IPRPD
International Journal of Arts, Humanities and Social Sciences
ISSN 2693-2547 (Print), 2693-2555 (Online)
Volume 06; Issue no 12: December 2025
DOI: 10.56734/ijahss.v6n12a9

BEYOND STATUS: INSTITUTIONAL ACCESS AND THERAPY USE AMONG FIRST-GENERATION COLLEGE STUDENTS – EVIDENCE FROM THE HEALTHY MINDS STUDY (AY 2021-2022 TO 2023-2024)

Stephanie R. Bobbitt, Ph.D.[1], Steven M. Carlo, Ph.D.[2], Renae Knowles[3]

[123]*Monmouth University*

Abstract

First-generation (FG) college students face persistent barriers to mental health service utilization, rooted in structural, psychosocial, and financial constraints. Using three waves of the Healthy Minds Study (AY 2022-2024; N ≈ 277,000; ~18% FG), a multi-institution, nationally distributed survey, we examined generational differences in mental health experiences, access, and current therapy use. Analyses incorporated survey weights and campus-year clustering. We produced weighted descriptives and design-based group tests, then fit survey-weighted logistic regressions predicting current therapy from financial stress, perceived provider access, perceived stigma, sense of belonging, and discrimination, with FG status and year fixed effects. We summarized marginal effects on the probability scale and ran a sensitivity check excluding rare contradictory responses.

Descriptively, first-generation students reported higher financial stress, slightly higher perceived provider access and campus belonging, and lower perceived stigma and discrimination than continuing-generation (CG) peers; therapy prevalence was broadly similar, with small CG advantages in 2022-2023. In multivariate models, reporting discrimination (OR ≈ 1.29) and higher perceived access (OR ≈ 1.06 per scale unit) were the most consistent correlates of being in therapy; financial stress (OR ≈ 1.06) and perceived stigma (OR ≈ 1.05) showed smaller positive associations, whereas belonging was not significant net of covariates. FG students had slightly lower odds of therapy than CG peers (OR ≈ 0.86). Interactions by FG status and by year were limited in size; marginal effects were modest for financial stress (Δp ≈ .011-.014) and access (Δp ≈ .021-.026) and moderate for discrimination (Δp ≈ .052-.060). Findings point to institutional-level levers, such as expanding provider access and improving campus climate, as central to narrowing generational gaps, alongside targeted support for students experiencing high financial strain..

Keywords

First-Generation, Mental Health, Help-Seeking, Access, Higher Education

Introduction

The transition to higher education presents unique challenges for first-generation college students, leading to significant mental health concerns (Keefe et al., 2020; Ward et al., 2012). Additionally, first-generation college students frequently face distinct obstacles that impact their mental health and help-seeking behaviors. Key factors influencing these dynamics include financial stress, perceived discrimination, and the level of institutional support available (Homick, 2023; Byrd & McKinney, 2012). These factors are especially prevalent for first-generation college students given that they are more likely to have lower family income and are more often students of color compared to their continuing-generation peers (U.S. Department of Education, National Center for Education Statistics, 2022). Financial stress is particularly relevant, encompassing issues such as current financial situations and food or housing insecurity. Furthermore, perceived discrimination rooted in experiences of bias related to race, gender, or culture can further complicate first-generation college students' willingness to seek help.

Institutional support plays a critical role in shaping first-generation college students' perceptions of mental health resources on campus. Understanding how these elements interact is essential for developing effective interventions that promote equitable access to mental health resources, thereby supporting first-generation college

students' academic success and overall well-being. The barriers first-generation college students face in seeking mental health services are multifaceted, involving social, financial, and psychological factors that collectively hinder their access to support (Schwartz et al., 2018). Understanding these barriers is essential for developing targeted interventions that can effectively address the needs of this unique student population.

Barriers To Seeking Mental Health Services

Prior research indicates that first-generation college students encounter multiple barriers when attempting to access mental health services. One significant obstacle is a lack of social capital, which encompasses emotional support and information about available resources on campus (Schwartz et al., 2018). Many first-generation college students come from backgrounds where mental health issues are not openly discussed, leading to feelings of isolation and a reluctance to seek help (Garriott & Nisle, 2017; Stebleton et al., 2014).

Self-stigma and lower perceived belongingness on campus further discourage first-generation college students from utilizing counseling services. First-generation college students often experience a sense of alienation in college environments, which compounds their hesitance to reach out for support (Garriott et al., 2017; Stephens et al., 2012). According to a recent study by Homick (2023), first-generation college students commonly report a lack of familiarity with mental health resources and face social stigma associated with seeking help. Although they may be less likely to attend counseling prior to college, first-generation college students tend to seek help more frequently after starting their academic journeys, indicating a potential delay in recognizing their mental health needs.

Financial stress is another crucial barrier that first-generation college students face. Typically, these students experience higher levels of financial strain, which can limit their ability to pursue mental health services (Homick, 2023; Garriott & Nisle, 2017). The financial burden of college often forces first-generation college students to prioritize academic and work commitments over their mental health needs, making them reluctant to incur additional costs associated with counseling (Byrd & McKinney, 2012). Research has shown that financial pressures can exacerbate psychological distress, compounding the challenges first-generation college students face (Adams et al., 2016).

As Garriott and Nisle (2017) indicate, first-generation college students frequently juggle academic responsibilities with work commitments to alleviate financial burdens, leading to increased stress and a decreased likelihood of utilizing mental health services. This financial strain often translates into hesitance to incur additional costs, underscoring the necessity for institutions to provide accessible, low-cost mental health resources. Furthermore, first-generation college students may feel isolated and unsupported, which further diminishes their likelihood of seeking help. They often report lower levels of perceived belongingness and higher levels of stigma surrounding mental health issues, further deterring them from accessing necessary services (Garriott et al., 2017; Stebleton et al., 2014).

These disparities in access are not merely the result of individual attitudes or lack of information but are deeply shaped by broader institutional dynamics. For example, culturally unresponsive environments and a lack of targeted support systems can perpetuate exclusion for first-generation students, especially those from racially minoritized backgrounds (Museus, 2014). Structural inequities in how resources are distributed across postsecondary institutional may also compound disadvantage, limiting the reach of effective mental health interventions (Terenzini et al., 2001). Recognizing these systemic barriers is critical for reframing help-seeking not only as a personal choice but as an outcome influenced by institutional context.

Patterns of Mental Health Service Utilization

The patterns of mental health service utilization reveal significant disparities between first-generation college students and their continuing-generation counterparts. Although first-generation college students report higher levels of psychological distress, including anxiety and depression, they are less likely to seek mental health services than continuing-generation college students (Keefe et al., 2020). This underutilization can be attributed to various factors, such as a lack of awareness about available resources, feelings of inadequacy, and fear of stigma (Martinez et al., 2009).

While sharing similar mental health concerns to continuing-generation college students, first-generation college students are less likely to seek mental health services (Dennis et al., 2005). However, it has been noted that when counseling services are utilized, first-generation college students often engage in fewer counseling sessions and may take longer to recognize the benefits of treatment (Keefe et al., 2020). Additionally, Homick (2023) highlights that first-generation college students demonstrate distinct patterns of mental health service utilization. Specifically, first-generation students are less likely to attend counseling for mental health concerns before college but show a higher likelihood of seeking counseling once they begin their college experience. This suggests that unique needs and stressors become more apparent during the transition to college (Homick, 2023).

Institutional support plays a crucial role in shaping first-generation college students' help-seeking behaviors. Garriott and Nisle (2017) emphasize the importance of institutional resources, such as mentorship programs and accessible mental health services, in mitigating the barriers first-generation college students face.

Institutions that actively foster a supportive environment can enhance first-generation college students' confidence in seeking mental health care, potentially leading to more equitable outcomes.

In contrast, continuing-generation college students are generally more familiar with mental health resources and tend to have stronger support systems that encourage them to seek help (Garriott et al., 2015). This suggests a critical gap in support for first-generation college students, who are less likely to access mental health services despite experiencing similar levels of distress (Dennis et al., 2005). This disparity in utilization rates can be traced back to barriers such as financial concerns and feelings of alienation on campus. Dennis and colleagues (2005) found that first-generation college students often lack the social support systems that facilitate help-seeking behaviors, complicating their access to necessary mental health resources.

Overall, the utilization of mental health services among first-generation college students differs significantly from that of continuing-generation college students. Despite reporting higher symptoms of distress, including greater levels of depression, anxiety, and academic challenges (Keefe et al., 2020), first-generation college students engage in fewer counseling sessions and may take longer to appreciate the benefits of treatment. Factors such as a lack of awareness about resources, feelings of inadequacy, fear of stigma, and concerns about therapy costs contribute to this underutilization (Martinez et al., 2009; Garriott & Nisle, 2017). Addressing these barriers is essential for improving mental health outcomes among first-generation college students.

Influence of Financial Stress and Perceived Discrimination

Financial stress significantly impacts the mental health outcomes of first-generation college students by limiting their access to mental health services and exacerbating their overall well-being (Garriott & Nisle, 2017). As financial burdens increase, first-generation college students often prioritize immediate economic needs over mental health care, leading to delays in seeking help. This prioritization can create a cycle where financial stress leads to deteriorating mental health, further complicating their willingness to access necessary resources.

Perceived discrimination, whether based on socioeconomic status, race, or other factors, adds another layer of complexity to first-generation college student's experiences. Discrimination can foster feelings of alienation and diminish trust in institutional support, reinforcing barriers to help-seeking behaviors (Hurd et al., 2018; Ward et al., 2012). First-generation college students from minoritized backgrounds may face compounded challenges, as they often report higher levels of financial distress along with feelings of isolation, which can increase their mental health challenges.

Despite these obstacles, emotional support from family can serve as a protective factor, helping to mitigate some of the stressors associated with financial strain and discrimination. Such support systems are crucial in encouraging first-generation college students to seek help (Homick, 2023). The interplay between financial stress, perceived discrimination, and help-seeking behaviors among first-generation college students is complex. Financial pressures not only affect their ability to pay for mental health services but also impact their overall mental well-being (Garriott & Nisle, 2017). As these pressures mount, first-generation college students may delay or forgo professional help, prioritizing economic needs instead. Furthermore, perceived discrimination can exacerbate feelings of isolation and stress, further reducing the likelihood that first-generation college students will seek mental health services (Stephens et al., 2014).

Institutional support is critical in mitigating these barriers. Programs that offer mentorship, financial aid, and tailored resources for first-generation college students have been shown to enhance help-seeking behaviors and improve mental health outcomes (Garriott et al., 2015; Schwartz et al., 2018). Understanding the complexities of financial stress and perceived discrimination is essential for developing effective interventions that promote equitable access to mental health services for first-generation college students. Addressing both financial and psychological barriers through comprehensive support systems is vital in fostering a more supportive environment for this unique student population.

Existing literature highlights the multifaceted barriers that first-generation college students face in seeking mental health services compared to their continuing-generation peers. Financial stress, perceived discrimination, and a lack of institutional support significantly influence first-generation college student's help-seeking behaviors. Addressing these barriers through targeted interventions is crucial for promoting mental health equity and facilitating academic success among first-generation college students. To guide this investigation, the following research questions were addressed:

1. What financial, institutional, and psychosocial barriers deter first-generation college students from accessing mental health services, and how have these impediments evolved over time?
2. How do patterns of mental health service utilization among first-generation students compare to those of their continuing-generation counterparts across multiple survey years?
3. How do financial stress, institutional factors, and perceived discrimination shape first-generation students' mental health service utilization, and have these influences changed longitudinally?

By exploring these questions, the findings of this study aim to provide insights into the unique challenges first-generation college students face, ultimately contributing to a better understanding of how to enhance their access to necessary mental health resources.

Method

This section outlines the data source, sampling characteristics, variable construction, and analytical strategies used to examine mental health service utilization among first-generation college students across financial, institutional, and psychosocial domains.

Participants

The data for this study were drawn from the Healthy Minds Study (HMS), an annual, web-based survey administered by the University of Michigan's Healthy Minds Network to students enrolled at participating U.S. colleges and universities. HMS collects information on student mental health outcomes, service utilization, and associated demographic, psychosocial, and institutional factors (Healthy Minds Survey, 2024). This study pooled data from the 2022-2024 survey years to examine recent patterns and trends.

The pooled dataset included *N*= 276,995 undergraduate student respondents. First-generation status was coded as 1 if neither parent held a bachelor's degree or higher (0= continuing-generation). Among respondents with observed parental education, roughly 18% were first-generation. Descriptive statistics are produced for the full sample and stratified by survey year and generational status. For multivariate models, respondents were retained via listwise deletion on the outcome, generational status, survey year, and all covariates. Final analytic *ns* therefore vary across models and are reported in the model tables.

Measures

Therapy utilization (outcome). Current therapy engagement was coded as a binary indicator of whether respondents were "currently seeing a mental health professional (e.g., counselor, psychologist, psychiatrist)"**.**

Financial stress. For regression analyses, financial stress was coded as a binary indicator (1 = high; 0 = all other responses).

Institutional factors. Perceived provider access (1-6; higher = greater perceived access) and sense of belonging (1-6; higher = stronger belonging) were entered as mean-centered continuous predictors

Psychological factors. Perceived stigma (1-6; higher = greater perceived stigma) was entered on its original scale; discrimination was a binary indicator of having personally experienced any discrimination during one's time on campus.

Covariates. First-generation status (binary) and survey year (categorical: 2022, 2023, 2024). Institution type was considered but not retained due to conceptual overlap with perceived access and limited incremental explanatory value.

Missing Data

All inferential analyses used listwise deletion (complete cases on all model variables). For descriptives and missingness summaries, missingness was computed variable-wise by year and generational status. Visualizations and tables documented the proportion and counts missing by construct. Because listwise deletion compounds across variables, multivariable analytic *ns* were substantially smaller than the pooled descriptive *N*. We report weighted estimates throughout unless otherwise noted.

Analytic Strategy

All analyses were conducted in R (version 4.3). We specified a survey design with campus-by-year primary sampling units and HMS sampling weights (*nweight*) using the *survey* package. Analyses therefore account for unequal probabilities of selection, institutional nonresponse, and clustering.

Descriptive and Bivariate Comparisons

We summarized financial stress, perceived stigma, sense of belonging, perceived provider access, discrimination, and therapy utilization by year and generational status. Group differences for continuous/Likert measures were tested using design-based t-tests (*svyttest),* reported as *t(df)* = value, p. For binary outcomes, we used Rao-Scott adjusted tests from *svychisq* (reported as *F(df1, df2)* = value, p); when necessary (e.g., sparse cells), we fit survey-weighted logistic models and reported Wald F tests. Year-by-group lines were plotted with survey-weighted means and 95% CIs.

Regression Analysis

We estimated survey-weighted logistic regressions using *svyglm* and quasibinomial family option to account for overdispersion.

- Model 1 (financial): financial stress only.
- Model 2 (institutional): M1 plus access and belonging.
- Model 3 (psychosocial): perceived stigma and discrimination.
- Model 4 (full): generational status and year plus all predictors (financial, institutional, and psychosocial).
- Model 5 (FG interactions): M4 plus first-generation interactions with key predictors.
- Models 6 (year interactions): M4 plus year interactions with key predictors.

Continuous predictors (access, belonging) were mean-centered prior to interaction modeling. Results are reported as odds ratios (OR) with 95% confidence intervals (CI) and p-values (e.g., OR ≈ 1.06, 95% CI [1.01,1.12], p = .030; p<.001 when applicable).

Marginal Effects. To aid interpretation, we estimated differences in predicted possibilities (delta p) on the response scale using *emmeans* with the model's survey-weighted frame(r*ef_grid*) and response-scale regridding (*regreid*). Contrasts included high vs. Low financial stress, discrimination yes vs. No, and interquartile shifts for access, belonging, and perceived stigma, within each year and generational group. We also treated first-generation vs. Continuing-generation gaps in *delta p (*Δp) by year.

Joint tests and sensitivity analyses. We conducted design-based Wald tests of joint interaction terms (*reTermTest*) for M5 (first-generation interactions) and M6 (year interactions). As a robustness check, we re-fit the full model (M4) after excluding cases flagged for contradictory responses and compared survey-weighted odds ratios and predicted therapy proportions to the main analysis.

Software. Analyses used *survey, enmeans, tidyverse/dplyr, ggplot2*, and related packages in R. All statistical symbols are reported in APA style (italic *N, n, t, F, p, df*).

Results

This section presents survey-weighted findings across three academic years (2021-22, 2022-23, and 2023-24), organized as: (a) descriptive and design-based group comparisons, (b) trend by year and first-generation (FG) status, (c) multivariate models and marginal effects on the probability scale, and (d) sensitivity analyses. All inferential tests account for the Healthy Minds Study design and weights.

Descriptive Statistics and Design-based Group Tests

Weighted descriptives by year and FG status are summarized in Table 1 and visualized in Figure 1. Across 2022-2024, first-generation (FG) students consistently reported higher financial stress than continuing-generation (CG) peers, slightly higher perceived access to providers, and slightly higher campus belonging, while CG students reported higher perceived stigma. Therapy utilization rates were similar across groups each year, with a small FG shortfall. For example, in 2024 the estimated probability of being in therapy was approximately 0.35 for CG and 0.33 for FG; the corresponding financial-stress rates were 0.45 (CG) versus 0.62 (FG), and discrimination reports were 0.18 (CG) versus 0.15 (FG). This addresses RQ1 on barriers and RQ2 on group differences in service use.

Design-based tests confirmed these patterns. For the binary outcomes, Rao-Scott/Wald tests indicated large and consistent FG-CG differences in financial stress in every year (2022: $F(1,132) = 201.17$, $p<.001$; 2023: $F(1,134) = 410.93$, $p<.001$; 2024: $F(1,195) = 412.18$, $p<.001$). Discrimination was also higher among CG students each year (2022: $F(1,132) = 45.10$, $p<.001$; 2023: $F(1,134) = 12.69$, $p<.001$; 2024: $F(1,195) = 52.11$, $p<.001$). Therapy utilization differences were statistically detected but small in magnitude, with CG slightly higher in 2022 ($F(1,132) = 20.46$, $p<.001$) and 2023 ($F(1,134) = 14.73$, $p<.001$), with a modest gap in 2024 ($F(1,195) = 4.28$, $p=.040$).

For the Likert-type constructs, design-based *t*-tests showed that CG students reported more perceived stigma (t(129) = 7.85, p<.001; 2023: t(133) = 9.13, p<.001; 2024: t(194) = 8.45, p<.001), whereas FG students reported higher belonging (2022: t(131) = -5.07, p<.001; 2023: t(133) = -6.13, p<.001; 2024: t(194) = -5.97, p<.001) and greater perceived provider access (2022: t(131) = -10.11, p<.001; 2023: t(85) = -5.08, p<.001; 2024: t(147) = -5.25, p<.001). Although these differences are statistically reliable, their practical size is modest, consistent with the overlapping distributions evident in Figure 1.

Link to research questions. Descriptive evidence indicates persistent FG disadvantages in financial, institutional, and psychological domains over the three years (RQ1) and largely similar therapy uptake with small, year-specific CG advantages (RQ2). These patterns motivate the multivariate models that quantify how each barrier relates to therapy use and whether those relationships vary by year or FG status (RQ3), which are reported in subsequent sections. (See Table 1 for weighted descriptives).

Table 1. Weighted descriptives by year and generational status

Variable	2022 CG	2022 FG	2023 CG	2023 FG	2024 CG	2024 FG
Financial Stress (high = 1)	33.77% (0.93)	50.55% (0.77)	34.09% (0.94)	54.06% (0.80)	39.83% (0.71)	55.70% (0.65)
Perceived Stigma (1–6)	3.01 (0.03)	3.23 (0.02)	2.99 (0.03)	3.27 (0.03)	3.06 (0.02)	3.22 (0.02)
Sense of Belonging (1–6)	3.91 (0.03)	3.76 (0.02)	4.18 (0.04)	3.92 (0.04)	4.10 (0.03)	3.94 (0.03)
Provider Access (1–6)	3.21 (0.05)	2.79 (0.05)	3.40 (0.05)	3.18 (0.05)	3.05 (0.03)	2.89 (0.03)
Any Discrimination (1 = Yes)	16.25% (0.55)	12.27% (0.62)	17.12% (0.56)	14.65% (0.64)	15.39% (0.41)	12.27% (0.47)
Currently in Therapy (1 = Yes)	39.03% (0.84)	35.11% (0.86)	29.86% (1.14)	25.84% (1.13)	35.02% (0.63)	33.49% (0.71)

Note. Values are survey-weighted means. For binary variables (Currently in Therapy, Financial Stress, Any Discrimination), entries are percentages with standard errors in percentage points; for 1–6 scales (Perceived Stigma, Sense of Belonging, Provider Access), entries are means with standard errors in parentheses. CG = Continuing-Gen; FG = First-Gen.

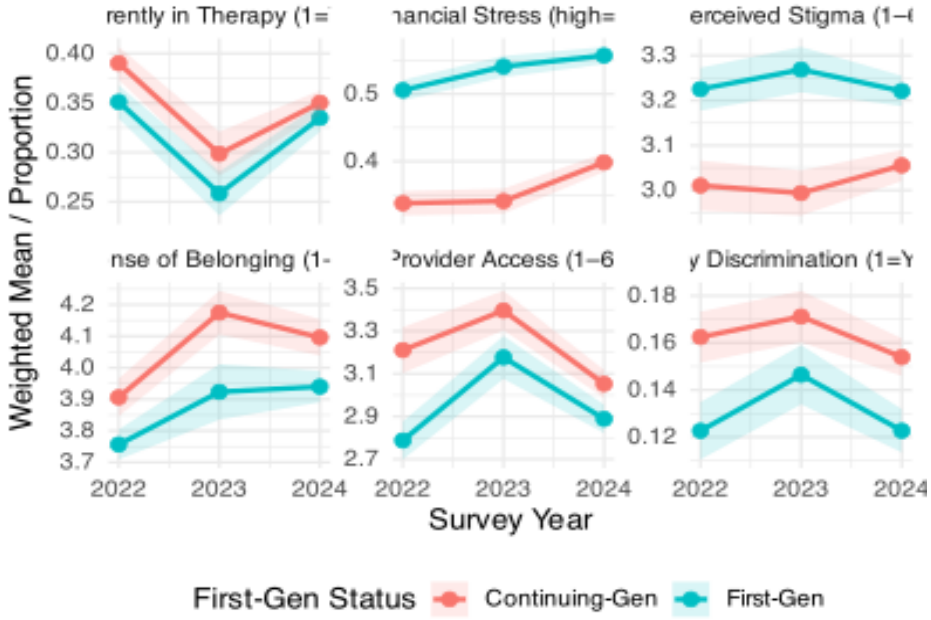

Figure 1. Weighted mean/proportion by year and generational status, faceted by construct

Trends by Year and Generational Status

Figure 1 presents weighted means/proportions for five focal constructs; financial stress (high =1), perceived stigma (1-6), sense of belonging (1-6), provider access (1-6), and current therapy (1= yes) by survey year (2022-2024) and generational status. Across all three years, first-generation (FG) students consistently exhibited higher financial stress than their continuing-generation (CG) peers, with both groups showing an uptick in 2024 (e.g., FG from 0.57 to 0.62 and CG from 0.35 to 0.45). In parallel, FG students reported slightly higher perceived provider access and sense of belonging each year relative to CG; the FG-CG gaps in these institutional measures remained directionally stable across waves. By contrast, self-reported discrimination was low overall and slightly lower among FG than CG in each year, with small year-to-year fluctuations. Taken together, these patterns document persistent financial, institutional, and psychosocial disparities over time (RQ1).

For therapy utilization, both groups showed a dip in 2023 followed by a rebound in 2024. The FG-CG difference was modest, on the order of a few percentage points in 2022 and 2023 (e.g., 2022: 39% vs. 35%; 2023: 30% vs. 26%), and narrowed further in 2024 (35% vs. 33%). These trajectories indicate broadly similar service-use patterns across groups with small, year-specific gaps (RQ2), and they foreshadow the limited evidence for time-varying effects tested formally in the interaction models (RQ3).

Predictors of Therapy Utilization: Main-Effects Models (M1-M4)

Across progressively specified survey-weighted logistic models (M1-M4), several predictors were consistently related to current therapy use (see Table 2). In the full model (M4), students reporting any discrimination had higher odds of being in therapy (OR ≈ 1.29, 95% CI [1.20, 1.38], p<.001). Perceived access to providers was positively associated with therapy (OR ≈ 1.06, 95% CI [1.03, 1.08], p<.001), as was financial stress (high vs. not

high), though the magnitude was small (OR ≈ 1.06, 95% CI [1.01, 1.12], p= .030). Perceived stigma also showed a small positive association (OR ≈ 1.05, 95% CI [1.03, 1.07], p<.001). In contrast, sense of belonging was not statistically significant once other factors were included (OR ≈ 1.00, 95% CI [0.98, 1.03], p = .711).

With covariates held constant, first-generation students had slightly lower odds of therapy use than continuing-generation peers (OR ≈ 0.86, 95% CI [0.81, 0.91], p<.001). Relative to 2022, odds were lower in 2023 (OR ≈ 0.71, 95% CI [0.61, 0.82], p<.001) and statistically similar in 2024 (OR ≈ 0.94, 95% CI [0.86, 1.03], p = .187), mirroring the descriptive dip-and-rebound pattern noted in Figure 1. Overall, the main-effects results address RQ1 by identifying structural access (provider availability) and lived experiences (discrimination), with smaller contributions from financial stress and perceived stigma, are the most consistent correlates of current therapy use; and they speak to RQ2 by quantifying the residual FG-CG gap net of covariates. Tests of change over time in these relations are reported in the interaction section (RQ3).

Table 2. Survey-weighted logistic regression models (M1-M4)

Predictor	M1	M2	M3	M4
Intercept	0.47 [0.45, 0.50] p = < .001***	0.52 [0.49, 0.55] p = < .001***	0.40 [0.37, 0.43] p = < .001***	0.50 [0.45, 0.56] p = < .001***
Financial stress (High vs. other)	1.11 [1.06, 1.16] p = < .001***	1.07 [1.02, 1.13] p = .011*	—	1.06 [1.01, 1.12] p = .030*
Any discrimination (Yes vs. No)	—	—	1.32 [1.25, 1.39] p = < .001***	1.29 [1.20, 1.38] p = < .001***
Perceived stigma (1–6)	—	—	1.06 [1.04, 1.07] p = < .001***	1.05 [1.03, 1.07] p = < .001***
Provider access (centered, 1–6)	—	1.07 [1.05, 1.09] p = < .001***	—	1.06 [1.03, 1.08] p = < .001***
Sense of belonging (centered, 1–6)	—	0.99 [0.97, 1.02] p = .659	—	1.00 [0.98, 1.03] p = .711
First-generation (vs. continuing-gen)	—		—	0.86 [0.81, 0.91] p = < .001***
Year: 2023 (vs. 2022)	—	—	—	0.71 [0.61, 0.82] p = < .001***
Year: 2024 (vs. 2022)	—	—	—	0.94 [0.86, 1.03] p = .187

Note. Entries are odds ratios (OR) with 95% confidence intervals in brackets; exact p-values shown. Models estimated with survey-weighted quasibinomial logistic regression (svyglm). Reference categories: continuing-generation for FG; 2022 for year; discrimination = No; financial stress = not high. Continuous predictors (access, belonging, stigma) are on 1–6 scales. Asterisks indicate conventional thresholds (* p < .05, ** p < .01, *** p < .001).

Interactions and Marginal Effects (M5-M6)

We next examined whether associations differed by first-generation (FG) status or by year (M5-M6), and we translated model coefficients to marginal effects on the probability scale (delta p; Δp) to aid interpretation.

Interaction tests (RQ2 & RQ3). In the FG-interaction model (M5), adding *FG x predictor* terms did not materially change conclusions; joint tests offered limited evidence that effects differed by FG overall, and point estimates for the FG gaps in effects were small. In the year-interaction model (M6), a few terms reached statistical significance but were modest in size: the association of financial stress with therapy was slightly stronger in 2024 relative to 2022 (OR ≈ 1.17, 95% CI [1.04, 1.32], *p* =.011), and the association of provider access was slightly attenuated in 2024 (OR ≈ 0.91, 95% CI [0.87, 0.96], *p*<.001); belonging showed a small attenuation in 2023 (OR ≈ 0.89, 95% CI [0.84, 0.95], *p*<.001). Substantively, these shifts are small and do not alter the overall pattern that structural access and discrimination are the most consistent correlates of therapy use (Full coefficients for M5-M6 appear in Table A1 of the appendix).

Marginal effects (Δp) within FG x year (RQ1-RQ3). Figure 2 displays contrasts expressed as changes in the predicted probability of being in therapy, holding other covariates at reference values (from M4 EMMeans):

- Financial stress (high vs. Low): Δp ≈ 0.011-0.014 across years and groups; all contrasts are statistically significant but small (e.g., CG-2024: Δp = 0.0135, SE = 0.0062, 95% CI [0.0013, 0.0257], p = 0.030).
- Discrimination (yes vs. No): Δp ≈ 0.052-0.060 across cells (e.g., Fg-2024: Δp = 0.0573, SE = 0.0080, 95% CI [0.0416, 0.0730], p<.001), indicating meaningfully higher therapy probability among students reporting discrimination.

- Provider access (upper-quartile vs. lower-quartile): Δp ≈ 0.021-0.026 and consistently significant (e.g., CG-2023: Δp = 0.0227, SE = 0.0054, 95% CI [0.0121, 0.0333], p<.001), underscoring the practical salience of perceived access.
- Belonging (upper-quartile vs. lower-quartile): Δp ≈ 0.0017-0.0020, not significant (all p ≈ 0.71), aligning with M4 where belonging was null net of other factors.
- Perceived stigma (upper-quartile vs. lower-quartile): Δp ≈ 0.019-0.023, significant (e.g., CG-2022: Δp ≈ 0.0232, SE = 0.0050, 95% CI [0.0134, 0.0329], p<.001), indicating a small positive association with therapy when other covariates are held constant.

FG gaps in effects (RQ2). Direct tests of the FG-CG differences in Δp within year were small and not conventionally significant. This supports the conclusion that the magnitude of these predictors is broadly similar for FG and CG students.

Interpretation across RQs. Taken collectively, these results indicate that (RQ1) the most actionable barriers for FG students' therapy use are structural (provider access) and experiential (discrimination), with financial stress exerting a smaller but reliable effect; (RQ2) differences between FG and CG in the size of these effects are minimal, and (RQ3) temporal moderation is limited, with only small year-to-year shifts that leave the substantive ranking of predictors unchanged. Joint tests of Fg and year interaction blocks are provided in Appendix Table A2. Detailed marginal-effects contrasts (Δp) by FG x year and predictor are reported in Appendix Table A3. Lastly, the full predicted-probability grid is visualized in Appendix Figure A1.

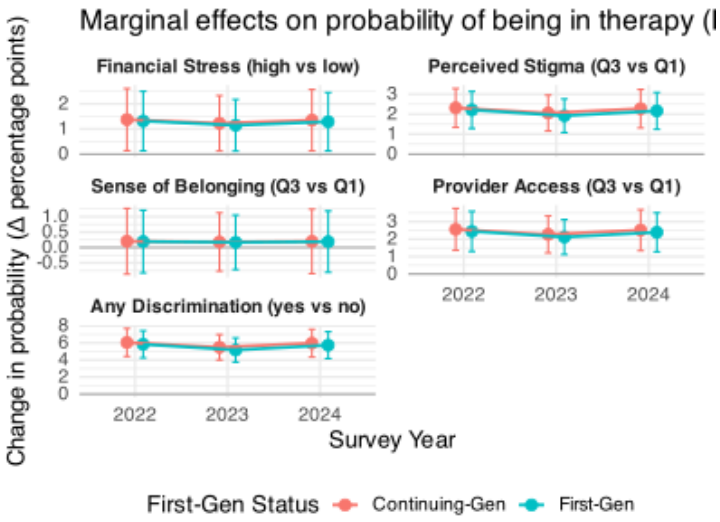

Figure 2. Marginal effects (Δp) on probability of being in therapy (EMMeans from M4)

Discussion

This study investigated mental health service utilization patterns among first-generation (FG) and continuing-generation (CG) college students using three years of data from the Healthy Minds Survey (2022-2024). By triangulating descriptive trends, design-based group tests, and survey-weighed logistic models (with marginal effects on the probability scale), our findings indicate that disparities in mental-health experiences are shaped more by structural and experiential conditions than by generational status alone. Financial stress remains consistently higher for FG students; institutional-climate indicators show small but reliable differences (FG report slightly higher perceived access and belonging, whereas CG report slightly higher perceived stigma); and therapy utilization is broadly similar across groups with only small, year-specific gaps.

Persistent Financial and Psychosocial Disparities

Across all three years, FG students consistently reported higher financial stress than their CG peers; the gap was large, stable, and statistically robust in design-based tests. This finding aligns with scholarship on chronic economic strain among FG students (Garriott & Nisle, 2018; Means & Pyne, 2017).

Perceived stigma, however, was higher among CG students, not FG, and showed only modest year-to-year movement. In multivariate models, stigma displayed a small positive association with current therapy (M4 OR ≈ 1.05, 95% CI [1.03, 1.07]), and EMMeans contrasts indicated Δp ≈ .019-.023. This suggests the stigma item may be indexing campus climate or awareness rather than personal reluctance to seek care; consistent with work noting the distinction between public and self-stigma (Eisenberg et al., 2009; Stebleton et al., 2014).

Belonging: A Nuanced and Unexpected Pattern

Contrary to much prior literature (Jehangir, 2010; Soria & Stebleton, 2012), FG students in this sample reported slightly higher campus belonging on average across the three-year period. Possible explanations include post-pandemic institutional investments in FG supports, shifting inclusion norms, or measurement/context effects. Importantly, belonging was not a significant predictor or therapy once other factors were included (M4 OR ≈ 1.00, p = .711), and the EMMeans Δp for belonging (upper- vs. lower-quartile) was near zero and nonsignificant (p ≈ .71). Thus, while belonging remains salient for many outcomes, it did not independently explain therapy use in these data. Although belonging was not a unique correlate of therapy net other factors in our model, qualitative work shows that peer networks and social support are central to first-year adjustments and help-seeking navigation (Wilcox et al., 2005). Framing belonging in terms of day-to-day relational support helps explain why climate and access structures may do more work than generational identity per se.

Access, Discrimination, and Service Use: Structural/Experiential Links

Perceived provider access and experiences of discrimination were the clearest correlates of therapy. In the full model, any discrimination was associated with higher odds of being in therapy (M4 OR ≈ 1.29, 95% CI [1.20, 1.38]; Δp ≈ .052-.060). Perceived access was also positively associated with therapy (M4 OR ≈ 1.06 per one-point increase on the 1-6 scale; quartile contrasts Δp ≈ .021-.026). These magnitudes are modest (not five- to six-fold), but consistent and practically interpretable: students who perceive better access and those who report discrimination are more likely to be in care, likely reflecting help-seeking responses to harm and/or easier navigation of services. Notably, FG status remained a modest, independent predictor after adjustment (M4 OR ≈ 0.86, 95% CI [0.81, 0.91]), indicating a small residual gap in therapy use net of measured covariates, rather than disappearing entirely. These patterns align with scholarship emphasizing that service engagement is organized by institutional ecologies (i.e., perceived availability, navigability, and campus climate) rather than by generational status alone (Wilcox et al., 2005). They also resonate with calls emerging from the 'dual pandemics' of COVID-19 and systemic racism to center equity and structural conditions in mental health responses Jones et al., 2021).

Stability and Change Over Time

Temporal patterns were largely stable. Interaction models showed only small year effects: the financial-stress association with therapy was slightly stronger in 2024 vs. 2022 (OR ≈ 1.17), provider-access effects were slightly attenuated in 2024 (OR ≈ 0.91 vs. 2022), and belonging showed a small attenuation in 2023 (OR ≈ 0.89). Joint tests provided limited evidence for systematic differences by FG status, and marginal-effects comparisons of Δp by FG within year were small and not conventionally significant. Overall, these modest shifts do not change the substantive ordering of predictors.

In sum, despite widespread attention to student mental health, the most actionable levers evidenced here involve structural access and experiential harms (discrimination), with financial stress contributing smaller but reliable differences. Generational status marks risk but is not the primary mechanism; rather, it coexists with institutional conditions that shape engagement with care. Institutions aiming to close remaining gaps should prioritize improvements in access and climate alongside financial supports and culturally responsive services. Consistent with broader commentaries on the entwined impacts of the pandemic and systemic racism on student well-being and access, incremental improvements appear insufficient without structural change (Jones et al., 2021).

Limitations

Several limitations should be considered when interpreting the findings of this study. First, all analyses were based on self-reported survey data from the Healthy Minds Study (HMS). Responses may be influenced by recall, social desirability, or nonresponse bias. Survey weights improve representativeness at the student-institution level but cannot correct for bias from unmeasured factors (e.g., unobserved need severity).

Second, inferential models used listwise deletion to maintain a consistent set of cases across all predictors. This approach reduces the analytic sample and statistical power and can introduce bias if missingness is not completely at random. Although we visualized missingness and noted that several institutional items had lower response rates, listwise deletion does not eliminate the possibility of differential nonresponse affecting estimates. (Descriptive summaries used variable-wise completeness, so sample sizes differ between descriptives and models)

Third, the data comprise three repeated cross-sections (2022-2024). We examined temporal patterns at the population level, but we do not follow the same students over time; observed year differences may reflect cohort or composition effects rather than individual change. Consequently, associations should not be interpreted causally, and reverse ordering is possible (e.g., being in therapy may shape perceptions of access or stigma).

Fourth, several constructs were measured by perceptions. These are theoretically meaningful but may diverge from objective service capacity or campus policies, and they may be correlated with unobserved factors such as local outreach or peer networks. Discrimination was captured as a binary indicator or any experience, which does not reflect frequency, context, or source.

Fifth, the study defined first-generation status using parental bachelor's attainment (yes/no). This widely operationalization may mask heterogeneity related to family income, immigration history, or cultural capital. Intersectional analyses (e.g., by race/ethnicity or gender identity) were limited by subgroup sizes and model stability within a design-based framework; future work with larger or multilevel samples could more fully examine cross-classification inequities and incorporate campus-level random or fixed effects.

Finally, all regression models were survey-weighted quasibinomial GLMs with campus-year clustering. We did not estimate multilevel models or include campus (or campus-year) fixed effects because the HMS repeated cross-sections and weighting scheme are most appropriately analyzed with a design-based approach; standard mixed-effects implementations do not natively accommodate stratification/clustering with post-stratification weights, and the high number of campuses with small within-campus samples would yield unstable high-dimensional fixed-effects estimates. As a result, residual between-institution differences may still confound student-level associations.

Implications and Future Directions

These findings offer several actionable insights for postsecondary institutions seeking to reduce inequities in mental health engagement. Although first-generation (FG) status was associated with slightly lower odds of current therapy use net of covariates, the strongest correlates of therapy were structural access and experiential climate, with smaller but reliable contributions from financial stress and perceived stigma. Descriptively, FG students reported higher financial stress and slightly higher belonging and perceived access, while CG peers reported higher perceived stigma and discrimination; therapy rates were broadly similar across groups with small, year-specific gaps. Together, the evidence points to institutional conditions (e.g., capacity, navigability, and climate) as key levers for closing engagement gaps, rather than identity-targeted approaches alone.

Addressing Structural and Financial Barriers

Institutions should prioritize service capacity and navigability, as perceived provider access showed a consistent, practically meaningful relationship with therapy ($\Delta p \approx .02$-$.03$ across years and groups; M4 OR ≈ 1.06 per scale point, $p<.001$). Investments that expand appointment supply (e.g., staffing, stepped care, after hours/telehealth), reduce wait times, and clarify pathways (intake triage, referral partnerships) are likely to yield direct gains in utilization.

At the same time, financial stress remains elevated among FG students. In our models, higher stress was associated with a slightly higher probability of being in therapy ($\Delta p \approx .011$-$.014$), likely reflecting greater need rather than easier access. Thus, emergency aid, affordable housing/food supports, and integrated financial counseling are still warranted; both to reduce upstream risk and to remove co-occurring logistical barriers (time, transportation, competing work hours) that can suppress follow-through.

Expanding Access to Culturally Responsive Care

Access must also be culturally attuned. Expanding identity-concordant and bilingual providers, diversifying modalities (telehealth, group formats, embedded counselors), and strengthening community referral networks can improve perceived fit and safety. Campus-wide mental-health literacy (how to find care, what to expect, costs/insurance) embedded in orientation, advising, and residence life can reduce friction at the moment of need. Peer ambassadors and student-led coalitions can serve as bridges into formal care.

Campus Climate: Belonging, Stigma, and Discrimination

Although FG students reported slightly higher belonging than CG peers descriptively, belonging did not independently predict therapy in the fully adjusted model. Belonging initiatives (mentorship, affinity groups) remain vital for well-being and retention, but they should not be relied on to move therapy uptake on their own without concurrent access improvements. Perceived stigma showed a small positive association with therapy in adjusted models. This pattern should be interpreted cautiously as it may reflect greater help-seeking among students who are also more attuned to campus stigma, rather than stigma causing therapy use. Accordingly, anti-stigma efforts are still important for climate and equity but are unlikely to shift utilization without simultaneous gains in capacity and navigability.

Finally, reported discrimination was positively associated with being in therapy, suggesting therapy often functions as a downstream response to adverse experiences. This underscores the importance of prevention and healing-centered campus practices (bias response, restorative processes, identity-affirming supports) alongside clinical services.

Recommendations for Future Research

Future work should: (a) follow students longitudinally to disentangle cohort from temporal effects; (b) integrate qualitative inquiry on how climate (belonging, inclusion, perceived safety) shapes navigation into care; (c) examine

intersectional heterogeneity within FG students (race/ethnicity, gender identity, LGBTQ+ status); and (d) evaluate institutional-level interventions that jointly target capacity and climate. While we used a design-based approach aligned with HMS weighting, complementary designs (e.g., institutional case studies, policy evaluations) can test which structural changes most effectively more utilization equitably.

Conclusion

Using three waves of survey-weighted data from the Healthy Minds Study (2022-2024), a multi-institution, nationally distributed survey of students at participating colleges and universities, this study examined mental health service utilization among first generation (FG) and continuing-generation (CG) undergraduates. Descriptively, FG students reported persistently higher financial stress, slightly higher perceived provider access, and campus belonging, and their CG peers reported higher perceived stigma and discrimination; therapy rates were broadly similar across groups, with small year-specific gaps and a dip in 2023 followed by a rebound in 2024. In survey-weighted models, the strongest correlates of being in therapy were structural access and experiential climate, while financial stress and perceived stigma showed smaller, positive associations. Sense of belonging was not a unique predictor once factors were included. Net of covariates, FG students had slightly higher odds of therapy use than CG peers (OR 0.86), and interactions by FG status or by year were limited in size and consistency. Taken as a whole, the findings shift emphasis from who students are to the institutional conditions that shape whether care is available, navigable, and experienced as safe. Improving capacity and pathways into service (e.g., appointment supply, triage, telehealth, clear referral routes) alongside efforts to address campus climate (e.g., prevention and response to discrimination, culturally responsive care) are likely to yield the most direct gains in equitable engagement. Targeted relief for financial strain remains important as an upstream risk factor and a practical barrier to follow-through. Through sustained investment in these structural and climate levers, colleges and universities can move closer to ensuring that all students, FG and CG alike, have timely access to effective mental health support.

References

Adams, D. R., Meyers, S. A., & Beidas, R. S. (2016). The relationship between financial strain, perceived stress, psychological symptoms, and academic and social integration in undergraduate students. *Journal of American College Health*, 64(5), 362–370.

Byrd, D. R., & McKinney, K. J. (2012). Individual, interpersonal, and institutional level factors associated with the mental health of college students. *Journal of American College Health*, 60(3), 185–193. https://doi.org/10.1080/07448481.2011.584334

Dennis, J. M., Phinney, J. S., & Chuateco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first-generation college students. *Journal of College Student Development*, 46(2), 223-236. http://dx.doi.org/10.1353/csd.2005.0023

Firth, D. (1993)**.** Bias reduction of maximum likelihood estimates. *Biometrika*, 80(1), 27–38. https://doi.org/10.1093/biomet/80.1.27

Garriott, P. O., Hudyma, A., Keene, C., & Santiago, D. (2015). Social cognitive predictors of first- and non-first-generation college students' academic and life satisfaction. *Journal of Counseling Psychology*, 62(2), 253–263. https://doi.org/10.1037/cou0000066

Garriott, P. O., & Nisle, S. (2017). Stress, coping, and perceived academic goal progress in first-generation college students: The role of institutional supports. *Journal of Diversity in Higher Education*, 11(4), 436-450. https://doi.org/10.1037/dhe0000068

Healthy Minds Network (2024). *Healthy Minds Study among Colleges and Universities, 2022- 2024* [Student Responses]. Healthy Minds Network, University of Michigan, University of California Los Angeles, Boston University, and Wayne State University. https://healthymindsnetwork.org/research/data-for-researchers.

Heinze, G., Ploner, M., Dunkler, D., & Southworth, H. (2023)**.** *logistf: Firth's bias-reduced logistic regression* (R package version 1.25). https://cran.r-project.org/package=logistf

Heinze, G., & Schemper, M. (2002)**.** A solution to the problem of separation in logistic regression. *Statistics in Medicine*, 21(16), 2409–2419. https://doi.org/10.1002/sim.1047

Homick, C. R. (2023). The mental health outcomes of first-generation collegiate clients compared to their non-first-generation peers. West Virginia University. https://doi.org/10.33915/etd.12160

Hurd, N. M., Albright, J., Wittrup, A., Negrete, A., & Billingsley, J. (2018). Appraisal support from natural mentors, self-worth and psychological distress: Examining the experiences of underrepresented students transitioning through college. *Journal of Youth and Adolescents*, 47(5), 1100–1112. https://doi.org/10.1007/s10964-017-0798-x

Keefe, K. M., Hammersley, J., Sizemore, S., Bainter, T. G., & Najdek, R. (2020). Presenting symptoms and psychological treatment outcomes among first-generation and non-first-generation college students. *Journal of College Student Psychotherapy,* 36(2), 135–148. https://doi.org/10.1080/87568225.2020.1791775

Martinez, J. A., Sher, K. J., Krull, J. L., & Wood, P. K. (2009). Blue-Collar Scholars?: Mediators and Moderators of University Attrition in First-Generation College Students. *Journal of College Student Development*, 50(1), 7–103. https://doi.org/10.1353/csd.0.0053

Museus, S.D. (2014). The Culturally Engaging Campus Environments (CECE) Model: A New Theory of Success Among Racially Diverse College Student Populations. In: Paulsen, M. (eds) Higher Education: Handbook of Theory and Research. Higher Education: Handbook of Theory and Research, vol 29. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8005-6_5

R Core Team. (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org

Schwartz, S. E. O., Kanchewa, S. S., Rhodes, J. E., Gowdy, G., Stark, A. M., Horn, J. P., ... &

Spencer, R. (2018). "I'm having a little struggle with this, can you help me out?": Examining impacts and processes of a social capital intervention for first-generation college students. *American Journal of Community Psychology*, 61(1–2), 166–178. https://doi.org/10.1002/ajcp.12206

Stebleton, M. J., Soria, K. M., & Huesman, R. J. (2014). First-generation students' sense of belonging, mental health, and use of counseling services at public research universities. *Journal of College Counseling*, 17(1), 6–20. https://doi.org/10.1002/j.2161-1882.2014.00044.x

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: how American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of personality and social psychology*, *102*(6), 1178.

Terenzini, P. T., Cabrera, A. F., & Bernal, E. M. (2001). Swimming against the Tide: The Poor in American Higher Education. Research Report No. 2001-1. *College Entrance Examination Board.*

U.S. Department of Education, National Center for Education Statistics. (2022). *National postsecondary student aid study: 2020 undergraduate students (NPSAS:UG)* (NCES 2022-008). https://nces.ed.gov/pubs2022/2022008.pdf

Ward, L., Siegel, M. J., & Davenport, Z. (2012). *First-generation college students: Understanding and improving the experience from recruitment to commencement*. New York, NY: Wiley.