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Patrick Biddix  
*University of Tennessee, Knoxville, pbiddix@utk.edu*

Gresham D. Collom  
*St. Cloud State University, gcollom@utk.edu*

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**Development and Validation of a Survey to Identify Predictors of Choice and Early  
Departure among Tennessee Promise Scholarship Recipients**

J. Patrick Biddix

Gresham D. Collom

Patrick Biddix is the Jimmy and Ileen Cheek Endowed Professor of Higher Education in the Department of Educational Leadership and Policy Studies at the University of Tennessee, Knoxville.

Gresham D. Collom is an Assistant Professor of Higher Education in the Department of Educational Leadership and Higher Education at St. Cloud State University.

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The decision to attend community or technical college is influenced by a variety of individual and institutional factors, including financial barriers, academic preparation and self-efficacy, and support structures (Perna, 2006). To address the cost of college, the most consistent barrier to enrollment for students (Kelchen et al., 2017; Kinzie et al., 2004), several states and individual institutions introduced “free” college, or “promise” initiatives (Perna et al., 2017). Early research on these programs has shown that although enrollment rates increased (Collom, 2022; Jaggars, 2020), traditionally underserved students, including low-income and marginalized populations, still face significant barriers (Collom et al., 2021; Perna et al., 2021). Many of these factors persist beyond the initial barrier of enrolling in college and influence the decision to drop out. To date, no survey instruments specific to the college choice and early departure process within the context of promise programs have been published.

The purpose of this study was to develop and validate an instrument to reveal factors affecting college choice and early community or technical college departure among promise-eligible students. The instrument was developed using a sequential exploratory mixed-methods design (Creswell & Plano-Clark, 2017), where the results of an initial exploratory qualitative phase were used to develop and validate a survey in a sequential quantitative phase (Biddix, 2018; Greene et al., 1989). The resulting instrument may be used by student and academic affairs professionals, especially in admissions, advising, and retention, to understand factors that specifically affect college choice and departure for this population. In addition, such understanding bears implications for policy, practice, and research on student success.

## **Background**

In 2014, the state of Tennessee enacted Tennessee Promise, a state-funded scholarship providing tuition and fees on a last-dollar basis (after all other state and federal aid has been applied) for students who pursue a certificate or associate degree at in-state, public colleges. Evaluations of the program showed initial recipients enrolled in postsecondary institutions at higher rates, accumulated more college credits, stayed enrolled longer, and earned more credentials than their peers, especially in state community colleges (Carruthers et al., 2018; Nguyen, 2020). More recently, Odle et al. (2021) found participation reduced the percentage of students borrowing as well as overall loan amounts. However, the most recent state evaluation showed that 2021 enrollment declined for the first time since the Tennessee Promise program began), and slightly fewer students remained on track to graduate in 2017 than in 2015 (Spires & Mumpower, 2022). Failure to attend mandatory mentor meetings and complete required community service were the two most common reasons why Promise recipients did not maintain their eligibility for the program (Spires & Mumpower, 2022). It is important to identify what factors, beyond financial concerns, influence college choice and departure in this environment.

### **Conceptual Framework**

The framework for this study was Perna's (2006) conceptual model for college choice, which proposed that college decisions are shaped by four layers. Layer 1 represents habitus, or the belief in what one can achieve based on socioeconomic and demographic characteristics. Layer 2 is the school and community context. This layer reflects "the ways in which social structures and resources facilitate or impede college choice" (Perna, 2006, p. 177). Layer 3 is the higher education context and reflects the role postsecondary education institutions have in college choice through marketing and admission practices. Last, Layer 4 reflects macro-level effects on college choice due to social forces, economic conditions, and public policies. Perna's

model captures many of the same concepts as persistence and retention theory: academic, financial, and social influences on adjustment and coping (Bean, 1980; Braxton, 2000; Tinto, 1987). However, the model for college choice also incorporates college admissions and marketing practices, as well as self-efficacy positioned within socioeconomic characteristics (Perna, 2006). Perna's college choice model drew from multiple fields to create a broad model of college choice, making it a better fit to address the nuances affecting college choice and departure.

The four-layer model was used to identify initial concepts to inform the interview protocol in the first phase of instrument development. After interview results were analyzed, key elements derived from the conceptual framework were then used to help develop the initial survey.

### **Research Design and Methods**

This study implemented a sequential exploratory mixed-methods design (Biddix, 2018). The study began with 27 individual interviews, guided by college choice theory and research (Perna, 2006). Transcripts were coded using emergent and a priori approaches (Anfara et al., 2002) to identify themes that were initially framed within Perna's (2006) four layers; these themes were used to develop an initial survey instrument (see Table 1). Greene et al. (1989) regarded this design as valuable for facilitating more refined conclusions through the influence of integrated methods.

### **Population and Sample**

The study population comprised the first five Tennessee Promise cohorts (fall 2015 through fall 2019) who did not enroll in postsecondary education in the fall after high school or

who enrolled but departed before completing a degree. Contact information for participants was provided by Tennessee Higher Education Commission staff. The final contact list included 114,335 participants who did not enroll in a postsecondary institution the summer or fall after high school graduation (DNE group) and 23,250 recipients who initially enrolled in the summer or fall following graduation but were no longer enrolled in the following fall (E&D group). A total of 2,251 participants responded to the survey.

**Table 1.**

Emergent Themes from Interview Analysis Used to Inform Survey and Construct Development

<b>Perna's (2006) Conceptual Layers Affecting College Choice</b>	<b>Emergent Themes</b>
1: Habitus	Military service post high school First-generation Regrets not enrolling or stopping out, wants to return to college, returned to college Familial encouragement toward education Values education
2: School and Community Context	Work responsibilities College preparation Mental health struggles Financial concerns Individual/Family health or trauma High school supports
3: Higher Education Context	Information on Tennessee Promise and other financial aid Institutional/Programmatic support
4: Macro-Level Effects on College Choice	Macro-level impact of Tennessee Promise COVID-19

### **Data Collection**

In spring 2022, surveys were developed and distributed by email to the total population ( $N = 137,585$ ). Final responses included 1,547 individuals in the DNE group and 704 individuals

in the E&D group. Responses met recommended minimum sample sizes calculated using power analyses with a confidence level of 99% and a margin of error of 3% (DNE) and 2% (E&D)<sup>1</sup>.

### **Survey Development**

The initial survey was developed after the interview results were analyzed, incorporating emergent themes and key elements derived from the conceptual framework. The initial survey consisted of 44 questions in seven sections. Separate forms were used for the two groups, with minor wording changes.

The demographic section (eight questions) included six background characteristics (gender identity, ethnicity, race, age, first-generation status, and Pell-eligibility/socioeconomic status proxy), one question about decision timing, and one self-efficacy question about academic preparedness. The additional six sections included Reasons for Attending/Not Attending (eight questions), Cost/Benefit Analysis (four questions), College Decision/Distress (six questions), Well-being/Meaning (four questions), Support/Encouragement (four questions), and Academic Skills/Self-Efficacy (eight questions).

### **Validity and Reliability**

The initial survey was evaluated for content validity through concept mapping against the prior qualitative study themes and the literature. Face validity was assessed with an expert review by Tennessee Higher Education Commission staff, who provided feedback that resulted

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<sup>1</sup> For the DNE group, with a population of 114,335, using a confidence level of 99%, a margin of error of 3%, and a 1.5% anticipated response rate, a sample size of 973 was recommended. For the E&D group, with a population of 23,250, a confidence level of 99%, a margin of error of 2%, and a 3.2% anticipated response rate, a sample size of 503 was recommended.

in slight revisions to several items. Feedback resulted in minor edits to the wording and sequencing of questions and clarification on the directions.

The two instrument forms were evaluated separately for internal consistency. Results from Cronbach's alpha measures were above .8 for all but one group. Reasons for attending/not attending was .601, which was deemed an acceptable threshold for reliability (Taber, 2018). Item scores were between .514 and .877. The lowest retained score was .549, which is considered to capture 30% of the overlapping variance. Following Comrey and Lee's (1992) guidance, this loading was deemed acceptable from an interpretation standpoint, as the item was valuable to the study, and removing it would not have improved the construct.

### **Construct Testing**

Correlation analyses of the items in the six initial sections suggested reasonable factorability, with all items correlated at .3 or better with at least one other item. A Kaiser-Meyer-Olkin (KMO) measure was implemented to evaluate sampling adequacy. The KMO measure of .955 was above the recommended threshold of .6. Bartlett's test of sphericity also was significant. Based on these results, a principal components analysis (PCA) with a varimax rotation (which highlights fewer items with high factor loadings) was used to test the model fit of the original six sections (Neill, 2008). Subsequent reliability testing resulted in removing the Cost/Benefit Analysis items, as the influences of college costs appeared to be captured in another construct, and combining cross-loaded items from two constructs into one factor. This resulted in a four-construct solution, accounting for 76% of the variance. Table 2 shows the results from a subsequent reliability analysis on both groups of respondents.



**Table 2.**

## Construct Reliability Analyses

Construct	Number of Items	% Variance Explained	Cronbach's $\alpha$	
			DNE	E&D
Academic Habitus	12	50%	.965	.941
Decision Stress	6	14%	.931	.917
Contextual Influences	8	7%	.903	.601
College Connections	4	5%	.926	.855

*Note.* DNE = did not enroll; E&D = Enrolled and dropped out.

### Finalized Survey

The final 38-question survey consisted of eight demographic questions and four constructs: Academic Habitus (12 questions), Decision Stress (six questions), Contextual Influence (eight questions), and College Connections (four questions).

#### Academic Habitus

The Academic Habitus construct was composed of two sets of questions. The first set of questions was developed by Chemers et al. (2001) and was based on a hypothesized direct pathway between academic self-efficacy (Bandura, 1977) and overall college performance. Participants were asked to rate on a 7-point scale their agreement with eight statements reflecting confidence in their ability to perform well academically. Questions were designed to reflect skills related to academic achievement, such as scheduling tasks, note-taking, test-taking, and scholarly ability. A mean can be calculated for all items to obtain an academic self-efficacy score.

The second set of Academic Habitus questions was derived from the Meaning construct of the PERMA (Positive Emotion – Engagement – Positive Relationships – Meaning – Accomplishments) model (Butler & Kern, 2015). Four question prompts were given on an 11-point scale (0 = *not at all*; 10 = *completely*). For this study, students were asked to indicate the

extent to which they found college meaningful or valuable and whether they had a sense of direction in their education or career. The mean for all items provided an academic habitus score.

### **Decision Stress**

A standardized measure of distress was used to assess participant views about their decision not to attend or to drop out of college. The Kessler 6 (K6) uses six items to ask respondents to indicate their degree of distress (e.g., nervous, depressed, or worthless) and can be adapted to a specific context (Prochaska et al., 2012). The sum of all items ranges from 0–24, with higher scores indicating higher distress.

### **Contextual Influences**

This set of questions was derived from the qualitative findings in the first phase of the study, as well as from Perna's (2006) college choice model. Participants were asked to rate their agreement on a 7-point scale with eight statements designed to determine influences on their decision. Questions asked about the degree to which free college, college cost, other financial reasons, family influences, desire to go to college, and career plans influenced their decision to attend. A mean can be calculated for all items to obtain a Contextual Influences score.

### **College Connections**

This set of four yes/no questions was derived from interviews and prior research to assess connections and connectedness to college. Participants were asked if someone helped them decide to attend college and whether a mentor played a role. They also were asked if they made a connection with a faculty or staff member at a college and whether they had a major in mind.

### **Considerations**

In this study, we developed and validated an instrument to reveal factors affecting college choice and early community or technical college departure among Tennessee Promise-eligible participants. This scale may be used by colleges and states to predict who may be at risk of either not enrolling or dropping out in free college contexts. Further, our PCA results indicate college choice may be largely influenced by a student's academic habitus (50% variance accounted for) and mental health stress (14% variance accounted for) rather than financial concerns about college. Our findings suggest that state policymakers and institutions need to address factors beyond finances that may serve as barriers to student enrollment and success in statewide promise programs.

Correspondence concerning this article should be addressed to J. Patrick Biddix, University of Tennessee, Knoxville; [pbiddix@utk.edu](mailto:pbiddix@utk.edu)

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