Student Self-Determination Following Developmental Education Reform in Florida's Community Colleges

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Background: *This multiple case study explores the self-determination needs of academically underprepared students. The context for our study was a sweeping redesign of developmental education (DE) in Florida's community colleges, state-level legislation Senate Bill 1720 (SB 1720), which made DE optional for many students.*

Purpose of Study: *The research questions for this study are: (1) How did a policy change in Florida's state colleges influence underprepared students' feelings of autonomy, competence, and relatedness with campus personnel? (2) In their interactions with underprepared students in Florida's state colleges, what did campus personnel regard as the influence of a policy change on students' feelings of autonomy, competence, and relatedness with staff?*

Research Design: *This study employs a multiple case study research design. The three cases represent nonexempt students in DE (the remainers), exempt students in DE (the compliers), and exempt students in first-level credit-bearing courses (the defiers). Over a four-year period, 36 two-day site visits to 21 institutions were completed. The research team conducted 13 individual interviews and 179 semistructured focus groups with 239 administrators, 284 faculty, 215 advisors, 23 support staff, and 378 students, resulting in data from 1,139 total participants. We developed an evolving coding framework with a priori and emergent codes. Initial propositions were developed during a within-case analysis, and then a cross-case analysis was performed to summarize patterns across all three cases. The trustworthiness of the qualitative interpretations was established through triangulation, member checking, and peer debriefing.*

Conclusions: *Our findings suggest that students eligible to bypass DE enjoyed the autonomy of choosing their own course level, whereas those still required to take DE were stigmatized by their placement. For students able to enter directly into college-level coursework, feelings of competence and relatedness with campus personnel were closely tied to their academic performance in the more rigorous coursework. Three potential areas for institutional improvement were identified to support the self-determination needs of underprepared students: curriculum, professional development for campus personnel, and out-of-class interaction between staff and students. When students perform poorly in coursework, informational feedback that gives students specific hints about where and how to improve are far more effective than evaluative feedback alone. Professional development for faculty, advisors, and other campus personnel can help those who interact frequently with academically underprepared students better fulfill their self-determination needs. Students suggested that out-of-class interactions fostered stronger feelings of relatedness with campus personnel.*

Developmental education (DE or remediation) involves non-credit-bearing courses that are below college level. DE is such a common practice in community colleges that more than half of community college students (51.7%) enroll in at least one developmental course (Bailey et al., 2010), yet only 22.3% of students complete the remedial course sequence, and only 9.5% of these students graduate within three years (Complete College America, 2016).

Unfortunately, many students placed in DE feel stigmatized by being tracked into coursework below college level, particularly when their peers enroll in college-level coursework (Bailey, 2009; Edgecombe, 2011; Martin et al., 2017). Indeed, Edgecombe (2011) remarked that "the stigma associated with developmental placement has the potential to dampen community college students' enthusiasm and motivation and negatively affect their academic performance" (p. 12). Given that DE students have often received negative feedback about their academic performance through much of their schooling, and given the potential for further stigmatization, in this study, we consider the implications of DE for students' intrinsic motivation to learn.

The current case study constitutes a smaller qualitative study within a larger five-year mixed-methods research project focused on developmental education reform in the 28 state colleges (formerly community colleges) in the Florida College System (FCS). In this study, we use the terms *state college* and *community college* interchangeably. The current qualitative study examines intrinsic motivation in the context of DE reform in the FCS. Specifically, we examine how a significant policy shift related to DE may have influenced motivational patterns in academically underprepared students. The policy shift in Florida came under Senate Bill 1720 (SB 1720), which stipulated that DE become optional for "exempt" students who were active-duty military personnel or who had started ninth grade at a Florida public high school in 2003–2004 or later and graduated with a standard high school diploma (Senate Bill 1720, 2013). The legislation specified that state colleges must adopt new instructional strategies in DE and could no longer require placement tests for exempt students who now had the autonomy to enroll directly in college-level coursework regardless of prior academic preparation. However, institutions could still require nonexempt students to enroll in DE based on placement test scores. Nonexempt students typically did not meet the exemption criteria because of high school attendance dates or having graduated from a private or out-of-state high school (Brower et al., 2017).

Before SB 1720, the Postsecondary Education Readiness Test (PERT) was the primary mechanism used to place students in DE or college-level courses. After the legislation passed and exempt students could be recommended but not compelled to take the PERT, institutions used a variety of mechanisms to determine whether students should be recommended for DE or college-level courses. Without the mandatory PERT, these mechanisms constituted a continuum across the FCS in terms of sophistication, from relatively high-tech predictive analytics systems that read several data points from students' incoming academic records, to low-tech solutions such as advisors asking students what math and English courses they took in high school and the grades they received. The latter tended to happen at institutions too small to afford predictive analytic systems and in instances in which students' complete academic records were not received by the institution before the first advising session. Because of the lack of a standard measure of academic preparation in the FCS, our use of the term *underprepared* in this study indicates that the students were deemed candidates for DE because they were not academically ready for college-level work according to the range of mechanisms used by the institutions to make this determination (Hu et al., 2016; Woods et al., 2017).

Faculty at some FCS institutions were made aware of students' exemption status, but this was not the case for all faculty at all institutions. Sometimes faculty had access to the course placement recommendation from advisors, in other instances faculty asked either advisors or failing students whether the students had been recommended for DE, and in still other instances, they surmised based on classroom performance (correctly or not) that students had been recommended for DE (Brower et al., 2018;

Hu et al., 2015, 2016).

Our quantitative findings from the larger mixed-methods project show that a complex mix of student outcomes resulted from underprepared students' increased autonomy over course enrollment decisions. With the option for exempt students to bypass developmental courses, substantially fewer students enrolled in DE classes, and more students enrolled in college-level or first-level credit-bearing courses (the first credit-bearing English or math course). Passing rates in first-level credit-bearing courses declined compared with previous years with the influx of underprepared students, though students who were nearly college ready were more likely to pass first-level credit-bearing courses than the most severely underprepared students. In addition, based on estimates of the whole cohort, the overall proportion of students passing a first-level credit-bearing course increased compared with previous years (Hu et al., 2019; Park et al., 2018) Recent quantitative research has also shown that the PERT was a relatively poor predictor of success in college-level courses (Leeds & Mokher, 2017).

Although the focus of the larger mixed-methods research project was DE reform in the FCS, student self-determination was a prominent theme that emerged from the qualitative data. A sharp contrast existed between our student focus group data, in which students were largely unaware of the specific mandates of the legislation but greatly appreciated their increased freedom of choice over course enrollment decisions, and data indicating that staff were, by and large, deeply suspicious of legislation that they felt enabled underprepared students to make risky academic choices that could have negative long-term repercussions for their lives, such as failure to graduate (Brower et al., 2017). Our current study is grounded in Deci and Ryan's (1985) classic self-determination theory, which posits that self-determination is a measure of intrinsic motivation that involves fulfilling the fundamental human needs for autonomy, competence, and relatedness with others. In this article, we explore these questions: (1) How did a policy change in Florida's state colleges influence underprepared students' feelings of autonomy, competence, and relatedness with campus personnel? (2) In their interactions with underprepared students in Florida's state colleges, what did campus personnel regard as the influence of a policy change on students' feelings of autonomy, competence, and relatedness with staff?

THEORETICAL FRAMEWORK

The relationship between student motivation in higher education and academic outcomes is an understudied phenomenon (Guiffrida, 2006; Reason, 2009). Guiffrida (2006) has suggested that self-determination theory is a particularly appropriate lens through which to understand college student motivation and success. Following Guiffrida's (2006) suggestion, our study employs Deci and Ryan's (1985) theory of self-determination, which posits that increasing autonomy, competence, and relatedness enhances intrinsic motivation. Indeed, measures of self-determination are key components of the Academic Motivation Scale (AMS), which has been widely used cross-culturally with both K–12 and college students (Barkoukis et al., 2008; Guay et al., 2015; Stover et al., 2012; Turner et al., 2009).

With respect to the components of self-determination, autonomy refers to "the need to self-regulate one's experiences and actions" (Ryan & Deci, 2017, p. 10). That is, individuals experience autonomy when they behave in ways that are congruent with their own will or volition. Competence can be defined as "our basic need to feel effectance and mastery" (Ryan & Deci, 2017, p. 11). Individuals need to feel they are effective in their social environments. However, feelings of competence are frequently threatened when challenges are too great, when criticism from others is person focused and frequent, or when people experience pervasive negative social comparisons. Relatedness "concerns feeling socially connected" (Ryan & Deci, 2017, p. 11). Relatedness is about belongingness and feeling cared for and important to others in one's life. Individuals build belongingness by giving to others and feeling that they contribute meaningfully to a social group larger than themselves. Research has shown that when these basic human needs are missing, individuals can fall into negative behavior patterns such as passivity or dysfunction (Ryan & Deci, 2017; Vansteenkiste & Ryan, 2013; Williams et al., 2000). Guiffrida and Douthit (2010) have established the central importance of students' feelings of relatedness with family, friends, and campus personnel to their success in college.

To support these basic human needs, social environments, including the educational environment, can be described as *autonomy supportive*, *effectance supportive*, and *relationally supportive*, or the reverse (Ryan & Deci, 2017). The aim of this study, then, is to show that academically underprepared community college students are more likely to succeed in a college environment that facilitates self-determination, supports student choice, fosters self-regulation, provides students with positive feedback where appropriate, and encourages the caring involvement of campus personnel. In this study, we suggest that policy changes in Florida's state colleges following SB 1720 altered important aspects of the educational environment, thereby influencing students' feelings of autonomy, competence, and relatedness with campus personnel. We also explore the idea that major policy shifts can influence patterns of student motivation and success in unexpected ways.

LITERATURE REVIEW

Self-determination theory distinguishes between intrinsic motivation derived from the internal satisfaction inherent in an activity, and the extrinsic motivation to obtain an external reward or avoid punishment. Studies of the relationship between motivation and academic achievement by Taylor et al. (2014) have shown that only intrinsic motivation consistently predicts student learning, controlling for baseline academic achievement. In higher education, several studies have demonstrated the positive relationship between students' intrinsic motivation and academic achievement (Cote & Levine, 1997; Pintrich, 2003; Vallerand & Bissonnette, 1992). Ryan and Deci (2017) have further theorized that the intrinsic motivation to learn is best fostered when students' three self-determination needs are met: the needs for autonomy, competence, and relatedness. In this section, we present literature related to educational practices for each component of the self-determination theory.

AUTONOMY-SUPPORTIVE EDUCATIONAL PRACTICES

In a review of studies on the autonomy of students of many ages, Reeve et al. (2007) found that when students are afforded more autonomy in the classroom, they are more likely to be intrinsically motivated and to engage in high-quality learning. Ryan and Deci (2017) highlighted eight specific classroom practices that have been shown to support autonomy:

> 1) listening to students, 2) making time for students' independent work, 3) giving
>
> students an opportunity to talk, 4) acknowledging signs of improvement and mastery,
> 5) encouraging students' effort, 6) offering progress-enabling hints when students seem stuck, 7) being responsive to students' comments and questions, and 8) acknowledging students' experiences and perspectives. (p. 368)

Though many studies of autonomy have been conducted in K–12 education, a handful of studies highlight the importance of autonomy to student learning and motivation in undergraduate education. Specifically, studies of college students in Germany and the United States have found that students who perceive greater instructor support for their autonomy are more intrinsically motivated, feel greater academic competence, and perform better academically, controlling for academic ability (Black & Deci, 2000; Levesque et al., 2004). In experiments with college students, two studies demonstrated that students are more motivated and put greater effort into schoolwork when given choices and provided rationales for learning that support autonomy (Deci et al., 1994; Reeve et al., 2002). Interestingly, studies have also found lower levels of biological stress as measured by cortisol levels in college students with instructors rated as autonomy-supportive than in students with instructors

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rated as neutral or controlling (Stansbury & Gunnar, 1994; Susman, 2006).

Two studies have demonstrated the need for faculty to grant students greater autonomy over learning in graduate education. Williams et al. (1997) found that the extent to which preceptors in medical school supported student autonomy predicted the areas that students selected for their residencies. That is, students chose internal medicine for their residency over surgery if the internal medicine preceptor was more supportive of student autonomy. In a longitudinal study of law students, Sheldon and Krieger (2007) showed that students with law professors who supported autonomy received higher grades, had higher bar exam scores, and were more intrinsically motivated in their first jobs as lawyers.

EFFECTANCE-SUPPORTIVE EDUCATIONAL PRACTICES

Effectance-supportive practices, or practices that support students' feeling of academic competence, are closely related to students' achievement of mastery goals. Ryan and Deci (2017) distinguished between "mastery goals" in education, which involve "learning in order to enhance your competence or knowledge" and "performance goals," which involve "performing or doing well relative to others" (p. 372). Mastery goals have been linked to intrinsic motivation and well-being in students, whereas too much focus on performance goals has been linked to negative educational outcomes (Elliot, 2005; Murayama et al., 2012; Ryan & Deci, 2017).

Ryan and Deci (2017) have argued that one of the most frequent ways that educators communicate students' academic competence is through grades, which are performance goals. Grading, they suggest, serves two educational purposes: "competence-relevant feedback" and "gatekeeping" (p. 371). Ryan and Deci (2017) have stated that there are

> few empirical or theoretical supports for the motivational or competence-building advantages of classical grading schemes. Yet, in most school settings, grades and evaluations are employed as if they were the key to motivation, when, in fact, especially for those who need competence supports, they are likely to be undermining influences. (p. 371)

Indeed, studies of students of many ages have shown that grades are often demotivating, serving more to reinforce social comparison than to intrinsically motivate students to learn, particularly for academically at-risk students (Kage & Namiki, 1990; Klapp, 2015; Ryan & Deci, 2017).

RELATIONALLY SUPPORTIVE EDUCATIONAL PRACTICES

Our study specifically examines the importance of student relationships with campus personnel to academic achievement. Indeed, several studies have established that students who feel related to campus personnel, particularly faculty, are more likely to succeed academically than those who lack such feelings of relatedness (Astin, 1996; Cox et al., 2012; Pascarella & Terenzini, 2005). A broad array of student outcomes are linked to students' relatedness with faculty, including increased persistence (Pascarella & Terenzini, 2005), improved learning (Lundberg & Schreiner, 2004), higher GPAs (Anaya & Cole, 2001; Guiffrida et al., 2013), and the intention to pursue graduate study (Hathaway et al., 2002). Students' feelings of relatedness with faculty are particularly important to academic success because these interactions can help students feel more integrated in the college environment (Schwitzer et al., 1999) and foster students' desire to engage in educationally valuable activities (Kuh & Hu, 2001).

Taken together, these research findings suggest that the self-determination framework is an appropriate lens through which to understand the academic success of underprepared community college students. In addition, the extant literature shows that intrinsic motivation and self-determination may be an understudied phenomenon in higher education that is important to consider for underprepared students who experience high levels of academic challenge in the community college environment after graduation from high school.

METHODS

This study employs a multiple case study research design (Yin, 2013). The three cases represent three groups of underprepared students who took three different course enrollment pathways during developmental education reform in Florida's state colleges: nonexempt students in DE (*the remainers*), exempt students in DE (*the compliers*), and exempt students in first-level credit-bearing courses (*the defiers*).

DATA COLLECTION

Over a four-year period, 36 two-day site visits to 21 institutions were completed from fall 2014 to spring 2018, with some repeat visits by teams of two to four researchers travelling to each institution. Data were subsequently analyzed each year. At both the institution level and participant level, our qualitative sampling strategy was a purposive, maximum variation sample, which involved "purposely picking a wide range of cases to get variation on dimensions of interest" (Patton, 2015, p. 243). The 21 institutions in our four-year sample represented more than half of the 28 institutions in the FCS. Although quantitative data from the larger mixed methods study were not used as a data source in this case study, student outcome measures did inform our maximum variation sampling. Each year, the 28 FCS institutions were divided into three tiers based on measures from our quantitative data set for the student outcomes most directly related to the legislation (an average of passing rates in DE English and math, and passing rates in first-level credit-bearing courses in English and math). We then invited institutions from each tier to participate in our research, ensuring that we included institutions in every region of the state and institutions that varied in terms of location (i.e., rural, suburban, and urban) and enrollment size.

Institutions that participated in our study assisted researchers with soliciting potential focus group participants and securing on-campus space for the focus group sessions. Administrators were requested to select staff who had been involved in implementation of the legislation and students who (1) had enrolled in DE coursework or (2) had been deemed underprepared by the institution and were advised to enroll in DE but had instead opted to enter first-level credit-bearing courses. Administrators were also requested to select demographically diverse students whom previous research (Hu et al., 2018) suggested had been differentially impacted by the legislation, including adult students, students of color, English language learners, economically disadvantaged students, and veterans.

The primary data source for this study were field observations and transcripts from focus groups with relevant stakeholders at the 21 institutions. Secondary data included institutional documents collected before and during site visits.

Institutional Documents

Before the site visits, the research team collected and analyzed implementation plans from all 19 FCS institutions. The plans were used to provide essential context for understanding the broad institutional changes that took place following SB 1720 and to support the development of the focus group interview protocol and the initial coding framework. Additional documents, such as advising flowcharts and course syllabi, were collected during the site visits and provided background information for our

analyses; these helped us to interpret the decision pathways taken by our three groups of students during advising sessions, as well as the course content of the DE and first-level credit-bearing classes we observed.

INTERVIEWS AND FOCUS GROUPS

Our research team conducted 13 individual interviews and 179 semistructured focus groups lasting between half an hour and two hours with 239 administrators, 284 faculty, 215 advisors, 23 support staff, and 378 students, resulting in data from 1,139 total participants with some repeat participants over the four-year period. The interview protocols for (1) administrators, (2) faculty, (3) academic advisors and support staff, and (4) students were designed to identify institutional processes following the passage of SB 1720 at each state college. The protocols were intended to address a broad array of research questions for the four-year project on developmental education reform in Florida. The administrative interviews began with the following "grand tour" question (Spradley, 2016): "Overall, how would you describe your college's approach to redesigning your developmental education program?" Likewise, the faculty protocol began with a grand tour question eliciting an overview of curricular changes; the advising protocol began with an overview of changes to the advising process; and the support staff protocol began with an overview of changes to academic support functions. The student protocol focused on students' lived experiences in state colleges and their perceptions of institutional changes in areas such as advising, curriculum, and support services.

From these opening questions, follow-up questions were then asked for participants to elaborate on their perspectives. Specifically, campus personnel were asked to elaborate on their perspectives on the legislation, their perceptions of changes they'd observed in students enrolled in DE and first-level credit-bearing courses, and memorable or vivid interactions they'd had with students. Likewise, students were asked to elaborate on their perspectives on the legislation, their experiences in DE and with first-level credit-bearing coursework, and their perceptions of themselves and campus personnel.

Field Observations

Researchers generated field notes identifying salient, interesting, or illuminating observations from each visit. Field notes were particularly valuable in allowing the researchers to directly observe interactions between students and campus personnel during 23 advising sessions and 25 classroom observations of DE and first-level credit-bearing classes. Field notes data related to observable signs of students' engagement and frustration levels during advising sessions and classroom observations were particularly relevant to this study.

DATA ANALYSIS

Our data analysis procedures consisted of two parts. Each year, four to five researchers engaged in coding the data. First, we identified central ideas and properties in all the data through pattern coding (Corbin & Strauss, 2015; Miles et al., 2014). Next, we engaged in a proposition creation process with a subset of the data that were specifically related to the research question for our case study. In this study, a proposition is a declarative statement or claim about a pattern that describes the data contained within the case.

Initial Pattern Coding

A digital recording of each focus group was used to generate a verbatim transcript, which was then imported into qualitative data analysis software, NVivo 10, for coding and analysis. Over the four-year period, we developed an evolving coding framework that incorporated a combination of a priori and emergent codes. We included broad codes (or parent codes) in our framework, such as *students*, *advising*, and *curriculum*, as well as more detailed codes (or child and grandchild codes), including *student choice, agency, help seeking, stigma, student academic preparation, confusion, self-efficacy, confidence, challenge, social support, stressors, faculty and staff perceptions of students, student perceptions of self and other students,* and *student perceptions of faculty and staff*.

In the first year, we read through the field notes, institutional documents, and focus group data to synopsize the policy implementation processes at each institution. We then developed an initial coding framework to analyze a subset of 10% of data files across participant types (Bazeley & Jackson, 2013). Each of the researchers coded the files using the coding framework.

To achieve intercoder reliability, we met as a team weekly to discuss and compare coded text. Each year, we engaged in a reliability-building process as a team with a subset of the data that steadily increased each year. We obtained a mean Cohen's kappa coefficient of .41 for Year 1 (157 codes and five researchers). In the second, third, and fourth years, we identified new themes or removed themes that were no longer relevant from the previous year's data. We obtained a mean Cohen's kappa coefficient of .50 for Year 2 (calculated for 208 codes and five researchers), .55 for Year 3 (calculated for 259 codes and five researchers), and .61 for Year 4 (calculated for 257 codes and four researchers). Kappa ranges of .41 to .60 represent moderate intercoder reliability; values above .60 represent satisfactory reliability; and values above .80 represent nearly perfect reliability (Burla et al., 2008). Kappa coefficients tend to be lower with a large number of codes and a large number of researchers (Hai-Jew, 2017). After reliability-building each year, we coded the remaining data with our revised coding frameworks (Corbin & Strauss, 2015).

Creation of Propositions and Conceptual Model

After the data were pattern coded for the larger research project over the four-year period, we identified data relevant to the current case study on student self-determination. First, data were identified in which students and campus personnel discussed their perceptions of autonomy, competence, and relatedness. After completing this process, it became clear that the student data on self-determination could be further delineated by whether students had a choice about course enrollment decisions (exempt and nonexempt students), and for those with a choice, what path was chosen (DE or first-level credit-bearing coursework). Therefore, the data were regrouped into three groups of students: (1) *the remainers*—nonexempt students required to take DE; (2) *the compliers*—exempt students who chose to enroll in DE; and (3) *the defiers*—exempt students who chose to enroll in college-level classes.

After this sorting process, initial propositions were developed during a within-case analysis to summarize the data for each group of students in the three decision pathways or cases. These initial propositions were declarative statements or summaries of all the data within each decision pathway. Next, a cross-case analysis was performed to develop an initial conceptual model summarizing patterns in the data across all three cases (Figure 1). Using the constant comparative method, the data were then compared with the initial propositions and conceptual model for disconfirming evidence by which the propositions and conceptual model were revised. For example, during this process, it was determined that the patterns of competence and relatedness with campus personnel were dependent not only on students' decision pathways under the legislation but also on their subsequent academic performance in coursework.

Researchers wrote analytic memos throughout the analysis process in all four years. Written memos in this project were used to identify emergent themes in the data (Corbin & Strauss, 2015). Topics developed in memos assisted us in creating and revising the coding framework initially, in identifying the focus of the current case study, and later in formulating and refining the three

propositions and conceptual model.

The trustworthiness of our qualitative interpretations was established through triangulation, member-checking, and peer debriefing. We incorporated both analyst triangulation (five researchers coding the data) and data source triangulation (field notes, document analysis, interviews, and focus groups). We conducted member checking by soliciting feedback on our research products from key campus personnel. After including suggested changes from administrators, we sent our research products to all focus group participants from an email address to which comments could be sent. In addition, we performed peer debriefing with two researchers not involved in the data analysis process who acted as "devil's advocates" in questioning the study's interpretations and methods (Patton, 2015).

SELF-DETERMINATION IN UNDERPREPARED COMMUNITY COLLEGE STUDENTS

We present our findings in sections illustrating the three propositions for the three groups of underprepared students in Florida's state colleges: (1) the remainers, or academically underprepared nonexempt students who were required to take developmental education courses; (2) the compliers, or academically underprepared exempt students who chose to take developmental courses based on the recommendations of campus personnel; and (3) the defiers, or academically underprepared exempt students who chose to bypass developmental coursework and enter directly into college-level coursework in spite of the recommendations of campus personnel. For each case, our propositions represent the most common patterns related to the three components of self-determination: autonomy, competence, and relatedness. For each case, we show whether student and campus personnel perspectives tended to coincide or differ. Refer to Table 1 for a summary of the patterns of self-determination for our three cases. For the remainers in Case 1, we identify two patterns (Patterns 1 and 2), a single pattern for the compliers in Case 2 (Pattern 3), and two patterns for the defiers in Case 3 (Patterns 4 and 5).

Table 1. Presence of Self-Determination Factors in Data for Three Cases

	Case 1: Nonexempt students in DE with no choice (*the remainers*)		Case 2: Exempt students in DE with a choice (*the compliers*)	Case 3: Exempt students in college-level with a choice (*the defiers*)	
	Pattern 1: (lacked autonomy; felt incompetent and disconnected from staff)	Pattern 2: (lacked autonomy; overcame feelings of incompetence and disconnectedness from staff)	Pattern 3: (appreciated autonomy; felt competent and connected to staff)	Pattern 4: (appreciated autonomy; felt incompetent and disconnected from staff)	Pattern 5: (appreciated autonomy; felt competent and connected to staff)
Autonomy			∫	∫	∫
Competence		∫	∫		∫
Relatedness		∫	∫		∫

We first consider nonexempt students required to take DE.

CASE 1 PROPOSITION: NO CHOICE AND TOOK DE, PATTERNS 1 AND 2:

The remainers, or nonexempt students, in the first case followed one of two patterns. In Pattern 1, the majority of students who were required to take DE resented their lack of autonomy over course enrollment decisions and were more likely to experience feelings of academic incompetence and disconnectedness from campus personnel than exempt students who freely chose to enroll in developmental education. In Pattern 2, a minority of the remainers overcame their initial feelings of incompetence and disconnectedness with campus personnel when they achieved success in DE courses.

The students in the first decision pathway had no autonomy over whether to enroll in developmental or college-level coursework. This pathway included students who were identified as academically underprepared and were required to take developmental education because of their nonexempt status under SB 1720. Some remainers, particularly those who had come from out of state or had attended a private high school, expressed resentment that they did not qualify for the exemption when their peers did qualify.

During an advising observation, an older nonexempt student was visibly frustrated throughout the advising session because of her inability to bypass DE. The advisor first suggested that the student take the developmental course MAT 0028, to which the student responded, "I hate math." The advisor responded, "But you have to do it." The advisor went on to explain that the student would need to take three more math courses after MAT 0028 before she could take the college-level anatomy class that she was requesting. After discussing the required math courses, the advisor suggested that the student take the PERT (the binding placement test used before SB 1720) again to see if she could get a higher score that would enable her to take a college-level math course instead. The student shook her head no.

The advisor then listed three course sections for MAT 0028, none of which was convenient for the student: She had to watch her mom and could not take the night course, the section that met Monday to Friday conflicted with her schedule, and the section on another campus was too far to travel. The advisor then explained that the student would have to delay taking the course until another semester. The student replied that she needed the course to maintain her financial aid eligibility, and the advisor suggested that she visit the financial aid office. After this interaction, the nonexempt student left the advisor's office visibly discouraged. It is unknown whether the requirement to take MAT 0028 and her difficulty in scheduling the class had the long-term impact of delaying the student's graduation date.

In focus groups, several students, such as the following student, indicated that they would have bypassed developmental coursework had they been given the option:

> Well, if I was offered that I probably would have because that's just one class less I have to pay for. I don't qualify for financial aid. It's like everything I'm doing is out of pocket. So, the way college is going today, it's very pricey, so I probably would have. I don't know how well I would have did though.

Another student remarked, "They put it on the paper, and I was like, I don't want to take that, and they were like, you have to take it." Likewise, another student expressed frustration at spending tuition money on DE courses that he considered a waste of time: "The reading [DE course], I am really, like I am mad that I actually took it. . . . I paid for a book that I didn't even use that was like $111. . . . And, basically it was like a waste of money."

Many campus personnel expressed the opposite view, explaining that nonexempt students were fortunate not to be faced with a decision that could lead to negative academic consequences. An advisor who had previously attended community college described her perspective:

> I recall when I started as a freshman. . . . I was required, based on test scores, to take developmental courses, and it didn't sit well with me. Okay. It made me angry for the same reasons it makes these students angry. I am a graduate of a high school. I am prepared. I am not going to take a course for which I get no credit, and I don't want to pay for a class that doesn't give me any credit. . . . In retrospect, from my point, if I had not done that, I wouldn't be sitting here probably talking to you folks, because I would never have been through my first semester much less all of the other education I have been able to get. I don't think students are any different from that.

As a DE student in the past, this advisor resented her lack of autonomy over course enrollment decisions, but like most of the campus personnel (faculty, advisors, and support staff) in our focus groups, she believed that DE had ultimately been beneficial for her.

The lack of autonomy over course placement had a variety of effects on students' feelings of academic competence, mostly negative. When asked about the costs of DE, two faculty members expressed this perspective:

> Faculty member 1: Because some students do get discouraged like, "Oh, I just finished high school and I have to take developmental ed again."
>
> Faculty member 2: A morale issue.

For many students, the developmental placement called into question their competence. A student shared, "I was disappointed in myself. . . . And so when I got in there, I was like, 'Oh my Gosh. It's like high school all over again.' And so, I was just like, 'Come on, let's get over this.'"

Although most developmental instructors described working to build rapport with their students, a few threatened students' feelings of competence and relatedness with the instructor by emphasizing the low level of the material presented and students' poor academic performance. A faculty member described a negative interaction she had with a DE student:

> He got a 43 on his final because I teach a compressed developmental math . . . and, I pulled him aside, because he had been repeating my class, so he flunked it, and then took me again, and then it happened again. But, in the middle I pulled him aside, and I said, "You know, I saw you make a mistake I have never seen a student make, actually. And, it was 13 minus 8, so it wasn't a careless mistake." And every time he has to do just the basic computation, he gets it wrong. So, I said, "I feel like you understand algebra, but you are getting everything wrong because of the arithmetic." . . . He was like, "I know this stuff. I just made mistakes."

After the student earned a failing grade of 43 on the final exam, he told the instructor it was her fault that he'd failed and that she'd called him "stupid." She then made pains to distinguish between his "feeling stupid" and her calling him stupid. Although the student may have begun the discussion feeling academically competent, regardless of what she intended to communicate, the negative comparison of his math skills with his classmates' sent the message that the instructor thought he was stupid. For students like this one who struggled in developmental coursework, feelings of academic incompetence also negatively influenced their feelings of relatedness with faculty.

Though the predominant pattern in our data was for nonexempt students to feel demotivated by their DE placement, in unique circumstances, a handful of students required to take DE later appreciated the opportunity that DE afforded them to improve basic skills. One student explained, "I mean, for me, I was like, 'Really?' I felt dumb, to be honest, because you know, it's not gonna count towards your diploma or for credits. They'll still count for some hours, but I felt dumb. But I don't regret it." Although this student initially experienced stigmatization by the DE placement, he eventually concluded that it had been the right option. Another such student who changed his mind about DE after his initial frustration remarked,

> I tried to fight it at first. I was like, "Why do I got to do these classes?" I didn't understand. I was just like, "No, I just want to hurry up and get to the social work class." But they were like, "No, no, no, you don't want to do it that way." So, I took the advice and I realized like right away, it's like wow, "I am so glad I dodged that bullet."

Exempt students in Florida's community colleges who voluntarily enrolled in DE had a very different experience from nonexempt students, however.

CASE 2 PROPOSITION: CHOICE WAS DE, PATTERN 3

In the second case, a single pattern predominated. The compliers, or exempt students who opted to take the advice of college staff and enroll in DE, appreciated their autonomy over course enrollment decisions and consequently tended to experience greater academic competence and relatedness with campus personnel.

Although the majority of exempt students chose to enroll in first-level credit-bearing courses, some were convinced by advisors or other campus personnel to enroll in developmental coursework. One student, for instance, observed, "I am fully aware that it's not college-required. It's not a credit, but I need it." Another student remarked,

> I don't see why anybody would just sign up for classes, especially your first semester of college and not find out where you are at. Like, you take a class that sounds interesting but it involves a lot of writing, and you have no clue how to write. . . . Why take a class that you are going to fail because you don't have the knowledge you need going into that class?

Given the autonomy to choose developmental or college-level coursework, these students opted to enroll in coursework that they believed was appropriate to their level of academic preparation. The vast majority of the students who chose DE voluntarily were successful enough in this coursework to feel academically competent and related to campus personnel.

Many faculty members praised students who were compliant with the recommendations of advisors and faculty to enroll in developmental coursework when given the option. For instance, one faculty member described her remarks to her developmental students:

> I tell them in the 0017 course, they made the wiser decision, and I share maybe some success stories from the past in terms of what I have seen. . . . And I say, "Listen, you have made the wise decision here. You are learning that when it comes to your education, you will be better for that."

Faculty and advisors observed that older students were more likely to accurately judge their level of academic preparation and enroll in developmental coursework than their traditional college-age peers.

Many faculty members in developmental courses distinguished between the motivation levels of students who had been required to take DE and those who willingly chose developmental coursework when given the autonomy to choose. A faculty member explained,

> Of course, there has always been a stigma with prep [DE], so we are trying to get away from that, you know, that if you come into 0017 it's not that you are a prep student, and you are not intelligent, and you are not talented; you are just underprepared and you recognize that. Like you said, the self-identification thing. You know that they are being a little more honest with themselves, and saying, you know, "I am really not sure if I am up to speed for this, if I am ready for this." So that's why they [exempt students who chose DE] are a little more motivated.

Most instructors of developmental coursework made pains to distinguish between students' academic potential and their current state of academic preparation. However, faculty believed that actively choosing developmental coursework made a difference in students' estimation of their own academic competence, with those choosing DE more likely to understand that their current lack of preparation was temporary rather than permanent. Another faculty member described students' differing perceptions of their own competence based on their enrollment choices:

> Sometimes you get students that it's been 10, 15 years since they have been in high school. It puts so much pressure on ENC 1101 [college-level English class]. I think the thing they don't think about too is the confidence factor, because you have a student that perhaps has been out of school for 10 years and they come back and they take ENC 1101, and they fail it, and then it's, "I guess I am not college material." I have seen it. These students get frustrated and they feel like maybe they are not ready for college, and they can't do college, and it creates this barrier. With the developmental ed, easing them into it, letting them pass it, and pass it well, it adds a certain confidence, and it seems to me like it's just not being thought through.

Students who chose developmental coursework also expressed greater feelings of relatedness with campus personnel, particularly faculty. One student, for instance, described the supportive educational environment she experienced with a DE instructor:

> We love her. Every student wants to be in her class. She makes sure that everybody knows that it's important. And she will tell you all the time, "You are wonderful." And you cannot wait to go to that class to show that you do care, and you took her advice and you try your best and look, your paper turned to be one of the best of them.

Students in our focus groups who voluntarily chose DE tended to express fewer feelings of stigmatization regarding their developmental placement, were more confident about their ability to ultimately succeed in the coursework, and described stronger feelings of connection with campus personnel.

A two-hour observation of a DE math course at a large urban campus confirmed this finding from the focus group data. A young instructor wearing a long braid and dressed in a white T-shirt, jeans, and flip flops taught a class of racially diverse traditional-age students (mostly exempt). Throughout the classroom observation, the instructor sought to instill confidence in the students' ability to do math (i.e., a sense of academic competence), which created strong rapport. Throughout the class, the conversation was lighthearted and engaging. Before class, the instructor asked one student why his friend was not attending anymore, and he replied that he learned on Facebook that his friend was moving. When a student with a wide grin told the instructor at the beginning of class that he had completed the homework, she smiled back and said, "I'm sensing you're lying to me." While working the first problem, the instructor smiled and pointed to a student with a puzzled expression: "I got most of you. I want to convince him. I don't believe that you understand what I'm saying. Your face says, 'I don't get it.'"

One vocal Black student shouted out answers throughout the class, not always correctly, but the supportive atmosphere made him unafraid to offer wrong answers in front of his peers. After the instructor worked the first half of a problem and students worked the second half, she remarked, "I believe in you. Believe in yourself. How many think you got it? How many think you didn't get it?" After an equal show of hands, the instructor completed the problem, and a student remarked, "Oh, is that seven and four?" The instructor replied, "Yes, see. Believe." In contrast to the exempt students who chose DE in our classroom observations and focus groups, exempt students who chose college-level courses tended to follow one of two patterns.

CASE 3 PROPOSITION: CHOICE WAS COLLEGE LEVEL, PATTERNS 4 AND 5

The third case followed two patterns with roughly even numbers of students in each pattern. In both Patterns 4 and 5, the defiers, or exempt students who chose to take college-level courses against the recommendation of college staff, appreciated their autonomy over course enrollment decisions. However, not unexpectedly, academic success bred confidence. In Pattern 4, students who performed well academically in college-level classes experienced greater feelings of competence and relatedness with campus personnel than students in Pattern 5 who struggled academically in the more rigorous coursework. These students received negative messages from staff about their academic performance that decreased their feelings of competence and relatedness with those staff.

The majority of exempt students in our sample chose to take college-level coursework. These students did so for a variety of reasons, including the desire to take classes with peers, to avoid paying for additional credit hours, and to expedite their degree programs by avoiding DE coursework. Like exempt students who opted to take developmental courses, exempt students who chose college-level coursework were pleased with the autonomy over enrollment decisions provided by SB 1720. One exempt student explained how she took responsibility for her enrollment decisions: "I had to make some changes for myself, to be honest with you, because at the end of the day, I'm the one that's sitting in that seat and not the academic advisors."

Many campus personnel took a dim view of underprepared students enrolled in college-level courses. Many advisors and faculty regarded exempt students who enrolled in college-level courses as defiant because staff were largely united in strongly recommending DE for these students. At most institutions, advisors had been trained to strongly recommend DE for underprepared students, and at many institutions, exempt students who defied this recommendation were asked to sign a waiver stating that they bore full responsibility for choosing to enroll in college-level courses.
The majority of faculty agreed that underprepared students should not enroll in college-level courses. One faculty member, for instance, stated,

> That's where you are supposed to make 18-year-olds, who can't make the decision to go into developmental education because they need it. That's why you're supposed to help them make that decision. Like nobody, at 18 or 19 is like, "Let me take a course that doesn't count towards my degree."

Another faculty member (who was in a clear minority in terms of instructors' sentiments in our focus groups) expressed the opposite view, stating that students should be given the autonomy to make their own decisions, including the freedom to make what were poor choices from his perspective:

> Students who come here should have the choice of what they want to take, but they need to suffer the consequences and take responsibility. . . . They make their choices, not necessarily the right choices, but they have to learn that the right choices or the wrong choices have repercussions. . . . . Well, let them make the mistake.

Another faculty member described her philosophy of teaching college-level coursework with poorly prepared students enrolled in the class:

> I have students, I told them on the first day, "We are in the deep end of the pool. If you can't even float, you don't belong here, because I can't be that kind of lifeguard. I need you at least floating and then I will take you the rest of the way."

Her observation was that some students rose to the occasion and performed well in the classes with more rigorous expectations, whereas others floundered and "drowned," academically speaking.

Although students typically liked the ability to opt out of DE, their feelings of competence in these courses were closely tied to their performance. Students who bypassed DE and performed well in first-level credit-bearing courses tended to have greater efficacy for learning and stronger feelings of relatedness with their instructors. Conversely, poor performance threatened students' feelings of academic competence. One student described such feelings of incompetence: "I feel like they kind of push you along, you know. So—and that's what they do, they—professors weed students out. . . . So now that I have a professor saying, 'Oh, I have eighth graders doing better work than you.' It's like, 'Dang, like okay, sorry.'" Students who received negative feedback about their academic performance were less likely to maintain feelings of relatedness with campus personnel. One student explained how messages from a professor about her poor academic preparation alienated her from that professor:

> "And you're supposed to know this already." And you know, one of the comments too was like, someone said in class, and it really made me pissed off with that professor, so like I left the class that day because like "You have eighth graders knowing what you're doing." And it's like okay, "Well, some people learn slower than others, you know." So, I just felt I couldn't talk to that person anymore.

Having explored each of the three cases, we next consider the broad pattern across all cases in our conceptual model.

THE CONCEPTUAL MODEL

Most underprepared students in our focus groups entered Florida's community colleges with prior perceptions of their academic preparation. Because of SB 1720, these students were now sorted into categories either with autonomy (exempt students) or without autonomy (nonexempt students) over the decision to take the PERT placement exam and choose their course levels in English and math. Exempt students with a choice either complied with the advice of campus personnel to enroll in DE or defied that advice and enrolled in college-level courses. Then, largely based on their perceptions of their academic performance in these courses, students either experienced feelings of academic competence and relatedness with campus personnel or lacked those feelings of competence and relatedness. In our conceptual model, the elements of Ryan and Deci's (1985) self-determination framework (autonomy, competence, and relatedness) are shown in black circles with white text (Figure 1).

Figure 1. A conceptual model of student self-determination for three course decision pathways in Florida's community colleges

We now consider the potential implications of the three cases and the conceptual model for DE policy and institutional practice in community colleges.

DISCUSSION

Given the widespread adoption of DE in community colleges in the United States and the large number of students enrolled in DE (Bailey et al., 2010), policy makers and community college leaders across the country have shown great interest in the significant policy shift that took place in Florida under SB 1720 (e.g., Mangan, 2017). As other states consider adopting similar legislation extending student choice or curtailing DE course offerings in community colleges and universities (Brower et al., 2017; Jaggars & Bickerstaff, 2018), it is essential to examine the implications of the Florida statute for students' intrinsic motivation. We first consider the policy implications of the legislation, then examine institutional practices to foster self-determination, and conclude with implications for theory and future research.

IMPLICATIONS FOR POLICY AND PRACTICE

Two policy dilemmas related to student motivation arose from our data. Although academically underprepared exempt students appreciated the autonomy over course enrollment decisions afforded by SB 1720, campus personnel questioned whether underprepared students were equipped to make wise educational decisions when given the opportunity. These differing perspectives beg the question, How much autonomy should students be given when the consequences of poor decisions have serious repercussions for educational and life outcomes?

Our data also suggest that the motivation levels of the remainers (nonexempt students) who were required to take DE suffered because of the stigmatization of the "developmental" or "remedial" label. Although students were stigmatized by DE before and after the legislation, their feelings of resentment increased when campus personnel were unable to explain what students perceived as arbitrary rules for classifying them as exempt or nonexempt (i.e., dates of high school attendance, military status, public or private high school, in-state high school or out-of-state high school). Conversely, although the defiers (exempt students) who enrolled in first-level credit-bearing courses were able to avoid the stigmatization of DE, they frequently suffered threats to their academic competence and relatedness with instructors when they performed poorly in the more rigorous college-level classes. The vast majority of the compliers (exempt students) who enrolled in DE voluntarily performed well enough in their coursework to maintain feelings of academic competence and relatedness with staff. However, it is unknown whether the compliers self-selected DE because they were inherently more intrinsically motivated and/or more reflective and self-aware learners in terms of their prior academic preparation.

In a few instances, the perspectives of campus personnel and students on the value of DE coincided. For example, some students valued DE as much as staff did, either when they chose DE or later decided it had been beneficial. However, for the most part, campus personnel and student views differed on the importance of DE. Campus personnel in our focus groups typically praised nonexempt students who freely chose to enroll in DE, arguing that these students were more self-aware and motivated to succeed. Although many nonexempt students resented their status, college staff tended to view these students as fortunate not to have been "tempted" by a choice that could negatively affect future educational outcomes. The majority of campus personnel thought that underprepared students who opted into college-level coursework were making a poor short-term decision (i.e., saving tuition money to expedite their degrees) that could have long-term consequences, such as dropping out or losing financial aid eligibility after repeatedly failing college-level courses. The minority of staff who agreed with the legislation did so for one of two reasons. First, a few faculty and advisors believed that students who were nearly college ready had sometimes been tracked out of college-level coursework in which they could have succeeded. A few others believed that students needed to be given the autonomy to gain life experience and learn from their decisions.

What, then, should policy makers and campus leaders conclude about DE reform and student motivation? From a motivational standpoint, is it better for academically underprepared students to be stigmatized by the DE placement or discouraged by poor performance in the more demanding coursework? Studies analyzing student record data show that students who are nearly college ready are the most likely to succeed in college-level coursework (Park et al., 2018). Therefore, from a policy perspective, it may make sense to grant these students the opportunity to bypass DE, thereby avoiding the stigmatization of the DE label. Our study showed that motivational patterns for academically underprepared students who opted for either DE or college-level courses were closely tied to academic performance. Perhaps not surprisingly, when students performed well in their coursework, they felt more competent and more related to their instructors and others. When they struggled academically, their feelings of competence suffered, and they felt less connected to campus personnel. Therefore, whether to also extend the choice to bypass DE to severely academically underprepared students may depend in large part on the results of future quantitative research, which will help to determine whether the most underprepared students were more likely to persist to graduate when they enrolled in DE or when they entered directly into college-level courses.

In addition to the implications of DE reform for student motivation, we identified three potential areas for institutional practice in supporting the self-determination needs of underprepared students: curriculum, professional development for campus personnel, and out-of-class interaction between campus personnel and students. Our focus group data and classroom observations suggest that autonomy, competence, and relatedness with faculty can be promoted through intentional classroom practices. Curriculum for underprepared students, whether in DE or first-level credit-bearing courses, can facilitate student autonomy by giving students choices over classroom decisions, such as what books to read or how they will be evaluated, and by incorporating academic tasks that they find relevant and personally meaningful (Deci et al., 1994; Reeve et al., 2002). For students who have frequently received negative feedback about their performance, curriculum that gives each individual student the appropriate level of challenge can increase students' feelings of academic competence (Ryan & Deci, 2017). When students perform poorly, informational feedback that gives students specific hints about where and how to improve are far more effective than evaluative feedback alone (Urdan & Turner, 2005).

Beyond curriculum, professional development for faculty, advisors, and other campus personnel can help those who interact frequently with academically underprepared students understand how to better fulfill their need for self-determination. Recall from our data that the most demotivated students were those who had experienced negative academic comparisons with others (e.g., "I have eighth graders doing better work than you"). Discussion and role-play during professional development sessions or new faculty orientations could help campus personnel practice more effective ways of interacting with underprepared students (Hu et al., 2018). For instance, professional development could help campus personnel decrease comments about students' relative performance while increasing praise for effort (Urdan & Turner, 2005) and emphasizing a love of the process of learning (mastery tasks) over the outcomes of learning (performance tasks) (Murayama et al., 2012; Ryan & Deci, 2017).

Students in our focus groups suggested that mentoring relationships and other planned out-of-class interactions fostered stronger feelings of relatedness with campus personnel. Previous research suggests that students derive educational benefit from interacting with campus personnel whom they find supportive, sociable, objective, encouraging, and accessible (Hu et al., 2016; Komarraju et al., 2010). Recall from our data the student who "loved" her DE instructor and "couldn't wait to go to class." Students' feelings of relatedness increase when they feel respected and important to campus personnel (Pascarella & Terenzini, 2005). Communicating respect by learning the individual stories and life circumstances of underprepared students may be more likely to occur in one-on-one out-of-class interactions than in busy classroom settings.

IMPLICATIONS FOR THEORY AND FUTURE RESEARCH DIRECTIONS

Our study adds to the body of literature on self-determination by applying the construct to a large student population (academically underprepared community college students) that has not been extensively studied through this lens. Like the existing self-determination literature (Ryan & Deci, 2017), our research shows that the three dimensions of self-determination can be complementary and cumulative. However, in some instances, inverse relationships can exist among autonomy, competence, and relatedness. For example, student feelings of competence and relatedness sometimes decreased in our study when autonomy increased because of negative academic repercussions of students' decisions. Therefore, assumptions about the complementarity of self-determination factors may need to be reexamined to account for instances in which individuals with increased autonomy make risky decisions that later decrease their feelings of competence and mastery. Future qualitative studies can extend the current line of research by examining in greater depth the relationships among autonomy, competence, and relatedness, as well as the specific types of in-class and out-of-class interactions that either foster or discourage self-determination in underprepared college students.

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