

Exploring the Impact of a Brief Counseling Intervention for Improving Mental Health Factors and Learning Strategies among College Students at an HSI

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Exploring the Impact of a Brief Counseling Intervention for Improving Mental Health Factors and Learning Strategies among College Students at an HSI

Cover Page Footnote

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College students' mental health is a growing issue on university campuses (Watson & Hernandez, 2020) that has potential to negatively influence persistence and success rates. The American College Health Association (2018) reported that 18% percent of college students experienced issues related to depression, which is a factor that influences mental health and academic challenges (Markoulakis & Kirsh, 2013). For example, when college students experience depressive symptoms, they can experience academic distress, including poor concentration, lack of motivation, and loss of hope (Andrews & Wilding, 2004; Vaez & Laflamme, 2003), which can negatively impact academic performance (Bell et al., 2014). Additionally, culturally diverse college students, including Latinx students, deal with anxiety and depression (Lazarevic et al., 2018) that stem from an interplay among individual, interpersonal, and institutional factors (Vela et al., 2016). These factors put Latinx college students at greater risks for mental health impairment (Cheng & Mallinckrodt, 2015) and negative learning experiences (Carnevale & Strohl, 2010; Saenz et al., 2013). However, Latinx college students have traditionally underutilized counseling services (Watson & Hernandez, 2020) and counseling interventions due to issues such as perceived discrimination (The Pew Research Center, 2016) and cultural factors like machismo beliefs (Saenz et al., 2013).

Because culturally diverse students experience mental health and academic challenges, researchers must continue to explore the impact of academic interventions that aim to improve factors that influence these students' mental health and academic performance. If researchers do not examine the impact of interventions with culturally diverse college students, these students' high rates of depression and lower levels of persistence and graduation might continue (Vela et al., 2016). Therefore, it is essential for college counselors to design, implement, and evaluate the impact of counseling interventions with culturally diverse college students.

Mental Health

Mental health refers to “emotional, psychological, and social well-being” (Mental Health, 2022, p. 1) and has been associated with college students’ academic performance. For this study, we focused on three factors that influence college students’ mental health: social anxiety, alcohol use, and hostility. We decided to focus on these three constructs because the counseling center where this study took place used an instrument that measures these factors to assess improvements in college students’ mental health. These three factors have been related to college students’ mental health as described below.

Social Anxiety

One factor that has potential to negatively influence culturally diverse students’ mental health is social anxiety. The American Psychiatric Association (2013) defines social anxiety as the fear of scrutiny by others in social settings. Latino individuals who experience social anxiety have reported greater impairment related to work and relationships (Polo et al., 2010). Additionally, there is a well-documented relationship between social anxiety and alcohol consumption. Adlophe et al. (2022) identified that social anxiety and substance use were mutually reinforcing processes. One participant in their study shared that they used alcohol to cope with social anxiety, which supports the self-medication hypothesis (e.g., Turner et al., 2018). Additionally, Cook et al. (2021) examined the relationship among social anxiety, dissociation, and coping motivated alcohol use among undergraduate students. They found that coping motives mediated the relationship between alcohol consequences and social anxiety. Findings showed that coping motivated alcohol use might explain the relationship between social anxiety and alcohol consequences. Overall, social anxiety can negatively impact mental health and influence alcohol use.

Alcohol Use

Another factor that might influence college students' mental health is alcohol consumption (Cheng & Mallinckrodt, 2015). Latinx students might use alcohol as a coping mechanism to deal with stressors such as perceived discrimination experiences (e.g., Harrel, 2000), racial microaggressions, or social anxiety. Balagopal et al. (2021) explored the impact of cultural stress and gender norms on alcohol use severity among Latinx students. One important finding was that machismo, which refers to cultural behaviors in the Mexican culture (Arciniega et al., 2008), moderated the relationship between cultural stressors and alcohol use. This means that alcohol use among Latinx men with high levels of Machismo might have been a way for them to display pride. If Latinx college students develop alcohol consumption as a negative coping response to manage stress or social anxiety, they could benefit from talking about their behaviors and feelings with college counselors (Vela, 2021).

Hostility

Hostility, which refers to negative thoughts and attitudes towards others (Matthews & Gallo, 2011), has been linked to suicidal thoughts as well as suicidal attempts (Keefe et al., 2017). Culturally diverse college students such as Latinx students must deal with a plethora of individual, interpersonal, and institutional stressors (e.g., Vela et al., 2016) that put them at risk for developing hostile attitudes toward others. For example, if Latinx college students experience racial microaggressions or perceive discrimination and racism within structural systems (Cavazos et al., 2010; Pinedo et al., 2021), they could exhibit hostile thoughts and attitudes and become more likely to experience poor mental health. Additionally, researchers found that hostility and anger, in conjunction with disconnecting with one's trauma are predictors of suicidal thoughts and attempts (Keefe et al., 2017). In another study, Asberg (2013) examined hostility as a mediator between

college students' emotion regulation and symptoms of depression and social anxiety. They found that hostility mediated the relationship for symptoms of social anxiety and depression. Findings showed that perceptions of hostility/anger might explain the relationship between depressive symptoms and social anxiety.

Relationship among Social Anxiety, Alcohol Consumption, and Hostility

After reviewing the literature, there is a relationship among social anxiety, alcohol consumption, and hostility. Because social anxiety, hostility, and alcohol consumption have been related to students' negative mental health, understanding the impact of brief counseling interventions on improving these factors among culturally diverse college students at HSIs is important.

Academic Challenges

College students face multiple academic challenges that have potential to negatively impact mental health. Researchers (e.g., Hwang & Goto, 2008; Sanchez, 2019; Vela-Gude et al., 2008) found that Latinx college students experience different and greater academic challenges as related to perceived discrimination, microaggressions, and lack of support. One academic challenge that influences Latinx college students' academic performance is experiences of discrimination (Cheng & Mallinckrodt, 2015; Sue, 2010). Hwang and Goto (2008) examined the impact of perceived racial discrimination on Latino college students' mental health. Perceptions of discrimination were related with greater risk for psychological distress and depression. Additionally, racial microaggressions, which are defined as subtle forms of insults that invalidate a person's racial identity (e.g., Garcia & Johnston-Guerrero, 2015; Soloranzo & Yosso, 2000; Sue et al., 2007), can have a negative impact on Latino college students' academic performance and mental health as well as perceptions of learning environments (Allen, 2012; Allen et al., 2013). Taken together,

Latinx college students who experience racial microaggressions and perceive discrimination might experience academic self-doubt, problems with depression and anxiety, and perceptions of a negative campus climate, which have a direct and negative relationship with mental health (Vela, 2021).

Learning Strategies

In addition to college students' mental health and academic challenges, considering the impact of self-regulation learning strategies and motivation toward learning on academic performance and mental health is important (Theobald, 2021; Zimmerman, 2002; Zimmerman & Schunk, 2011). Researchers (e.g., Park et al., 2012; Won et al., 2021) found that self-regulation learning and academic-help seeking strategies are positively related to well-being and sense of belonging. By developing self-regulation learning strategies and improving perceptions of sense of belonging, college students can increase coping responses when transitioning to college (Park et al., 2012; Schneider & Preckel, 2017), thereby improving mental health. Also, Tasgin and Coskun (2018) identified a positive correlation between students' attitudes toward learning and motivation. This finding suggests that if students lack motivation, they will have a negative attitude toward learning. If students are motivated toward studying, they will have a positive attitude toward learning. Because self-regulation learning strategies have potential to influence mental health and academic performance, exploring the impact of academic and counseling interventions on these factors is paramount for improving culturally diverse college students' persistence and success.

Impact of Brief Counseling Interventions

Counseling services on college campuses have been utilized to intervene in both mental health as well as academic challenges. A few researchers have explored the impact of brief

counseling on mental health and self-regulated learning among college students. For this study, we define brief counseling as an intervention that typically has four sessions (Blau & DiMino, 2019). Blau and DiMino (2019) examined the impact of brief counseling on social connectedness, self-esteem, and life satisfaction between two groups of students: those who had previous counseling experiences and those who did not have previous counseling experiences. They found that among students with previous counseling experiences, brief counseling increased students' perceptions of social connectedness, self-esteem, and life satisfaction. Their findings supported Blau et al.'s (2016) findings that brief counseling increased undergraduate students' social connectedness and life satisfaction. Additionally, Novella (2020) explored the impact of a 3-session treatment program based on Solution Focused Brief Therapy with 49 college students with anxiety. They found that SFBT helped improve students' anxiety and psychological symptoms in the different groups without significant difference across modalities.

Researchers also explored the impact of brief interventions on college students' self-regulated learning strategies. Bellhauser et al. (2016) examined the impact of a brief, web-based training on self-regulated learning among university students. They found that the self-regulated training helped improve students' self-regulated knowledge, self-regulated behavior, and self-efficacy. In another study, Dorrenbacher and Perels (2016) examined the impact of a self-regulation training program with college students. College students participated in an intervention where they engaged in planning, performance, and reflection, based on Zimmerman's (2002) self-regulation learning model. In the planning stage, students learned about goal setting and self-motivation. In the performance phase, students learned about volition and attention focusing as well as task strategies. In the reflection phase, students learned about reflection and causal attribution. Students identified strategies to reflect and evaluate the impact of their learning

strategies (Dorrenbacher & Perels, 2016). These researchers found that the combination of the self-regulation learning training program and the learning diary had the greatest impact on students' self-regulation strategies.

Rationale and Purpose of Current Study

From the review of the literature, we found that brief counseling interventions have been effective to improve college students' mental health factors. However, less attention has been given to the impact of brief counseling interventions with culturally diverse college students at HSIs and on learning strategies. Although researchers have used quantitative and predictive designs to examine relationships among various factors with Latinx college students (e.g., Vela et al., 2016; Watson & Hernandez, 2020), little research exists regarding the impact of brief, academic interventions on Latinx college students' mental health factors and learning strategies. Therefore, the purpose of the current study was to explore the impact of the University Turn Around (U-Turn) program on college students' mental health and learning strategies. Results from this study could have important implications for college counselors who are committed to design and implement academic interventions to help culturally diverse students.

Method

We implemented a pre- and posttest within-subjects group design to explore the impact of the U-Turn counseling program on improving learning and study strategies as well as decreasing mental health symptoms among college students at a HSI. We explored the following research question: Are there statistically and clinically significant differences in learning and study skills as well as mental health symptoms following a brief, academic intervention?

Participant Characteristics

Forty-three (27 men, 16 women) college students attending a Hispanic-serving institution of higher education in a rural south-central region of the United States participated in the current study. Participants ranged in age from 18-25 years old ($M = 19.65$, $SD = 1.46$). Twenty-nine students were freshman, three were sophomores, and six were juniors. Thirty-four participants identified as Hispanic (79%), with two students identifying as African American (5%) and seven students identifying as White/Caucasian or other (16%).

Sampling Procedures

Upon IRB approval, criterion sampling was conducted to recruit participants who were from the university student health and wellness center, planned to participate in the university turnaround counseling intervention, and enrolled at an HSI. We invited students to participate in the research study following their admission into university.

Measurement of Constructs

Psychological Symptoms

The Counseling Center Assessment of Psychological Symptoms-34 (CCAPS-34; Locke et al., 2011) is a 34-item instrument that assesses college students' counseling outcomes. The instrument uses a 5-point Likert scale (ranging from 0 to 4) across 8 areas (e.g., depression, social anxiety), with higher scores indicating stronger evidence of decreased functioning. Locke et al. (2011) reported fair to good internal consistency with alpha coefficients ranging from 0.76 (Academic Distress) to 0.89 (Depression) and test-retest reliability coefficients ranging from 0.79 (Alcohol Use) to 0.87 (Depression) (Center for Collegiate Mental Health, 2010; Locke et al., 2011). Within our sample, alpha coefficients ranged from 0.64 to 0.84. For this study, only subscales on social anxiety, hostility, and alcohol use were used.

Learning and Study Strategies

The Learning and Study Strategies Inventory - Third Edition (LASSI-3; Weinstein et al., 2016) assesses students' awareness about and use of learning and study strategies related to skills and self-regulation components of strategic learning. The LASSI-3 provides scores for ten different scales (e.g., Information Processing scale, Selecting Main Ideas scale). Weinstein et al. (2016) reported fair to good internal consistency alpha coefficients ranging from .76 to .89, test-retest reliability, and convergent validity. With our sample, alpha coefficients ranged from 0.62 to 0.83. For this study, only subscales on Attitude, Information Processing, Selecting Main Ideas, Test Strategies, and Using Academic Resources were used.

Procedure

We provided participants with an informed consent form that explained the purpose of the study as well as potential risks involved in the study. Participants agreed to participate in the University Turn Around program (U-Turn) study. Each client was given the assessments (i.e., CCAPS-34 and LASSI-3) before session one and at the conclusion of the final session.

Intervention

The University Turn-Around Program (U-Turn) is a pre-existing, three-session academic counseling program that helps college students strengthen academic performance by exploring elements of success in college. For this study, three consecutive counseling sessions per client were provided. Participants were assigned to a counselor who was either a licensed professional counselor or a counseling student completing internship. The program director provided training to all counselors and conducted fidelity checks regarding the implementation of the program (Ikonopoulou et al., 2021). Each counseling session was 60 minutes and focused on students' strengths, goal setting, time management, and personal values.

In the first session, clients were introduced to program goals and given an outline of sessions. Students were asked to complete a Time Management Worksheet within the session by reviewing priorities and addressing academic strengths and weaknesses. In the second session, personal values were explored and time management skills were taught. Participants completed a SMART Goals Worksheet in connection with areas for potential growth and aligned with their values. Small homework activities such as a Goal Setting Sheet were given to provide additional reflection. The third session addressed progress on the Goal Setting Sheet and participants were given information about their learning styles and discussed study strategies with their counselor. Stress management and relaxation exercises were offered throughout each session.

Data Analysis Plan

Statistical Power Analysis

An a priori power analysis was conducted using G*Power 3 software program (Faul et al., 2007) to determine the number of participants needed to establish statistical power for this research design at the .80 level given $\alpha = .05$. The analysis suggested that a sample size of 27 was necessary to detect a medium effect ($d = .50$) of treatment group type for the dependent variables over time.

Preliminary Analysis

There were no missing values within the data set for participant response ratings. Model assumptions including normality and homogeneity of variance were met.

Primary Analysis

Two series of dependent samples t -tests were computed to assess the association of the U-Turn program and dependent variables over time. One series of t -tests was computed for mental health variables (depression, anxiety, and academic distress) and another for learning and study

skills (anxiety, concentration, motivation, self-testing, and time management). Bonferroni corrections were made to account for the influence of increased Type I error probability when making multiple comparisons. As a result, statistical significance tests for mental health and learning and study skill variables were interpreted at .016 and .010 levels, respectively.

Estimates of Effect Size and Clinical Significance

Estimates of effect size were computed using Cohen's d which represents pre-post changes based on units of standard deviation using Watson et al.'s (2016) description of procedures. These values were regarded as representing small (.20), medium (.50), and large (.80) effects. Clinical significance was determined in accordance with calculation of Percent Improvement (PI) values based on Lenz's (2020a, 2020b) description of procedures. Percent Improvement values greater than 50% were interpreted as representing clinically significant improvement, 25% to 49% were interpreted as slightly improved without clinical significance, and less than 25% represented no clinical significance.

Results

Changes in Mental Health Symptoms Over Time

First, a paired samples t -test was conducted between pre-test and post-test scores across participants on the CCAPS-34 subscales of social anxiety, hostility, and alcohol use (See Table 1).

Table 1.

Paired Samples *t*-Test (*N* = 43)

Mental Health Symptoms	<i>t</i>	<i>p</i>	<i>d</i> (95% CI)	<i>PI</i>
Social Anxiety	4.66	< .001	0.71 (0.37, 1.04)	8.21%
Hostility	2.97	0.005	0.45 (0.14, 0.76)	5.51%
Alcohol Use	0.74	0.462	0.11 (-0.19, 0.41)	1.17%

Ratings of Learning and Study Strategies	<i>t</i>	<i>p</i>	<i>d</i> (95% CI)	<i>PI</i>
Attitude	-4.24	< .001	-0.65 (-0.97, -0.31)	21.70%
Information Processing	-6.27	< .001	-0.96 (-1.31, -0.59)	35.44%
Selecting Main Ideas	-5.21	< .001	-0.79 (-1.13, -0.45)	35.37%
Test Strategies	-6.109	< .001	-0.93 (-1.29, -0.57)	41.59%
Using Academic Resources	-7.18	< .001	-1.09 (-1.47, -0.71)	49.05%

Note. * $p < .001$

$d = 0.20$ small effect size, $d = 0.50$ medium effect size, $d = 0.80$ large effect size

Percent Improvement (*PI*) values greater than 50% were interpreted as representing clinically significant improvement, 25% to 49% were interpreted as slightly improved without clinical significance, and less than 25% represented no clinical significance.

Bonferroni correction for Mental Health Symptoms and Ratings of Learning and Study Strategies were .016 and .010, respectively.

A Bonferroni correction of .016 was utilized. The results indicated that the respondents' pretest scores of the social anxiety scale ($M = 47.65$, $SD = 7.80$) decreased at posttest, ($M = 43.74$, $SD = 7.18$), $t(42) = 4.66$, $p < .001$, $d = 0.71$, $PI = 8.21\%$. Interpretation of the related effect size estimate ($d = 0.71$) was indicative of a medium effect suggesting a change of 71% of a standard

deviation unit from pre-test to posttest (Watson et al., 2016). Interpretation of the clinical significance estimate suggests that 8.21% improvement is not clinically significant (Lenz, 2020a, 2020b).

The respondents' pretest scores of the hostility scale ($M = 44.81$, $SD = 7.53$) decreased at posttest, ($M = 42.07$, $SD = 4.99$), $t(42) = 2.97$, $p = .005$, $d = 0.45$, $PI = 5.51\%$. Interpretation of the related effect size estimate ($d = 0.45$) was indicative of a medium effect suggesting a change of 45% of a standard deviation unit from pre-test to posttest (Watson et al., 2016). Interpretation of the clinical significance estimate suggests that 5.51% improvement is not clinically significant (Lenz, 2020a, 2020b). Additionally, the respondents' pretest scores of the Alcohol Use scale ($M = 43.67$, $SD = 4.83$) decreased at posttest, ($M = 43.16$, $SD = 3.48$), $t(42) = 0.74$, $p = .46$, $d = 0.11$, $PI = 1.17\%$. Interpretation of the related effect size estimate ($d = 0.11$) was indicative of a medium effect suggesting a change of 1.17% of a standard deviation unit from pre-test to posttest (Watson et al., 2016). Interpretation of the clinical significance estimate suggests that 1.17% improvement is not clinically significant (Lenz, 2020a, 2020b).

Changes in Ratings of Learning and Study Strategies Over Time

Second, a paired samples t -test was conducted between pre-test and post-test scores across participants on the LASSI-3 subscales of Attitude, Information Processing, Selecting Main Ideas, Test Strategies, and Using Academic Resources (See Table 1). A Bonferroni correction of .01 was utilized. The results indicated that the respondents' pretest scores of the Attitude scale ($M = 46.65$, $SD = 27.18$) improved at posttest, ($M = 59.58$, $SD = 25.60$), $t(42) = -4.24$, $p < .001$, $d = -0.65$, $PI = 21.70\%$. Interpretation of the related effect size estimate ($d = -0.65$) was indicative of a medium effect suggesting a change of 65% of a standard deviation unit from pre-test to posttest (Watson et

al., 2016). Interpretation of the clinical significance estimate suggests that 21.70% improvement represents slight improvement that is not clinically significant (Lenz, 2020a, 2020b).

The results indicated that the respondents' pretest scores of the Information Processing scale ($M = 40.98$, $SD = 31.68$) improved at posttest, ($M = 63.46$, $SD = 27.45$), $t(42) = -6.27$, $p < .001$, $d = -.96$, $PI = 35.44\%$. Interpretation of the related effect size estimate ($d = -.96$) was indicative of a large effect suggesting a change of 96% of a standard deviation unit from pre-test to posttest (Watson et al., 2016). Interpretation of the clinical significance estimate suggests that 35.44% improvement represents slight improvement that is not clinically significant (Lenz, 2020a, 2020b). Additionally, the results indicated that the respondents' pretest scores of the Selecting Main Ideas scale ($M = 40.84$, $SD = 29.05$) improved at posttest, ($M = 63.19$, $SD = 24.68$), $t(42) = -5.21$, $p < .001$, $d = -0.79$, $PI = 35.37\%$. Interpretation of the related effect size estimate ($d = -0.79$) was indicative of a large effect suggesting a change of 78% of a standard deviation unit from pre-test to posttest (Watson et al., 2016). Interpretation of the clinical significance estimate suggests that 35.37% improvement represents slight improvement that is not clinically significant (Lenz, 2020a, 2020b).

Results indicated that respondents' pretest scores of the Test Strategies scale ($M = 37.60$, $SD = 30.26$) improved at posttest, ($M = 64.37$, $SD = 25.67$), $t(42) = -6.11$, $p < .001$, $d = -0.93$, $PI = 41.59\%$. Interpretation of the related effect size estimate ($d = -0.93$) was indicative of a large effect suggesting a change of 93% of a standard deviation unit from pre-test to posttest (Watson et al., 2016). Interpretation of the clinical significance estimate suggests that 41.59% represents slight improvement that is not clinically significant (Lenz, 2020a, 2020b). Finally, results indicated that the respondents' pretest scores of the Using Academic Resources scale ($M = 29.74$, $SD = 21.73$) improved at posttest, ($M = 58.37$, $SD = 28.24$), $t(42) = -1.09$, $p < .001$, $d = -1.09$, $PI = 49.05\%$.

Interpretation of the related effect size estimate ($d = -1.09$) was indicative of a large effect suggesting a change of 109% of a standard deviation unit from pre-test to posttest (Watson et al., 2016). Interpretation of the clinical significance estimate suggests that 49.05% improvement represents slight improvement that is not clinically significant (Lenz, 2020a, 2020b).

Discussion

The purpose of the present study was to examine the impact of a brief counseling intervention on mental health factors and learning strategies among college students at an HSI. We found evidence that the U-Turn program improved students' learning strategies based on results from the dependent samples t-test for pretest and post-test scores on attitude, information processing, selecting main ideas, test strategies, and using academic resources that revealed statistical significance with effect sizes ranging from .65 to 1.09, suggesting medium to large treatment effects. Percent improvement for these study skills ranged from 21.70% to 49.05% improvement, which represented slight improvement. Because we found only slight improvement in study and learning strategies and little impact on mental health factors, we contend that this might be due to (1) the brief nature of the intervention (i.e., 3 sessions) and (2) primary focus on learning strategies without emphasizing meta-cognitive learning strategies. Theoblad (2021) identified three types of self-regulated training programs: study skills training, metacognitive trainings, and social-cognitive trainings. The U-Turn program focuses on study skills training and meta-cognitive strategies. However, only one session of the 3-session program focused on meta-cognitive support without additional sessions that could have provided students with more opportunities to reflect on the impact of their learning strategies as well as how to adapt learning strategies for different learning tasks. Additionally, our study consists of a predominantly sample of Latinx college students, with previous researchers finding that longer interventions might be

necessary to create change for mental health symptoms such as hope and life satisfaction (Vela et al., 2018). Lenz et al. (2020) also identified that a 5-week program for a sample of predominantly Hispanic adolescents helped improve their protective factors and life satisfaction. Future research is necessary to explore the impact of a longer intervention with different concepts integrated into counseling conversations as indicated below.

Although the primary focus of the intervention was study strategies and not meta-cognitive reflection, we found improvement for learning strategies such as (1) attitude, (2) information processing, and (3) selecting main ideas. *Attitude* refers to college students' desire to pursue school and interests to achieve academic excellence. Yip (2013a) found that attitude predicted academic performance among university students. When college students have a positive attitude, they might be more likely to have self-control and persevere toward long-term goals such as attaining a college degree. Because the U-Turn helped improve college students' attitude toward college, there are important implications for first-year college programs and student affairs personnel.

Information processing refers to how students organize information when learning such as using logic and making connections. Yip (2013b) identified differences in information processing skills between high academic achievers and low academic achievers with high academic achievers having higher skills to process information. This skill is important because researchers found that information processing helps college students make deeper connections for learning. Our findings also support previous researchers who identified the positive impact of interventions such as supplemental instruction on college students' information processing skills (Ning & Downing, 2010). Further, *selecting main ideas* refers to students' ability to select main ideas from texts. Differences in information processing between high academic achievers and low academic achievers have been identified (Yip, 2013). Results from this study indicate that the U-Turn

intervention can help college students improve their ability to select main ideas from course readings.

Implications for Practice

We recommend that the U-Turn program continue to be applied with Latinx college students. This study's findings indicated that parts of the U-Turn intervention appeared to help students develop stronger self-regulated learning strategies. College counselors can consider lengthening the intervention from 3 to 6 or more sessions and integrate positive psychology components (Lenz et al., 2020; Seligman, 2002). The current form of the U-Turn program focused on study skills, time management, and other learning strategies. If an intervention could combine the focus of study strategies to include positive psychology factors such as hope and life satisfaction (Lenz et al., 2020), college students might report positive increases in mental health factors. Because the U-Turn intervention did not have a major impact on students' mental health factors, we suspect that the length of the intervention might have been a possible factor. One other recommendation is to incorporate additional meta-cognitive reflection activities to allow students to identify how to adapt learning strategies for different tasks and evaluate the impact of their self-regulated learning strategies (Theobald, 2021). More attention can be given to help students plan, monitor, evaluate, and reflect on their learning strategies (Theobald, 2021). Additional counseling sessions and greater focus on meta-cognitive self-regulated learning strategies would also allow counselors to help students further reflect on what they learned about learning strategies.

We also recommend that college counselors collaborate with faculty in undergraduate courses to integrate components of the U-Turn intervention into specific courses outside of the intervention. These partnerships will help reinforce what students learn in the intervention and provide opportunities to apply and implement their new self-regulated learning strategies. For

example, if students develop self-regulated learning strategies in the U-Turn program, faculty can reinforce these strategies through course activities or assignments where students reflect, apply, and evaluate what they learn about test-taking strategies, using academic resources, selecting main ideas, and information processing. Faculty can design cooperative learning and group work as well as create opportunities for students to reflect on the usefulness of their self-regulated learning strategies as related to the specific course content (Theobald, 2021).

Additionally, because the U-Turn program did not have a significant impact on improving students' social anxiety or alcohol use, counselors will need to integrate other strategies to improve those symptoms and/or lengthen the number of sessions in the intervention. The focus length of the U-Turn program, which included stress management and relaxation exercises, was not sufficient for the mitigation of social anxiety and alcohol use with participants in this study. Therefore, counselors might consider facilitating additional sessions that could focus on addiction education, utilizing evidence-based curriculums, and teaching coping strategies to assist students in reducing alcohol use and social anxiety. Potential strategies include mindfulness exercises and exposure therapy (Rossouw et al., 2020) to prepare students to handle social anxiety in more effective ways. Counselors also could use additional meta-cognitive strategies to help students reflect and evaluate the impact of their coping strategies for alcohol use and social anxiety (Dorrenbacher & Perels, 2016; Zimmerman, 2022).

Implications for Future Research and Limitations

Researchers should use between-group designs to provide additional evidence for this intervention; more studies would help establish evidence-based implications. Also, it may be beneficial to use qualitative methods to determine what specific parts of the intervention help college students improve study and learning strategies. Using personal interviews and focus groups

would provide insight and understanding into what treatment components and processes within the intervention help college students. Finally, we recommend that college counselors lengthen the U-Turn program to evaluate the impact of additional sessions with Positive Psychology components and meta-cognitive learning strategies to help students reflect and evaluate the impact of their learning strategies (Dorrenbacher & Perels, 2016; Zimmerman, 2022). Researchers can use within group designs or single case research designs to explore the impact of adaptations to the U-Turn intervention on college students' mental health and learning strategies. Finally, there are limitations that warrant consideration. Results might not generalize to other college students in different academic settings. We also did not include a comparison group which would have strengthened the current study.

Conclusion

Results from this study support the implementation of a brief, academic intervention to influence learning strategies among college students at an HSI. The U-Turn intervention appears to be a promising intervention that college counselors can use to help students improve learning strategies. While the academic intervention showed modest support with changes in learning strategies, the intervention did not show support for improving college students' mental health factors. We understand that the inferences from this study are limited based on the within-group design without a comparison group focus. However, we suggest that preliminary results from this study lend modest support for the efficacy to improve students' learning strategies. Additional between-groups designs and single case research designs are needed to confirm findings and understand which parts of the intervention are most effective.

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