



Changes in Student Engagement, Connectedness, and Well-Being Following a Positive Psychology Group Intervention: A Quasi-Experimental Study

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Abstract

The transition to college represents a critical developmental period that requires students to adapt to new academic demands, social environments, and increased personal autonomy. Central to successful adjustment are engagement and connectedness, which are associated with academic persistence, psychological well-being, and social integration. This study examined the preliminary effectiveness of the Fostering Engagement and Connectedness Together (FECT) Program, a structured positive psychology group intervention grounded in the EPOCH model. Using a one-group pretest–posttest quasi-experimental design without a control group, 40 college students participated in a six-session intervention focused on mental health awareness, motivation enhancement, goal setting, and relationship building. Standardized measures of engagement, connectedness, and psychological well-being were administered before and after the intervention. Results indicated statistically significant improvements in engagement ($t(39) = 7.85, p < .001, d = 1.24$), connectedness ($t(39) = 8.31, p < .001, d = 1.31$), and well-being ($t(39) = 9.02, p < .001, d = 1.42$), with all effect sizes in the large range. Cohen's d values were computed using the standard deviation of the difference scores for paired-samples data. These findings provide preliminary evidence that structured, group-based interventions grounded in positive psychology may support students' adjustment to college life by enhancing academic engagement and sense of belonging. However, the absence of a control group limits causal interpretation of the findings. The study highlights the potential value of integrating engagement and connectedness-focused programs within higher education to promote holistic student development and well-being.

Keywords: engagement, connectedness, positive psychology, college students, EPOCH model, group intervention, well-being, higher education



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INTRODUCTION

The higher education experience represents a formative developmental period during which students are expected to navigate increasing academic demands, evolving social roles, and emerging personal identities. Within this complex transition, engagement and connectedness have been consistently identified as central constructs that shape not only academic outcomes but also psychological functioning and long-term developmental trajectories (Astin, 1999; Tinto, 2017). Contemporary scholarship increasingly positions these constructs not as auxiliary factors, but as foundational conditions for student thriving in higher education environments. Recent research further

underscores that student engagement and well-being are deeply interconnected and shaped by learning environments, instructional design, and social contexts, reinforcing the need for holistic and integrative interventions in higher education (Maunula et al., 2023; Marrone et al., 2024). Kahu et al. (2020) further emphasized that student engagement develops through dynamic interactions among institutional, relational, and personal factors, particularly during the critical transition to college, underscoring the importance of supportive, context-sensitive interventions.

Engagement is widely conceptualized as a multidimensional construct encompassing behavioral participation, emotional investment, and cognitive involvement in learning

processes (Fredricks et al., 2004). It reflects the degree to which students are actively involved in and committed to their academic experiences. Empirical evidence demonstrates that higher levels of engagement are associated with improved academic achievement, persistence, and self-regulated learning (Reschly & Christenson, 2012). From a motivational perspective, engagement is closely linked to self-determination theory, which posits that individuals are more likely to demonstrate sustained involvement when their needs for autonomy, competence, and relatedness are met (Deci & Ryan, 2000). More recent studies further highlight that engagement is socially situated, with peer interaction and collaborative learning environments significantly enhancing students' active participation and motivation (Maunula et al., 2023). Relatedly, Datu et al. (2023) found that reflective and mindfulness-related processes were positively associated with academic engagement among Filipino students, suggesting that interventions promoting emotional awareness and cognitive regulation may enhance academic involvement and adaptive functioning.

Complementing engagement is the construct of connectedness, defined as the subjective sense of belonging and the perceived quality of interpersonal relationships within the educational context (Baumeister & Leary, 1995; Strayhorn, 2018). Connectedness is particularly critical during the college years, as students renegotiate social networks and seek affirmation within new environments. A strong sense of belonging has been shown to predict academic persistence, institutional commitment, and emotional well-being, while its absence is associated with isolation, disengagement, and increased vulnerability to psychological distress (Jorgenson et al., 2018). Emerging evidence further suggests that connectedness is significantly shaped by institutional climate and structured support systems, which play a critical role in enhancing students' sense of belonging and overall adjustment (Yuan et al., 2025). Allen et al. (2021) likewise argued that belongingness is a

multidimensional, context-dependent experience strongly associated with students' psychological adjustment, motivation, and participation in educational settings, further underscoring the developmental importance of connectedness in higher education.

Importantly, engagement and connectedness are not independent constructs but are dynamically interrelated. Students who feel connected to peers and the academic community are more likely to participate actively in learning activities, while engaged students are more inclined to form meaningful social relationships. This reciprocal relationship suggests that both constructs operate synergistically to support adaptive functioning. The EPOCH model of well-being (Kern et al., 2016), which integrates engagement and connectedness alongside perseverance, optimism, and happiness, provides a comprehensive framework for understanding how these dimensions collectively contribute to student flourishing. Recent empirical work continues to validate the EPOCH framework, demonstrating that engagement and connectedness remain key predictors of psychological well-being and long-term mental health outcomes among university students (Wan et al., 2025).

Despite the growing recognition of engagement and connectedness as critical developmental assets, existing intervention studies often address these constructs in fragmented ways. Many higher education interventions primarily focus on academic skills enhancement, stress management, or psychoeducation without explicitly integrating relational connectedness and motivational engagement within a single intervention framework (Conley et al., 2013). In several programs, engagement is conceptualized mainly in terms of academic participation and performance, while connectedness is treated separately as a psychosocial or mental health outcome rather than an interconnected dimension of student adjustment. As a result, relatively few interventions simultaneously target both engagement and connectedness as

complementary processes essential to successful college adaptation.

Moreover, there remains limited empirical evidence regarding integrated EPOCH-based interventions among college populations, particularly within Filipino higher education contexts. Existing studies involving Filipino students have largely examined correlational relationships among positive emotions, engagement, resilience, and well-being rather than evaluating structured intervention programs designed to enhance these variables simultaneously (Datu et al., 2022; Olegario et al., 2025). Local intervention efforts also tend to emphasize academic remediation, mental health awareness, or individual coping skills without sufficiently incorporating relational belongingness and strengths-based developmental approaches. Given the collectivist orientation of Filipino culture, where interpersonal relationships and social connectedness play a central role in well-being, interventions that integrate both engagement and connectedness may be especially relevant for Filipino college students (Cristobal & Bance, 2021). Recent local intervention research by Navarez (2025) further demonstrated that positive psychology-based group interventions may enhance students' optimism and perseverance, suggesting the potential applicability of strengths-based interventions in broader domains of student functioning within Philippine higher education settings.

Contemporary intervention research further suggests that programs addressing both psychological and contextual dimensions of student functioning may produce more comprehensive and sustainable outcomes than interventions focused on isolated variables alone. Systematic reviews of higher education mental health and well-being interventions indicate that multidimensional programs integrating emotional support, social connectedness, motivation, and strengths-based development are associated with improvements in student adjustment, engagement, and psychological well-being (Conley et al., 2013). In addition, recent

correlational and predictive studies among university students further support the interconnected nature of engagement, resilience, life satisfaction, health behaviors, and well-being (Lobo et al., 2025; Olegario et al., 2025). While these studies do not provide direct evidence of intervention effectiveness, they nonetheless highlight the importance of simultaneously addressing multiple psychological and contextual factors to promote student adjustment and flourishing. Programs that cultivate motivation, belongingness, emotional support, and positive relationships may therefore offer a more holistic approach to supporting student development within higher education settings. However, evidence regarding the effectiveness of integrated engagement and connectedness-focused interventions remains limited, particularly in non-Western and collectivist educational settings. This gap highlights the need for culturally responsive and theory-driven interventions that address both motivational and relational dimensions of college adjustment.

Grounded in positive psychology, the present study introduces the FECT Program, a structured group-based intervention designed to enhance students' active participation in academic life while strengthening their sense of belonging and interpersonal connection. The study is primarily anchored in the EPOCH framework, which emphasizes engagement, perseverance, optimism, connectedness, and happiness as key dimensions of positive functioning among adolescents and young adults. Within this framework, the FECT Program specifically focuses on strengthening engagement and connectedness as essential components of students' psychological well-being and adjustment to college life. Self-determination theory and belongingness theory are used as supporting theoretical perspectives to explain how students' needs for autonomy, competence, relatedness, and social belonging contribute to positive academic and interpersonal outcomes. Through this EPOCH-based approach, the program seeks to address both intrapersonal and interpersonal domains

of student functioning within the higher education context.

The primary aim of this study is to evaluate the effectiveness of the FECT Program in improving engagement, connectedness, and overall well-being among college students. Specifically, the study examines whether participation in the intervention leads to significant changes in these variables and assesses the magnitude of these effects. It is hypothesized that students who complete the program will demonstrate significant increases in engagement, connectedness, and well-being, reflecting the integrative impact of a structured positive psychology intervention.

Positive Psychology Group Intervention. The Fostering Engagement and Connectedness Together (FECT) Program is a structured positive psychology group intervention designed to enhance students' well-being by strengthening their engagement in meaningful activities and their sense of connectedness with others. The program provides a safe, supportive environment where participants can develop self-awareness, build resilience, and cultivate positive relationships through guided psychoeducation and experiential activities. Grounded in the EPOCH framework, the intervention specifically promotes engagement, connectedness, optimism, and positive functioning through strengths-based and relationally oriented activities. The cognitive, emotional, and interpersonal strategies integrated into the program are intended to support students' flourishing by enhancing self-regulation, motivation, purpose, and social belonging, which are central principles of positive psychology. Implemented over six sessions, the intervention integrates cognitive, emotional, and social strategies to address common student concerns such as anxiety, low motivation, and social isolation, ultimately promoting holistic functioning and flourishing. Attendance was monitored throughout the program, and all 40 participants completed the six intervention sessions and both the pretest and posttest assessments. No participant dropouts or incomplete data were recorded

during the study. The program was facilitated by one of the institution's guidance counselors who is trained in group facilitation, counseling interventions, mindfulness-based approaches, and positive psychology-informed practices. To support intervention fidelity, the facilitator followed a structured session guide outlining the objectives, activities, and processing procedures for each module.

The program begins with Module 1, which focuses on orientation, rapport-building, and establishing group norms, while introducing basic emotional regulation techniques such as deep breathing to manage stress. These activities align with positive psychology principles by promoting emotional awareness, self-regulation, and psychological safety, thereby supporting students' capacity for adaptive functioning and engagement. This is followed by Module 2, which deepens self-awareness by helping participants recognize and accept their thoughts, emotions, and behaviors, and introduces mindfulness and DBT-informed strategies to support mental health. Mindfulness and emotional regulation strategies are incorporated not merely as clinical techniques but as strengths-based practices that cultivate resilience, emotional balance, and reflective functioning. Together, these initial modules lay the foundation for psychological safety and emotional regulation within the group.

Building on this foundation, Module 3 targets motivation and engagement by guiding participants to explore their interests, strengths, and personal drivers using structured frameworks such as the ARCS model. The use of strengths exploration and motivational enhancement aligns with positive psychology's emphasis on identifying personal resources and fostering intrinsic motivation and engagement. Module 4 then translates these insights into action through goal-setting, equipping participants with practical skills to create and pursue SMART goals, thereby enhancing their sense of purpose and agency. Goal-setting activities support positive functioning by encouraging hope, self-efficacy,

perseverance, and intentional growth. These modules collectively strengthen students' active involvement in their academic and personal lives.

The final phase of the program emphasizes social connectedness. Module 5 focuses on building and sustaining meaningful relationships by highlighting the value of social support networks and providing opportunities to practice interpersonal connection. Consistent with the EPOCH framework, these activities reinforce connectedness as a protective and developmental factor associated with well-being and belongingness. Module 6 further develops interpersonal effectiveness by teaching communication styles, particularly assertiveness, enabling participants to improve relationship quality and navigate social interactions more confidently. Assertiveness training is incorporated as a positive interpersonal skill that promotes healthy communication, confidence, and relationship satisfaction rather than merely reducing conflict or distress.

Overall, the FECT Program integrates principles of positive psychology, skills-based learning, and group support to foster both intrapersonal growth and interpersonal connectedness. By sequentially addressing emotional regulation, motivation, goal-setting, and relationship-building, the intervention offers a comprehensive approach to enhancing student well-being, engagement, and social integration. The integration of these components within the EPOCH framework provides a theoretically coherent intervention model that targets multiple dimensions of positive student functioning and adjustment in higher education.

METHODOLOGY

Research Design. This study employed a quasi-experimental pretest–posttest design without a control group. While randomized controlled trials are considered the gold standard in intervention research, quasi-experimental designs remain appropriate in applied educational and counseling settings where

random assignment may not be feasible (Creswell & Creswell, 2018). A one-group pretest–posttest design was considered appropriate for the present study because the primary aim was to examine the preliminary effectiveness and feasibility of the FECT Program in a university setting. The absence of a control group was primarily due to logistical and scheduling constraints within the university setting, including limited participant availability, coordination of session schedules, and the need to complete the intervention within a specific academic term. These constraints reduced the feasibility of forming and maintaining equivalent comparison groups throughout the program. This design allows for the examination of within-subject changes over time, providing preliminary evidence of intervention effectiveness. Furthermore, the pretest–posttest design was appropriate for assessing short-term changes in engagement, connectedness, and psychological well-being following participation in a structured group intervention, making it suitable for an exploratory, practice-oriented study conducted in an educational context.

Participants. The sample consisted of 40 undergraduate students aged 18 to 25 years ($M = 20.3$, $SD = 1.9$) enrolled at a state university during the academic year 2025–2026. Of the participants, 24 (60%) identified as female and 16 (40%) identified as male. Participants were enrolled across different year levels and academic programs, including education, social sciences, business, and technology-related courses, providing a diverse representation of undergraduate student experiences within the university setting. Most participants were in their first and second-year levels, which are developmental stages often associated with adjustment difficulties, transition concerns, and increased vulnerability to disengagement and social isolation.

Participants were recruited through campus-wide announcements disseminated through university social media platforms, classroom endorsements, and referrals from the Counseling Services Unit. Interested students

were invited to complete an initial screening form and attend a brief orientation regarding the nature, objectives, and requirements of the intervention program. Inclusion criteria required participants to self-report difficulties in engagement or social connectedness and to commit to completing all intervention sessions. Self-reported difficulties in engagement or connectedness were operationalized as participants' subjective experiences of low academic motivation, reduced participation in school-related activities, difficulty establishing social relationships, feelings of isolation, or lack of belongingness within the university environment, as identified through the screening form and intake interview conducted prior to participation.

The sample reflects a purposive selection strategy consistent with intervention-based research in counseling psychology (Heppner et al., 2016). The sample size was considered appropriate for a preliminary intervention study employing a group-based counseling format, as it enabled manageable group facilitation, active participant engagement, and adequate monitoring of intervention processes and outcomes. Additionally, the sample size was deemed sufficient to detect within-subject changes using paired-samples statistical analyses while remaining feasible within the logistical and scheduling limitations of the academic setting. The decision to limit the sample size is based on resource constraints, including time and logistical considerations, and aims to enhance the quality of engagement. A smaller group allows for more individualized attention during the intervention, fostering a supportive environment in which students can effectively learn and practice the targeted cognitive-behavioral techniques.

Instruments. Engagement and connectedness were measured using the Engagement and Connectedness subscales of the EPOCH Measure of Adolescent Well-Being (Kern et al., 2016). Rather than utilizing the full EPOCH scale, the present study specifically employed the engagement and connectedness domains because these constructs were directly aligned

with the objectives of the FECT Program. The engagement subscale assesses students' level of involvement, absorption, and interest in meaningful academic and daily activities, while the connectedness subscale measures perceived social support, interpersonal closeness, and sense of belonging. Each subscale consists of 4 items rated on a 5-point Likert scale from 1 (almost never) to 5 (almost always), with higher scores indicating greater engagement and connectedness. Previous studies have demonstrated satisfactory psychometric properties of the EPOCH Measure among adolescent and young adult populations, including acceptable construct validity and internal consistency across educational settings (Kern et al., 2016). Kern et al. (2016) reported Cronbach's alphas of .82 for the Engagement subscale and .86 for the Connectedness subscale, indicating strong internal consistency. The authors also reported strong convergent validity, with the Engagement subscale positively associated with school engagement, academic performance, and positive affect, while the Connectedness subscale demonstrated significant positive correlations with peer connectedness, parental connectedness, teacher connectedness, life satisfaction, and positive affect. These findings support the utility of the EPOCH subscales in assessing positive functioning and relational well-being among student populations.

Psychological well-being was assessed using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) developed by Tennant et al. (2007). The WEMWBS is a 14-item self-report measure designed to assess positive mental health, including both hedonic and eudaimonic dimensions of well-being such as optimism, positive relationships, emotional functioning, and psychological competence. Participants responded to items using a 5-point Likert scale ranging from 1 (none of the time) to 5 (all of the time). Total scores range from 14 to 70, with higher scores reflecting higher levels of psychological well-being and positive mental functioning. The WEMWBS has been widely used in educational and community settings and has

demonstrated strong psychometric properties across diverse populations. Tennant et al. (2007) reported excellent internal consistency reliability for the scale (Cronbach's $\alpha = .91$), as well as strong convergent validity with related measures of mental health and life satisfaction.

Procedure. Following approval from the university research ethics committee and authorization from relevant institutional offices, participant recruitment was carried out through campus-wide announcements, classroom presentations, and referrals from the Counseling Services Unit. Students who expressed interest in joining the study completed a preliminary screening form and attended an orientation session that explained the purpose of the study, intervention procedures, expectations for participation, confidentiality measures, and participants' rights. Individuals qualified for inclusion if they reported experiencing challenges related to academic engagement, motivation, interpersonal connection, or sense of belonging within the university context and indicated willingness to attend the entire intervention program. Upon securing informed consent, participants completed the initial assessment measuring engagement, connectedness, and psychological well-being before the start of the intervention.

The FECT Program was delivered over six consecutive weeks, with one session per week. Each session lasted approximately 90 minutes and was facilitated by one of the university's guidance counselors who had training in group facilitation, counseling interventions, mindfulness-informed strategies, and positive psychology-based approaches. To maintain consistency and fidelity of implementation, the facilitator utilized a structured intervention manual outlining the objectives, activities, and processing guidelines for each session. The intervention sessions were organized sequentially, with Session 1 focusing on orientation, rapport development, and emotional regulation techniques; Session 2 emphasizing self-awareness, mindfulness practices, and DBT-informed coping strategies;

Session 3 addressing motivation enhancement and identification of personal strengths; Session 4 concentrating on SMART goal-setting and purposeful action planning; Session 5 promoting social support, belongingness, and relationship-building; and Session 6 strengthening interpersonal effectiveness and assertive communication skills. Each session incorporated psychoeducational discussions, reflective exercises, experiential learning activities, collaborative sharing, and facilitated group processing to reinforce engagement and connectedness among participants. Participant attendance was monitored throughout the intervention period, and all 40 participants successfully completed the 6-session program.

Upon completion of the intervention, participants were administered the post-intervention assessment using the same instruments employed during the baseline assessment. The posttest was conducted immediately after the final session under standardized conditions to ensure consistency in data collection. Participants were reminded that their responses would remain confidential, participation was voluntary, and all information gathered would be used exclusively for research purposes to encourage openness and minimize response bias.

Data Analysis. Data were analyzed using paired-samples t-tests to examine differences between participants' pretest and posttest scores on engagement, connectedness, and psychological well-being following participation in the FECT Program. The paired-samples t-test was considered appropriate for the present study because the design involved repeated measurements obtained from the same group of participants before and after the intervention. This statistical procedure allowed the researcher to determine whether significant changes occurred in the outcome variables after exposure to the six-session group intervention. Specifically, the analysis assessed whether participation in the FECT Program was associated with improvements in students' levels of engagement, connectedness, and psychological well-being over time.

In addition to statistical significance testing, effect sizes were computed using Cohen's *d* for paired-samples data to determine the magnitude of change associated with the intervention. Cohen's *d* values were calculated using the mean difference scores divided by the standard deviation of the difference scores, which is considered appropriate for repeated-measures designs. Effect size interpretation followed Cohen's (1988) guidelines, wherein values of 0.20 indicate small effects, 0.50 indicate medium effects, and 0.80 or higher indicate large effects. Reporting effect sizes was considered important in the present study to evaluate the practical significance of the intervention outcomes beyond statistical significance alone, particularly given the exploratory and preliminary nature of the one-group pretest–posttest design. All statistical analyses were conducted using a significance level of $p < .05$.

The present study did not formally assess the normality of the difference scores before conducting the paired-samples *t*-tests, which is acknowledged as a methodological limitation. Nevertheless, the paired-samples *t*-test is generally considered a robust statistical procedure, particularly in studies with moderate sample sizes such as the present sample of 40 participants (Field, 2018). The consistency of the observed results across all outcome variables, together with the large effect sizes obtained, provides support for the stability of the findings.

Ethical Considerations. Before participation, ethical considerations were strictly observed to protect the rights and well-being of participants. The study underwent ethical review and approval by an Institutional Review Board (IRB) to ensure compliance with research ethics, including confidentiality, voluntary participation, and data protection. Participants were required to provide written informed consent, which outlined the study's purpose, procedures, potential risks, and the right to withdraw at any point without consequences. To maintain confidentiality, all responses were anonymized, and participant

data were securely stored. Possible risks associated with the study might be mild emotional discomfort during self-reflection activities and discussions of personal experiences related to engagement, belongingness, and social relationships. To address these potential concerns, the intervention was facilitated by a trained guidance counselor who continuously monitored participants' emotional well-being throughout the sessions and provided appropriate support whenever necessary. Participants were likewise informed that they could choose not to respond to sensitive questions, take a break from activities, or withdraw from the study at any time without any negative consequences. No participants reported significant distress or adverse psychological reactions during the intervention.

RESULTS

The results of the study are presented in relation to changes in students' engagement, connectedness, and psychological well-being following participation in the FECT Program. Table 1 summarizes the pretest and posttest scores across the measured variables and provides an overview of the direction and magnitude of change observed after the six-session intervention.

Table 1
Pretest and Posttest Scores for Engagement, Connectedness, and Psychological Well-Being

Variable	Pretest Mean (SD)	Posttest Mean (SD)	Mean Difference	95% CI of the Difference	t(df)	p	Cohen's <i>d</i>
Engagement	3.21 (0.45)	4.02 (0.40)	0.81	[0.60, 1.02]	7.85 (39)	< .001	1.24
Connectedness	3.10 (0.50)	4.05 (0.38)	0.95	[0.72, 1.18]	8.31 (39)	< .001	1.31
Well-being	47.50 (8.60)	59.80 (7.20)	12.30	[9.54, 15.06]	9.02 (39)	< .001	1.42

Note: *df* = degrees of freedom. Paired-samples *t*-tests were computed using posttest minus pretest scores; therefore, positive *t*-values and mean differences indicate improvement following participation in the intervention. Cohen's *d* values were computed using the mean difference divided by the standard deviation of the difference scores for paired-samples data.

The findings presented in Table 1 indicate that participants demonstrated higher posttest scores across all outcome variables after completing the FECT Program. Across engagement, connectedness, and psychological

well-being, the posttest means were consistently higher than the baseline means, suggesting positive changes in both intrapersonal and interpersonal aspects of student functioning following participation in the intervention. Because the paired-samples analyses were computed using posttest minus pretest scores, the positive mean differences and positive t -values consistently reflect improvements observed after participation in the program. The statistically significant t -values and confidence intervals that did not include zero further indicate that the observed changes were consistently positive across participants in the sample.

For engagement, participants' mean scores increased from 3.21 (SD = 0.45) during the pretest to 4.02 (SD = 0.40) at posttest, reflecting a mean increase of 0.81 points. The obtained result, $t(39) = 7.85, p < .001$, indicates that the increase in engagement scores was statistically significant. The 95% confidence interval for the mean difference ranged from 0.60 to 1.02, indicating that the estimated increase in engagement scores remained positive within the confidence range. The effect size for engagement ($d = 1.24$) exceeded the conventional threshold for a large effect, suggesting that the magnitude of change observed was substantial. These findings indicate that participants reported greater behavioral involvement, emotional investment, and cognitive participation in academic and related activities after participating in the intervention. The increase in engagement scores may reflect participants' improved motivation, active participation, and sense of involvement fostered through the intervention activities focusing on self-awareness, goal-setting, and strengths development.

Similarly, connectedness scores showed a statistically significant increase from a pretest mean of 3.10 (SD = 0.50) to a posttest mean of 4.05 (SD = 0.38), yielding a mean difference of 0.95 points, $t(39) = 8.31, p < .001$. The 95% confidence interval ranged from 0.72 to 1.18, further supporting the consistency of the positive change in connectedness scores

following the intervention. Among the measured variables, connectedness demonstrated one of the largest observed gains, as reflected in the large effect size ($d = 1.31$). This finding suggests that participants experienced improvements in their sense of belonging, interpersonal support, and perceived social connection within the university environment. Given the group-based nature of the FECT Program, the increase in connectedness scores may reflect the influence of collaborative discussions, shared experiences, and interpersonal skill-building activities that encouraged supportive peer interaction and relational engagement among participants.

Psychological well-being also demonstrated statistically significant improvement following participation in the intervention. Participants' WEMWBS scores increased from a pretest mean of 47.50 (SD = 8.60) to a posttest mean of 59.80 (SD = 7.20), representing a mean increase of 12.30 points, $t(39) = 9.02, p < .001$. The 95% confidence interval for the mean difference ranged from 9.54 to 15.06, indicating that the increase in well-being scores remained consistently positive across the estimated population range. The effect size for well-being ($d = 1.42$) was the largest among the measured variables, indicating a very large effect size. These findings suggest that participants experienced improvements in overall positive mental health, including emotional functioning, optimism, sense of purpose, and psychological adjustment. The observed increase in well-being may be associated with the intervention's emphasis on emotional regulation, mindfulness, strengths identification, positive relationships, and adaptive coping strategies grounded in the EPOCH framework.

Taken together, the results reveal a consistent pattern of positive change across engagement, connectedness, and psychological well-being following participation in the FECT Program. The large effect sizes observed across all variables suggest that the changes were not only statistically significant but also practically meaningful within the context of student

development and well-being. Improvements across both intrapersonal (engagement and psychological well-being) and interpersonal (connectedness) domains appear consistent with the intervention's objectives, which aimed to strengthen students' active involvement in academic life while enhancing their sense of belonging and relational support.

At the same time, the findings should be interpreted within the study's methodological limitations. Because the research employed a one-group pretest-posttest design without a comparison group, the observed improvements cannot be attributed solely to the intervention with certainty. While the results indicate that positive changes occurred following participation in the FECT Program, other factors occurring during the intervention period may also have contributed to the observed outcomes. Thus, the findings are best interpreted as preliminary evidence supporting the potential usefulness of the intervention in promoting engagement, connectedness, and psychological well-being among college students.

DISCUSSION

The present study contributes to the growing body of literature emphasizing the importance of engagement and connectedness in higher education by demonstrating that participants reported significant improvements in these constructs, as well as in psychological well-being, following participation in the FECT Program. The findings provide preliminary evidence that participation in a structured, theory-driven, positive psychology-based group intervention may be associated with positive changes in students' academic and psychosocial functioning. Rather than suggesting direct intervention effects, existing studies, such as Maunula et al. (2023) and Marrone et al. (2024), primarily support the broader association among student well-being, engagement, learning environments, and academic functioning. In contrast, intervention-focused literature indicates that structured positive psychology and psychosocial support

programs may improve student well-being, resilience, engagement, and adjustment (Conley et al., 2013; Shoshani & Steinmetz, 2014). The findings also support the proposition that engagement and connectedness represent important dimensions of student flourishing and adjustment within higher education settings (Kern et al., 2016; Wan et al., 2025).

The observed increase in engagement suggests that engagement may be responsive to structured interventions that promote self-awareness, goal-setting, reflection, and motivational development. From the perspective of self-determination theory (Deci & Ryan, 2000), the intervention activities may have supported participants' needs for autonomy and competence by encouraging active participation, personal goal formation, and reflection on strengths and interests. These processes may have contributed to increased cognitive, emotional, and behavioral involvement in academic and related activities. The findings are aligned with prior literature indicating that students tend to demonstrate higher levels of engagement when they perceive their environment as supportive, meaningful, and participatory (Reschly & Christenson, 2012). At the same time, caution is warranted in interpreting these improvements, as factors unrelated to the specific intervention content may also have contributed to the observed changes. For instance, increased attention from facilitators, repeated exposure to self-reflective activities, or participants' expectations of improvement may have influenced engagement scores.

Similarly, the substantial increase in connectedness highlights the potential importance of relational and interpersonal experiences in supporting students' adjustment within higher education contexts. Consistent with belongingness theory (Baumeister & Leary, 1995), the group environment may have provided participants with opportunities for interpersonal validation, shared experiences, and supportive interaction, thereby strengthening their sense of social belonging and connection. Existing literature consistently

identifies social connectedness and peer support as important predictors of academic adjustment and psychological well-being among university students (Strayhorn, 2018). More recent studies likewise emphasize that structured peer interaction and supportive educational climates contribute positively to students' social integration and sense of belonging (Yuan et al., 2025). However, it is also important to consider that improvements in connectedness may not be attributable solely to the theoretical components of the FECT Program. The simple experience of participating in a supportive group setting, interacting regularly with peers, and receiving social attention over a six-week period may, independently of the intervention framework, contribute to increased perceptions of connectedness.

The significant improvement in psychological well-being further supports the potential interrelationship among engagement, connectedness, and overall mental health. Within the EPOCH framework (Kern et al., 2016), well-being is conceptualized as multidimensional and influenced by both individual and relational experiences. The intervention's emphasis on emotional regulation, mindfulness, strengths development, goal-setting, and relationship-building may have contributed to participants' increased sense of optimism, emotional functioning, and psychological adjustment. The findings are likewise consistent with broaden-and-build theory (Fredrickson, 2001), which proposes that positive emotional experiences may broaden individuals' coping resources and adaptive capacities over time. Recent correlational and predictive studies among student populations likewise suggest that positive emotions, mastery-oriented goals, and academic engagement are positively associated with students' academic functioning and psychological adjustment (Datu et al., 2022). In the present study, the observed improvements in engagement and psychological well-being following participation in the FECT Program are consistent with these findings, suggesting that promoting self-reflection, motivation, and

positive emotional experiences may support adaptive academic and psychosocial functioning among college students. In addition, Navarez (2025) reported that positive psychology-based group interventions may contribute to improvements in optimism and perseverance among college students, further supporting the potential relevance of strengths-based interventions within higher education settings. Nevertheless, because the study relied on repeated self-report measures administered within a relatively short timeframe, improvements in well-being may also have been influenced by testing effects, increased familiarity with the measures, temporary mood changes, or participants' desire to report improvement following program completion.

Despite these promising findings, several limitations should be acknowledged. First, the study employed a one-group pretest-posttest design without a control or comparison group, limiting the ability to draw causal conclusions about the intervention's effectiveness. Because all participants received the intervention, it is not possible to determine whether the observed improvements were specifically due to the FECT Program or to other factors such as maturation, increased social interaction, facilitator attention, expectancy effects, or naturally occurring adjustment over time. Future studies utilizing randomized controlled trials or comparison-group designs would provide stronger evidence regarding intervention efficacy (Creswell & Creswell, 2018).

Second, the study used a relatively small purposive sample drawn from a single university, limiting the generalizability of the findings to other student populations, institutional settings, or cultural contexts. Participants who volunteered for the intervention may also have been more motivated, psychologically open, or receptive to group-based activities, introducing possible self-selection bias.

Third, the study relied exclusively on self-report measures, which may be subject to response bias, social desirability effects, and common

method variance. Although the instruments demonstrated satisfactory reliability, future studies may benefit from incorporating multiple sources of data, such as behavioral indicators, peer evaluations, facilitator observations, or qualitative interviews, to provide a more comprehensive assessment of intervention outcomes (Heppner et al., 2016).

Fourth, no long-term follow-up assessment was conducted; therefore, the sustainability of the observed improvements over time remains unclear. Engagement, connectedness, and psychological well-being are dynamic constructs that may fluctuate depending on academic, interpersonal, and environmental experiences. Future longitudinal research is needed to examine whether the positive changes observed immediately after the intervention are maintained over extended periods.

Fifth, potential facilitator effects cannot be entirely ruled out, as the intervention was facilitated by a trained guidance counselor whose interpersonal style, rapport-building skills, and supportive presence may have influenced participants' responses and experiences during the program. In addition, although a structured session guide was utilized, the study did not formally assess intervention fidelity, making it difficult to determine the extent to which all intervention components were implemented consistently across sessions.

Despite these limitations, the study offers meaningful contributions to the literature on student development and well-being in higher education. The findings provide preliminary support for the potential usefulness of structured, positive psychology-oriented, and relationally focused group interventions in promoting students' engagement, connectedness, and psychological well-being within a Filipino higher education context. The study also highlights the importance of addressing both intrapersonal and interpersonal dimensions of student functioning through holistic and strengths-

based approaches. Rather than viewing engagement and connectedness as separate constructs, the findings suggest that interventions targeting both domains simultaneously may hold promise for supporting student adjustment, belongingness, and overall flourishing in university settings.

The findings of the present study also carry important practical implications for higher education institutions, particularly for guidance offices, counseling centers, student affairs units, and first-year experience programs that support student adjustment and well-being. The observed improvements in engagement, connectedness, and psychological well-being suggest that structured, group-based interventions grounded in positive psychology and relational approaches may be useful supplementary support programs for students experiencing difficulties related to motivation, belongingness, or adjustment to university life. Specifically, universities may consider incorporating structured psychoeducational and group support activities within existing student wellness and retention initiatives.

The group-based nature of the FECT Program may be particularly relevant in higher education settings where students often experience social isolation, academic stress, or adjustment challenges during transitional periods. Guidance and counseling offices may use similar structured interventions as preventive and developmental programs to foster supportive peer interaction and enhance students' sense of belonging within the university community. Likewise, student affairs and first-year transition programs may integrate selected positive psychology-informed activities into orientation, wellness, or student engagement initiatives to support holistic student development.

Conclusion. This study examined the preliminary effectiveness of the FECT Program, a structured positive psychology group intervention grounded in the EPOCH framework, in enhancing college students' engagement, connectedness, and psychological well-being.

Findings from the pretest–posttest analyses indicated that participants reported significant improvements across all three outcome variables following participation in the intervention. Specifically, higher post-intervention scores were observed in engagement, connectedness, and psychological well-being, with large effect sizes across all measures. These results suggest that students experienced increased involvement in academic and meaningful activities, a stronger sense of belonging and interpersonal connection, and improved overall mental well-being after completing the program.

However, the findings should be interpreted as preliminary evidence rather than definitive proof of effectiveness, given the one-group pretest–posttest design without a comparison group. This methodological limitation means that the observed improvements cannot be attributed exclusively to the intervention, as other factors, such as maturation, repeated testing, facilitator influence, or participants' expectations, may also have contributed to the changes.

Future research should build on these findings by employing more rigorous research designs, such as randomized controlled trials or quasi-experimental designs with comparison groups, to strengthen causal inferences. Studies with larger, more diverse samples across multiple higher education institutions are also recommended to enhance generalizability. In addition, longitudinal follow-up assessments are needed to determine the sustainability of the intervention effects over time. Further refinement of the FECT Program may also explore integrating additional positive psychology constructs and examining which specific components are most strongly associated with improvements in student outcomes.

Overall, the study provides initial support for the potential value of structured, theory-driven group interventions in promoting engagement, connectedness, and psychological well-being

among college students, while underscoring the need for further empirical validation.

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Data availability statement. Due to ethical restrictions, the data are not publicly available but may be obtained from the corresponding author upon reasonable request.

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