused on similar information. Ongoing research is required to evaluate the effectiveness of activities that promote student well-being to identify the most beneficial approaches (Mascia et al., 2023).

Coping, Resilience, and Behavior Modification

The COVID-19 pandemic brought about substantial changes in coping mechanisms and resilience among young individuals (Sum et al., 2023). Effective coping strategies are necessary for managing and adapting to stressors, maintaining mental health, and reducing stress levels. Resilience, on the other hand, enables individuals to bounce back from adversity, adapt to challenges, and maintain well-being in the face of stressors (Masten, 2014). Behavior modification, the systematic application of learning principles, particularly reinforcement and punishment, to change behavior in a desired direction, can facilitate positive behavior changes (Miltenberger, 2016). These positive behavior changes can effectively support college students in developing healthy coping strategies and enhancing resilience by providing practical tools to cope with stressors and change problematic or unhealthy behaviors. Coping strategies and resilience play vital roles in behavior modification and overall well-being, particularly among first-year undergraduate students who often lack formal teachings and support in mental health, well-being, and resilience (Edwards et al., 2021). It is essential to address this gap by promoting healthier habits such as exercise, sufficient sleep, and a nutritious diet, as supported by Villarino et al. (2022).

Fostering positive health behaviors among undergraduate students is important for their overall well-being and academic success during the transition to higher education. Behavior modification serves as a mediator in addressing challenges during this transition, providing students with practical tools and strategies for making positive changes. This study is significant because it examines how positive behavior changes affect students' self-esteem and confidence, helping to create better support strategies. By studying changes in self-esteem and confidence after a behavior modification activity and exploring how students feel about their well-being, the results will provide useful insights into the connection between behavior changes and mental health.

Methods

Participants

The study's final sample ($N = 57$) consisted of undergraduate students between ages 18 and 22 enrolled in General Psychology at a private, non-profit university in the southwest United States. Demographic data on gender showed that 61.4% of participants identified as female ($n = 35$), 36.8% identified as male ($n = 21$), and 1.8% identified as non-binary ($n = 1$). All participants were recruited from three sections of General Psychology taught by the primary investigator. General Psychology is a course required by many disciplines at the university, and selecting from these courses ensured that all students had the same instructor when being introduced to the concepts of reinforcement and that a variety of majors were represented in the sample. Following a lesson and activity describing the basic principles

of behaviorism established as part of the normal curriculum, participants were given the option to participate in this study to engage with the concepts beyond the classroom.

Initially, students ($n = 124$) completed the pretest and activity packet. After participating in the behavior change activity, students ($n = 95$) completed the posttest, indicating that they completed the behavior modification activity. Of these 95 participants, 38 records were unable to be matched based on the unique codes generated during pretesting. Students were asked to generate and remember their codes based on the first two letters of their mother's maiden name and the last four numbers of their student ID and during data matching, these 38 posttest records did not have a pretest match. It was impossible to determine whether these participants only completed the posttest or inaccurately entered their code during one of the two testing periods. This attrition resulted in a final sample size of ($N = 57$) used for quantitative analysis. All participants who completed the posttest ($N = 95$) were used for qualitative analysis, as these responses did not necessitate matching records.

Materials

Self-Esteem

Self-esteem was measured using the Rosenberg Self-Esteem Scale (Rosenberg, 1965, see Appendix A). This widely used instrument provides a quantitative measure of self-esteem by evaluating overall positive or negative feelings about oneself and self-worth. Individual items are measured on a Likert scale between 1 and 4 (1 - strongly disagree, 4 - strongly agree) with five reverse coded items. The scale has excellent reliability, with test-retest coefficients ranging between .82 to .88, and Cronbach's alphas between .77 to .88 in various populations (Rosenberg, 1986). While these test-retest reliabilities recognize the Rosenberg Self-Esteem Scale's effectiveness in measuring consistent changes in self-esteem over periods of time, it calls into question its effectiveness in capturing smaller changes over a 2-week period. Given the scale's reliability, any statistically significant change in mean scores across time points would likely reflect genuine shifts in global self-esteem, rather than measurement error. However, the Rosenberg Self-Esteem Scale may not be optimally sensitive to capturing small or state-level fluctuations in self-esteem. Addressing this limitation, qualitative questions were also examined so that students would reflect on their changes in these variables in their own words.

Self-Efficacy

Self-efficacy was measured using the General Self-Efficacy Scale (see Appendix B). Individual items capture healthy coping strategies and indicate an internally focused attribution of success. Self-efficacy is related to an individual's subsequent behavior, making it an appropriate tool to investigate feelings of efficacy following a behavioral modification activity aimed at improving overall well-being. The scale has Cronbach's alphas between .75 to .90, demonstrating excellent reliability (Schwarzer & Jerusalem, 1995), and is a widely used measure of self-efficacy in behavioral sciences. Whether the General Self-Efficacy Scale can capture small changes in self-efficacy over a two-week has been examined. Ohno and colleagues (2017) administered the survey to 154 young adults and found that only changes above 4.33 points could be considered beyond measurement error. While this would be a large change to expect, the scale was implemented to measure these changes, as the nature of the assignment promotes strong changes in personal accountability, control, and ultimately, self-efficacy. To address the limitation of the scales sensitivity, follow-up qualitative questions were asked so that students could describe their experiences and feelings in addition to quantifying them.

Qualitative Measures

To supplement the quantitative instruments, a series of open-ended qualitative questions were included in the posttest to explore students' psychological changes and perceptions related to self-efficacy, self-esteem, and overall health and well-being. These questions allowed participants to reflect on their experiences in their own words, offering deeper insight into the personal impact of the behavior modification activity. Responses were collected through four open-ended prompts designed to align with specific psychological constructs. Thematic analysis of these open-ended responses allowed the researchers to identify patterns and insights not captured through quantitative measures.

Self-Efficacy. To examine changes in students' beliefs about their ability to manage and influence behavior, participants responded to the following questions: (1) "Did your beliefs regarding your ability to alter your behavior

change over the course of this project? Explain,” and (2) “Did your feelings regarding your control over healthy behaviors change over the course of this project? Explain.” These questions were intended to capture shifts in perceived behavioral control, confidence, and motivation in line with the construct of self-efficacy (Bandura, 1977).

Self-Esteem. Although no question explicitly referenced self-esteem, responses to the question, “Did your beliefs regarding your ability to alter your behavior change over the course of this project?” often reflected students’ evaluations of their capabilities, emotional growth, and self-worth—key elements associated with global self-esteem (Rosenberg, 1965).

Perceptions of Health and Well-Being. To assess students’ awareness and attitudes toward their own well-being and lifestyle choices, the following questions were included: (1) “Did participation in this assignment make you more aware of habits related to your overall health and well-being? Explain,”

Behavior Modification

The behavior modification assignment occurred over a two-week period. All participants met with the researchers to complete all pretesting and a Behavior Modification Packet (see Appendix C). In this packet, students defined a behavior they would like to change, a reinforcement type, and a reinforcement schedule. Students were directed to choose a behavior and reinforcement that could be implemented on a daily basis, requiring students to engage in daily reflection regarding their success in accomplishing the behavior change. Students tracked their participation in the packet for two weeks and returned it to the researchers during the final meeting and posttest.

Procedure

All participants and researchers met in a classroom for pretesting. After a brief description of the study, participants were given informed consent and a link to the pretest. During the pretest participants completed the Rosenberg Self-Esteem Scale, the General Self-Efficacy Scale, and demographic information. Participants also completed the Behavior Modification Packet, identifying the behavior and reinforcement type they would implement over the next two weeks. Instructions were given regarding how to track progress using the packet, and a posttest was scheduled two weeks from the pretest.

During the posttest, participants completed the Rosenberg Self-Esteem Scale and the General Self-Efficacy Scale. In addition to these measures, participants answered one open-ended question regarding how the experience changed perceptions of their own habits and overall well-being. Students returned their packets and were thanked for their participation.

Results

Descriptive Results

Descriptive results were generated for each variable, including mean, standard deviation, minimum and maximum values, skewness, and kurtosis. Results for pretest and posttest variables self-esteem and self-efficacy are presented in Table 1.

Table 1

Paired Samples t-Test Results for Pretest and Posttest Self-Esteem and Self-Efficacy

Variable	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD	<i>t</i> (56)	<i>p</i>
Self-Esteem	3.56	0.57	3.70	0.50	-2.75	.008
Self-Efficacy	2.95	0.44	3.18	0.44	-5.78	< .001

Hypothesis Testing

Two paired sample *t*-tests were conducted to examine changes in the self-esteem and self-efficacy variables before and after the behavior modification activity. All assumptions of the paired sample *t*-test were examined and satisfied before conducting the analysis. Results revealed a statistically significant change in self-esteem, $t(56) = -2.75$, $p = .008$ and a statistically significant change in self-efficacy, $t(56) = -5.78$, $p < .001$. These results support the overarching

hypotheses of the study and lend evidence to the idea that actively participating in meaningful behavioral change by applying basic principles of psychology can improve students' sense of efficacy and increase self-esteem.

Qualitative Results

Thematic analysis was conducted using NVivo software to systematically code and organize the qualitative data. In accordance with best practices in qualitative research, the research team began by thoroughly familiarizing themselves with the data through repeated reading to identify initial impressions. An inductive coding approach was used, allowing themes to emerge naturally from the data rather than applying a predetermined framework. NVivo supported the creation and management of codes, the development of node hierarchies, and the exploration of patterns across responses. To enhance the trustworthiness of the analysis, codes were reviewed and refined collaboratively to ensure consistency and alignment with participants' language. This process followed the thematic analysis guidelines outlined by Braun and Clarke (2006), and resulted in the identification of several key themes, which are described below.

Health and Well-Being

Students were asked, "Did participation in this assignment make you more aware of habits related to your overall health and well-being? Explain." A majority of students (89) reported that participation increased their awareness, while 6 reported no increase or a slight increase in awareness (see Table 2). Within the explanations that students provided, awareness of habits and behaviors and self-reflection and personal growth were two main themes that emerged.

Table 2

Survey Question Responses

Response	Frequency	Percentage
Yes	89	93.68%
No	5	5.26%
Somewhat	1	1.05%
Total	95	100.00%

Note. The above questions asked about students' awareness of their habits.

Awareness of Habits and Behaviors. Many participants noted that the assignment heightened their awareness of daily habits and behaviors. As participants tracked behaviors, they became more mindful of activities like eating, drinking water, sleeping, and managing screen time. Students noted, "it made me more aware of the amount of water I'm drinking and what I drink other than water"; "It made me more aware of how often I stay up late and of how little sleep I actually get due to that"; and "I realized I was wasting too much time on the phone." While students didn't uniformly report a heightened understanding, their participation illustrated how their actions and choices influenced their well-being and productivity. It also revealed areas for potential improvement.

Self-Reflection and Personal Growth. Self-reflection was a predominant theme in responses that students shared. Participation in this activity led to realizations about their routines, habits, and choices. For instance, one student shared, "This assignment showed me that journaling is a habit I should be making time for based on how it affects my day. I notice when I journal it releases emotions I may have been holding back and it allows me to start fresh the next day." Another participant mentioned, "I became aware of how much work I could get done just by setting aside a bit of time." Self-reflection allowed participants to evaluate their habits critically and consider choices they could make to improve their well-being.

Students were also asked, "Did your beliefs regarding your ability to alter your behavior change over the course of this project? Explain." Forty-seven students reported that their participation lead to altered beliefs regarding ability to change their behavior, while 36 students reported it did not alter their beliefs, and 11 reported that it somewhat impacted their beliefs. Student responses were classified into the following themes: belief in potential, effort/discipline, confidence, challenges, and reflection.

Table 3*Survey Question Responses*

Response	Frequency	Percentage
Yes	47	50%
No	36	38.30%
Somewhat	11	11.70%
Total	94	100.00%

Note. The above questions asked about students' beliefs regarding their ability to change their behavior.

Belief in Potential. This theme focuses on individuals' personal beliefs regarding their ability to change their behaviors and make meaningful improvements in their lives. It stems from a sense of self-confidence and a realization that personal change is achievable. Participants identifying this theme expressed their ability to pursue and achieve their goals through determination. One student noted, "I felt like I was going to be able to be successful in this. Especially with a reward for myself, I had motivation to alter my behavior and complete my task."

Effort/Discipline. Participants who align with this theme acknowledge that achieving their desired changes requires consistent hard work and a commitment to maintaining discipline over time. One student noted, "At first I thought it was really easy before I started but then I realized how difficult it was to stick to it every single day but as the days went on, it got a little easier." They believe that putting in the necessary effort is essential for achieving positive outcomes, as noted in this student's response, "I believed that changing my behavior could be done if I was willing to put in the effort."

Confidence. Participants within this theme displayed varying levels of confidence in their ability to change behavior. Some students displayed confidence from the outset. One student noted, "Going into the project I knew that if I put my best effort into something, I had the power to change it." Others initially expressed doubts but ultimately revealed growing confidence as they engaged in the behavior change process, highlighted in this response: "I thought it would be more difficult than it ended up being."

Challenges. This theme illustrates possible and real challenges encountered during behavior change attempts. One student expressed concern about the potential loss of motivation shortly after beginning the activity. Another student noted, "There were some days I didn't want to journal but I would motivate myself to truck forward." It became evident to many that in order to persist, determination was the key, as noted by one student: "After a while I started to tell myself that I could do it and I just needed to keep pushing myself." Finally, it was noted that self-defeating thoughts prevented success, as illustrated in this comment, "I more so did not believe that I would allow myself to be determined enough for this behavior change, and quit too easily."

Reflection. Participants in this theme reflected on the positive impacts of behavior change and their accomplishments throughout the process. One student noted, "Towards the end I stopped look[ing] at the goal as something I had to do and rather something I wanted to do in order to feel better about myself." They mention feeling proud and motivated to continue changing their behaviors for the better, as indicated by the response, "It made me want to start changing other behaviors as well."

Self-Esteem and Self-Efficacy

Students were asked, "Did your feelings regarding your control over healthy behaviors change over the course of this project? Explain." Fifty-four students reported that their feelings related to control over healthy behaviors changed, while 31 students reported participation did not alter their feelings, and six reported that it somewhat impacted their feelings. These findings are elaborated on in Table 4.

Table 4*Survey Question Responses*

Response	Frequency	Percentage
Yes	54	59.34%
No	31	34.07%
Somewhat	6	6.59%
Total	91	100.00%

Note. The above questions asked about students' feelings related to their control over healthy behaviors.

The responses provided by students were classified into four themes: control, behavior change, benefits, and self-reflection.

Control. This theme focuses on understanding and recognizing the power to control one's actions and behaviors. Participants reported feeling stronger because they realized they could make choices and changes in their lives. Responses focused on how control over what they do makes them feel more empowered.

Behavior Change. Participants exhibited a strong awareness of their own influence over their behaviors within this theme. They recognized that making intentional changes could achieve positive results. Whether it was improving sleep, managing cravings, or achieving personal goals, participants reported the realization that prioritizing healthy habits had positive impacts and lead to favorable outcomes.

Benefits. This theme highlights the positive results that participants observed or felt as a result of making behavioral changes. These changes were related to health, well-being, productivity, or other aspects of life. Participants shared how the improvements in their behaviors led to increased happiness, enhanced physical health, improved mood, greater energy, and positive effects on their daily lives.

Self-Perception. This theme focuses on participants' thoughts about themselves and their capabilities as they participated in behavior change. Participants discussed their shifting mindset which stemmed from the realization that they can make positive changes in their lives. The potential for change, increased self-confidence, and optimistic outlooks were compared with previous doubts they had regarding their ability to change.

Table 5

Survey Responses Thematic Analysis

Theme	Characteristic Response
Control	"Yes, I became more aware and now know that I am 100% capable of making changes in my life that I want to make."
	"Yes, I realized I have more control over myself and I can make changes to improve my lifestyle."
	"Yes, it made me realize how much control I actually have but don't make an effort for."
	"Yes, it gave me perspective on how I am in control of what I do."
	"Yes, I believe I have more control than I initially thought."
Behavior Change	"Yes, because just like my other answer, sleeping was just an example of how I could change my behavior for good. Getting more sleep made me more happy [sic] which helps a lot in the classroom since I'm paying attention to the lesson and not to my tired body."
	"Yes, I realized I was stronger than I am with healthy habits because it may be hard but health is a priority."
	"Yes, I found myself having more control over my cravings and choosing healthier food options."
	"Yes, I knew beforehand that I could manage and change the behavior if I really wanted to."
	"Yes, the more I accomplished my goals, the better I felt."
Benefits	"Yes, I realized I was able to reduce my time on social media this week and channel that free time towards journaling."
	"Yes, I felt more energetic and my mood changed to a positive attitude."
	"Yes, I now see the necessity in being active every day and the positive impact that it has."
	"Yes, the more I became aware, the more control I had."
	"Yes, I felt that I had more control, that I was being healthier because I was being more active and being more aware of my eating habits."
Self-Perception	"Yes, I think now that if I really wanted to, I could change myself for the better and I didn't think that before."
	"Yes, I know that I can change any negative behavior and turn it into a positive one over time."
	"Yes, I now know I can change my behavior, and although it may be hard at times, I can stick to it and succeed."
	"Yes, I found that once I put my mind to it, I was able to change my behaviors to be healthy."

Note. Students responded to the open-ended survey question: Did your feelings regarding your control over healthy behaviors change over the course of this project? Explain.

Finally, students were asked to respond to the following: “Do you think that participation in this activity empowered you or made you aware of changes you can make to improve your overall well-being? Explain.” 86 students (91.49%) reported that participation in this activity empowered them or made them more aware of changes they could implement to improve their well-being. These individuals generally expressed a sense of empowerment, motivation, and increased awareness regarding behavior change and overall well-being. They acknowledged the positive influence of the activity on their habits and mindset, mentioning improved physical health, mental well-being, and the ability to make lasting changes.

Eight students (8.51%) reported that participation had minimal or no impact on their behavior. Some of these individuals continued with their existing habits or routines and did not perceive any significant change as a result of the activity. One student reported that in not achieving the desired change, they actually felt defeated rather than empowered.

Table 6

Survey Responses Thematic Analysis

Theme	Characteristic Responses
Positive Impacts	“Yes, I was constantly thinking what behavior I could change next, using the same formula used in this study. I felt like I could be a better version of myself by doing this [sic] small changes over time. I felt empowered of myself, like I had control.”
	“Yes, making small changes can most definitely improve my attitude and also improve my wellbeing.”
	“100% yes. I think if I gradually made small changes that become bigger that I can achieve, I will for sure be a better person overall.”
	“I believe that participation in this activity did empower me and make me more aware of changes I needed to make. While I am not perfect, being able to assess my situation and think of ways to improve is extremely beneficial.”
No Impacts	“No, I continued to live the same way.”
	“No because I want to make a positive changes [sic] at all times no matter the circumstances.”
	“I do not think that participation in this activity empowered me to make changes to improve my overall wellbeing because I feel defeated and like I wasn't able to accomplish the goals I set for myself.”

Note. Students responded to the open-ended survey question: Do you think that participation in this activity empowered you or made you aware of changes you can make to improve your overall well-being? Explain.

Discussion

Quantitative Results

The purpose of this study was to examine whether a behavior modification activity rooted in principles of reinforcement would lead to measurable changes in students’ self-esteem and self-efficacy. Quantitative results supported the hypothesis, showing statistically significant increases in both variables following the two-week intervention. A paired samples t-test revealed that participants experienced a significant improvement in self-esteem from pretest ($M = 3.56$, $SD = 0.57$) to posttest ($M = 3.70$, $SD = 0.50$), $t(56) = -2.75$, $p = .008$. Similarly, self-efficacy scores increased significantly from pretest ($M = 2.95$, $SD = 0.44$) to posttest ($M = 3.18$, $SD = 0.44$), $t(56) = -5.78$, $p < .001$.

These findings suggest that applying basic behavioral principles—such as positive reinforcement, goal setting, and daily tracking—can lead to meaningful improvements in students’ psychological well-being. According to Bandura (1977), self-efficacy refers to an individual’s belief in their capacity to successfully execute behaviors necessary to produce desired outcomes. When students repeatedly succeeded in completing small, intentional behaviors and reinforced themselves for doing so, they may have developed a stronger sense of control and competence over their actions. This perceived control likely contributed to the observed increases in self-efficacy.

Self-esteem, which reflects a person’s overall evaluation of their self-worth (Rosenberg, 1965), may have improved as students experienced consistent success in working toward their goals. Small, repeated acts of self-discipline paired with reinforcement may have enhanced their sense of personal value and accomplishment, particularly during a developmental period in which autonomy and identity formation are critical.

These findings align with previous literature highlighting the importance of behavioral skills and structured reinforcement in shaping psychological outcomes (Lockwood & Wohl, 2012; Conley et al., 2013). Together, these results suggest that even short-term interventions that promote intentional, self-managed behavior change can positively influence self-perceptions of efficacy and self-worth in undergraduate students.

Qualitative Results

The findings of this study present the effects of a behavior modification activity on the self-esteem and self-efficacy of undergraduate college students. The themes highlighted the complexity of behavior change and its potential impact on various aspects of students' lives. These findings provide important considerations for fostering well-being in college environments benefiting academic institutions and individual students.

Empowerment and Positive Impact

Most participants reported positive impacts and a sense of empowerment as a result of participating in the behavior modification activity. Consistent with previous studies, providing students with practical tools and strategies can foster positive behavior changes (Conley et al., 2013; Edwards et al., 2021; Lockwood & Wohl, 2012). Students reported increased focus on daily habits, positive behavioral changes, and improved health and well-being, aligning with the goals of the intervention. Empowering students to manage their behaviors and well-being benefits their physical and mental health and contributes to a more productive learning environment (Worsley et al., 2022).

Challenges and Mixed Perceptions

While a significant number of participants reported positive impacts, it is important to note that a portion of the respondents expressed mixed perceptions or no notable changes. This illustrates the complexity of behavior change and the importance of recognizing individual differences in response to such interventions so that they can be adapted to fit individual needs (De Vries, 2016). Students transitioning from high school to college may find it difficult to locate resources and interventions on their own without the support of parents, teachers, and school counselors who previously helped them, increasing the risk of academic failure (Park, 2015). Therefore, tailored interventions addressing the unique needs of college students must be considered and implemented if everyone is to benefit from these services and supports (Johns, 2020; Park, 2015).

Implications for Academic Success

The transition to higher education involves various challenges, including increased academic demands, lifestyle changes, and independence (Edwards et al., 2021; Walker, 2022; Wrench et al., 2014). The findings of this study suggest that behavior modification interventions could serve as a valuable resource to address some of these challenges. By equipping students with skills to make positive behavior changes, academic institutions might better equip students to manage stress, maintain healthier habits, and create a more balanced lifestyle. The positive influence on overall well-being could indirectly contribute to academic success.

Additionally, the findings have broader implications for supporting student success in academic settings. For example, the Pomodoro Technique, which uses timed intervals of focused work followed by short breaks, aligns well with behavior modification principles to help students improve time management and maintain focus during study sessions (Cirillo, 2006). Similarly, distributed practice, the process of spacing out study sessions over time, can promote long-term retention of newly acquired information. Reinforcing distributed practice through consistent schedules and small rewards, such as tracking study sessions, or taking brief breaks after completion, can help students establish effective study habits.

By equipping students with skills to make positive behavior changes, academic institutions might better equip students' to manage stress, maintain healthier habits, and create a more balanced lifestyle. The positive influence on overall well-being could indirectly contribute to academic success.

Promoting Holistic Well-Being

Holistic well-being includes physical, mental, emotional, and social dimensions of health. This study supported that positive changes in health behaviors and enhanced self-awareness promoted by behavior modification contributed to a more holistic approach to well-being among college students. By addressing physical, mental, and emotional well-being, these interventions align with a comprehensive view of wellness (Conley et al., 2013; Edwards et al., 2021; Lockwood & Wohl, 2012). Additionally, recognizing individual differences in response to these interventions and adjusting them to meet the unique needs of students can enhance their effectiveness (De Vries, 2016). By creating supportive environments, campuses enhance the holistic well-being of students, reducing the risk of academic failure and withdrawal (Johns, 2020; Park, 2015).

Interdisciplinary Impact

Behavior modification strategies can be effectively utilized across disciplines to enhance academic performance and prepare students for future careers. In STEM fields, these strategies can improve students' confidence and problem-solving skills. For example, teaching students to set specific, achievable goals and monitor their progress can enhance their ability to address complex problems. In business, behavior modification can help students feel more confident, which is important for negotiating and adapting in changing situations. For example, using techniques like self-reflection and getting feedback can help students make better decisions and adjust to the demands of the business world.

Across all disciplines, behavior modification can improve time management and stress management. Teaching students to prioritize tasks and manage their time effectively can reduce stress and increase productivity. These skills are necessary not only for academic success but also for maintaining a healthy work-life balance in their future careers. These strategies can enhance interpersonal skills, fostering better relationships with peers, professors, and, eventually, colleagues and clients. Behavior modification equips students with a set of skills to enhance their academic performance and prepare them for success in their professional lives.

Limitations and Future Research

The researchers acknowledge several limitations that should be taken into consideration when interpreting the findings. The sample size was relatively small and might not capture the diversity of college students' experiences. Additionally, the participants were exclusively drawn from a single university in the southwest, which may limit the generalizability of the results to a broader population of college students. Finally, the relatively short timeframe during which students were requested to monitor their behavior could limit the depth and scope of behavior changes observed within the study's duration.

While the primary aim of this study was to investigate the immediate impact of the behavior modification activity on self-efficacy and self-esteem, future research could consider an extended timeframe for implementing behavior modification strategies. A longitudinal approach could clarify whether the observed positive behavior changes and increases in self-efficacy and self-esteem endure beyond the short-term intervention period. Additionally, replicating the study at other universities could help ensure the generalizability of the results. Future research could also focus on identifying the most effective components of behavior modification interventions and exploring their long-term impacts on student well-being and academic outcomes. Finally, studies could examine additional factors, such as motivation, to better understand how it is influenced when positive behavior changes are successfully maintained.

Conclusion

The present study contributes to the growing body of literature focused on interventions for college students' well-being. The findings emphasize the potential of such interventions to empower students, foster positive behavior changes, and promote holistic well-being. Academic institutions could explore interdisciplinary integration of behavior modification strategies within class curricula or student support services to provide practical tools for navigating the challenges of higher education. Faculty, staff, and student support services can all play vital roles in this implementation, ensuring that interventions are tailored to meet the diverse needs of students (Johns, 2020). By acknowledging individual differences and continuing to refine these interventions, such as the positive impacts noted

in health behaviors and self-awareness (Conley et al., 2013; Edwards et al., 2021; Lockwood & Wohl, 2012), institutions can further enhance the well-being and academic success of their students. Future research could focus on identifying the most effective components of behavior modification interventions and exploring their long-term impacts on student well-being and academic outcomes.

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Appendices

Appendix A

RSE

Please record the appropriate answer for each item, depending on whether you strongly disagree, disagree, agree, or strongly agree with it.

- 1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strong Agree

1. On the whole, I am satisfied with myself.
2. At times, I think I am no good at all.*
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.*
6. I certainly feel useless at times.*
7. I feel that I'm a person of worth.
8. I wish I could have more respect for myself.*
9. All in all, I am inclined to think that I am a failure.*
10. I take a positive attitude toward myself.

Note. Rosenberg Self Esteem Scale (Rosenberg, 1965); * indicate reverse coded items.

Appendix B

General Self Efficacy Scale

1	I can always manage to solve difficult problems if I try hard enough.
2	If someone opposes me, I can find the means and ways to get what I want.
3	It is easy for me to stick to my aims and accomplish my goals.
4	I am confident that I could deal efficiently with unexpected events.
5	Thanks to my resourcefulness, I know how to handle unforeseen situations.
6	I can solve most problems if I invest the necessary effort.
7	I can remain calm when facing difficulties because I can rely on my coping abilities.
8	When I am confronted with a problem, I can usually find several solutions.
9	If I am in trouble, I can usually think of a solution.
10	I can usually handle whatever comes my way.

(Schwarzer & Jerusalem, 1995)

Appendix C
Behavior Modification Packet

Behavioral Change Tracker

Increase your well-being using behaviorism!

Directions

1. Choose a goal for personal well-being.
2. Make it measurable and realistic.
3. Write it down.
4. Choose a reinforcement (a reward).
5. Track your behavior each day.
6. Reinforce yourself on successful days.
7. Reflect on your success at the end.

Choose a Reinforcer:

- Watch a short YouTube video
- Enjoy a favorite snack
- Take a break or walk
- Spend time with a pet
- Text a friend
- Listen to music or a podcast

My goal is:

[Insert your goal here]

My reinforcement is:

[Insert your chosen reinforcement here]

Behavior Tracker

Mark the days you met your goal

Goal: _____

M T W T F S S

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

A filled-in circle indicates a successful day.

Reminder

Remember to reinforce yourself on days you are successful! The reward system is an important part of this program.

Habit Tracker

Goal: _____

M T W T F S S

○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○

Notes/Reflections:

Final Reflection

Do you feel like you were successful in changing your behavior?

(Circle one): **YES / NO**

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