

The Relationship Between Residential Learning Communities and Student Engagement

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The Relationship Between Residential Learning Communities and Student Engagement

Abstract

Residential learning communities (RLCs) are residence hall environments designed to deliver academic and social benefits. For decades, many have argued RLCs are an effective means for increasing student success. Yet substantial changes in the defining characteristics of campus housing and student diversity have led to new questions about the impact of living on campus and the benefits of RLCs in particular. Consequently, we investigated the continued efficacy of RLCs as an effective educational practice. Using data from a diverse, multi-institution sample of first-year and sophomore students, this study provides insight into the relationships between RLC participation, student engagement, and perceived gains in learning.

Keywords

Residential learning communities; living-learning programs; student engagement; residence life

Cover Page Footnote

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Residential learning communities (RLCs) are meant to blur the lines between a student's curricular and co-curricular experiences on campus "by providing a community that fosters greater faculty and peer interaction, increased opportunities for coordinated learning activities and an academically and socially supportive living environment" (Inkelas & Weisman, 2003, p. 335). Although institutions structure RLCs differently (Inkelas et al., 2018), the primary purpose is to marry students' academic experiences—i.e., their *engagement*—with their living environment (Shapiro & Levine, 1999).

Several researchers have pointed to academic and social benefits of RLC participation (Inkelas & Soldner, 2011; Inkelas et al., 2018; Inkelas & Weisman, 2003). These studies are in addition to long-held beliefs that living on campus in and of itself benefits students (Astin, 1984; Blimling, 1993; Pascarella & Terenzini, 1991). Therefore, it is believed the combination of intentional programmatic efforts and proximity to campus leads to increased student engagement, learning and development (Inkelas et al., 2018; Schuh, 1999). However, when it comes to RLC development and implementation, many institutional leaders rely on anecdotal evidence (Inkelas et al., 2018).

Additionally, significant changes to on-campus living (Martin & Allen, 2009; Peters et al., 2018) call into question whether or not proximity to campus truly makes a difference to student engagement (Graham et al., 2018). Questions about the benefits of living on campus mean there is a need to further investigate whether and how RLC participation increases student engagement and student reported gains. By understanding the effects of RLC participation, practitioners will be better able to improve on-campus living for all students. With that in mind, we approached this study from the following research questions:

1. How does RLC participation lead to greater access to academic and support opportunities and resources for on-campus students?
2. How does RLC participation lead to greater student engagement for on-campus students?
3. To what extent, do RLC participants perceive larger gains in student learning and development (academic and co-curricular)?
4. Do RLC participants believe their living situation had a greater impact on their college experience than non-participants?

Literature Review

There is no shortage of literature about on-campus living and RLCs. Many researchers have focused on the nuances of living on campus (Graham et al., 2018; Harwood et al., 2012; Peters et al., 2018). Still, questions remain about what living on campus and participating in RLCs mean for student experiences and engagement. In this section, we provide an overview of the literature about on-campus living and RLC characteristics and benefits.

On-Campus Living

Through the latter half of the previous century, living on campus was argued to be one of the most beneficial collegiate experiences because of the academic and social benefits made available by residence hall environments (Blimling, 1993; Pascarella & Terenzini, 1991). However, student living has evolved in recent decades. New technologies allow students to connect with people and academic resources from virtually any location (Jones, 2002; Mayhew et al., 2016) and both on- and off-campus housing options have changed (Baumann, 2016). Many off-campus facilities now offer student-centered amenities, are in close proximity to campus, and provide more privacy and choice (Sickler & Roskos, 2013; Wode, 2018). Changes in the market for housing challenge assumptions that living on campus is necessarily better for students.

Graham et al. (2018) investigated the relationship between proximity to campus and student engagement. Rather than simply examining on-campus and off-campus living as discrete categories, they compared student engagement for those living on campus, within walking distance to campus, and further than walking to distance to campus. Their findings indicated there was little difference between living on campus and living within walking distance. Therefore, if practitioners cannot simply rely on proximity as a benefit to students, then it is essential that they understand the effects of the other elements of on-campus living such as programming, resources, and amenities that create a distinct experience for students (Graham et al., 2018).

Characteristics of Residential Learning Communities

Residential learning communities (RLC) intentionally combine academic and living experiences to create a smaller and more intimate environment for students. RLCs often involve collaboration with multiple campus units such as academic affairs, advising programs, and first-year experience programs (Inkelas et al., 2018). RLCs come in all shapes and sizes; they can be housed within an entire residence hall or located within a floor, wing, or another contiguous living unit (Inkelas et al., 2018). Although many institutions have integrated several academic and programmatic elements into on-campus residences, RLCs remain a distinct type of community. RLCs serve as a means to enact the goal of creating a “seamless educational experience” (Inkelas et al., 2006). These communities bring together students with a common interest (e.g., academic major, thematic interest) and facilitate increased interactions with peers, faculty, and staff (Inkelas et al., 2008).

In 2018, Inkelas et al. introduced the Living-Learning Communities Best Practices Model (BPM). The BPM—based on a decade of research from the National Study of Living Learning Programs and practice, and modeled after Maslow’s Hierarchy of Needs, in which basic needs must be satisfied before more complex needs can be met—outlines four levels of residential learning community structure, including: (a) infrastructure, (b) academic environment, (c) co-curricular environment, and (d) what they call the “pinnacle”—the integration of the previous three. The infrastructure level refers to clearly articulated goals of the RLC and the

partnerships between residential life staff and academic departments. The academic environment component includes course elements, advising, and academic resources and support in the living environment. The co-curricular environment component differs depending on the learning goals of the RLC, but may include social and community development, service-learning, or other functions to enhance the academic environment. Last, the pinnacle component, as an integration of all other components, optimizes student learning experiences within the residential community (Inkelas et al., 2018). Additionally, there is an assessment component, described as the “mortar between the bricks” and meant to hold together all the other components of the RLC (Inkelas et al., 2018).

As indicated through the BPM, RLCs differ from other on-campus housing options because of the intentionality behind their structures and programmatic efforts. Although many students have access to multiple enriching educational experiences, the RLC is often highly recognized because it “explicitly seeks to support and augment student learning and development” (Inkelas et al., 2018, p. 142). These elements are what then lead to the increased learning and development among students.

Benefits of Residential Learning Communities

The proliferation of RLCs at colleges and universities is due in large part to the reported benefits of participation, such as greater capacity for critical thinking (Inkelas, et al, 2006), improved academic performance (Inkelas & Soldner, 2011), and openness to new perspectives and difference (Inkelas & Weisman, 2003). Research studies found that RLC students interacted more with faculty through academic and career advising and had more social opportunities (Garret & Zabriskie, 2003; Inkelas & Soldner, 2011). RLC students also more frequently visited faculty during office hours, asked for course-related help, and discussed personal, career, and academic concerns with faculty (Garret & Zabriskie, 2003), although Cox and Orehovec (2007) complicated these presumed benefits with their findings that students in a residential college did not necessarily have frequent or meaningful interactions with faculty. Additionally, RLC students on average had a stronger sense of community, increased peer interaction particularly as it relates to academics and careers (Inkelas et al., 2018; Inkelas & Weisman, 2003), and more access to academic advising, tutoring, and other programming catered to their academic and career interests (Inkelas et al., 2018; Inkelas & Weisman, 2003). The boost in faculty and peer interaction and access to resources and support may be why RLC students gain greater benefits from their participation (Brower & Inkelas, 2010; Inkelas & Soldner, 2011).

With most research over the past 25 years confirming the positive effects of RLCs, colleges and universities across the US have developed residential learning communities on their campuses to keep up with best practices (Brower & Inkelas, 2010). However, these programs vary widely in scope, structure, and resources. Two different studies have been done to identify typologies of RLCs. In the first,

Inkelas et al. (2007) identified 17 primary themed categories, including cultural programs, disciplinary programs, arts programs, and honors programs. In 2008, Inkelas et al. named a second RLC typology. In order to get a comprehensive view of the landscape, Brower and Inkelas (2010) conducted a five-year longitudinal study of RLCs (which they called living-learning programs). With close to 24,000 responses from students enrolled at 34 postsecondary institutions, they obtained an extensive amount of data on the state of RLCs. Averaging across all types of programs, Brower and Inkelas confirmed positive benefits for RLC participants in comparison to characteristically similar students who had not participated. They found a wide range of benefits, including social, academic, and civic outcomes. Importantly, these positive effects were lasting, meaning that three years later students who had spent just one-year in an RLC were reporting more academic self-confidence, more frequent mentoring of other students, and more commitment to civic engagement. The scope and depth of Brower and Inkelas' study provided a high level of confidence that RLCs were worth the time, effort, and resources needed to develop and sustain them. However, the general endorsement should not be overshadowed by their conclusion that the quality of RLCs varies greatly. Brower and Inkelas identified three indicators of successful programs: (a) a strong, collaborative presence of student affairs and academic affairs; (b) highly integrated, academically focused learning objectives; and (c) a focus on encouraging learning in every and all community spaces.

Although in practice RLCs vary greatly, previous research by Brower and Inkelas (2010), Inkelas et al., (2018), and others highlights the various components needed for RLCs to facilitate the benefits outlined above. By using multi-institutional data, in this study we were able to gain broad insight of the types of opportunities and resources students are accessing through their RLC and the relationship of their participation with their engagement and perceived gains. Examining the effects of RLC participation for on-campus students could deepen our understanding of the specific elements of living on campus that are designed to promote more profound levels of student engagement.

Conceptual Framework

Our study was guided by Kuh's (2001) articulation of student engagement theory. Student engagement represents two critical aspects of college quality. The first is the amount of time students spend on effective educational experiences, and the second is how an institution structures its resources to provide quality of educational opportunities (Kuh, 2001). Therefore, student engagement is best understood not as a single construct or characteristic that can be measured, but rather as a domain of empirically derived practices that represent multiple and often interrelated learning activities. Additionally, the theory highlights the role of the institution in facilitating engagement in effective educational practices. Rather than solely focusing our attention on what students are or are not doing, the theory also allows us to examine how the institution structures its curriculum and co-

curriculum in order to foster student learning and development. This latter focus is key to this study in that RLCs represent an institutional response to improve student learning and development by fostering student engagement.

Methods

Data Source

Data for the study came from the 2018 administration of the National Survey of Student Engagement (NSSE), an annual large-scale, multi-institution survey, and from a questionnaire of student living arrangements appended to the NSSE. The NSSE questionnaire asks students to identify their engagement in educationally purposeful activities and to estimate the extent to which their institution contributed to their knowledge, skills, and personal development in several curricular and co-curricular areas. The living arrangements survey, which included an additional set of questions about student experiences in housing (both on and off campus), was administered to first-year and sophomore students enrolled at 76 NSSE-participating institutions. The response rate was 22.4% for first-year students and 19.4% for sophomores. Response rates of this magnitude are relatively unbiased for NSSE data (Fosnacht et al., 2017).

Sample

We received responses from over 21,000 first-year (68%) and sophomore (32%) students who lived on campus at the 76 institutions. Of these students, 17% (20% of first-year students and 12% of sophomores) participated in a residential learning community based on their response to the question: *Do you participate in a residential program where students take at least one class together and attend common educational or social activities (often called a “living-learning community”)?* Seventy-one percent of the sample was female; 61% was White, 12% was African American, 7% was Asian, and 7% was Latino/a/x. A little over half (53%) reported that they earned mostly “A” grades in their courses. Programs of study were well distributed among ten related-major categories. A third (34%) of respondents were first-generation college students, and nearly all were of traditional age. For more details on student characteristics, see Table 1.

Table 1

Demographics of the sample

		Non-RLC		RLC		Total	
		N	%	N	%	N	%
Class	Freshman	11,526	66	2,796	77	14,322	68
	Sophomore	5,960	34	813	23	6,773	32
Sex	Female	12,396	71	2,478	69	14,874	71
	Male	5,090	29	1,130	31	6,220	29
Race or ethnicity	Amer. Indian/AK Native	46	0	18	1	64	0
	Asian	1,206	7	330	9	1,536	7
	Black or African American	2,009	12	433	12	2,442	12
	Hispanic or Latino	1,155	7	259	7	1,414	7
	Nat. Hawaiian/Pac Isl.	32	0	10	0	42	0
	White	10,720	62	2,063	58	12,783	61
	Other	172	1	42	1	214	1
	Multiracial	1,602	9	319	9	1,921	9
	I prefer not to respond	387	2	100	3	487	2
	Self-reported grades	Mostly As	9,123	52	1,932	54	11,055
Mostly Bs		7,182	41	1,457	40	8,639	41
Mostly Cs or lower		1,143	7	215	6	1,358	6
Major field	Arts & Humanities	2,023	12	315	9	2,338	11
	Bio. sciences	2,174	12	469	13	2,643	13
	Physical sciences	1,022	6	209	6	1,231	6
	Social Sciences	2,434	14	440	12	2,874	14
	Business	2,306	13	497	14	2,803	13
	Communications	975	6	171	5	1,146	5
	Education	1,207	7	246	7	1,453	7
	Engineering	1,007	6	271	8	1,278	6
	Health Professions	2,389	14	518	14	2,907	14
	Social Serv Prof.	865	5	242	7	1,107	5
	All Other	644	4	134	4	778	4
Undecided	363	2	76	2	439	2	
First-generation (neither parent/guardian holds a bachelor's)	5,919	34	1,311	37	7,230	34	
Traditional age (<21 for first-years; <22 for sophomores)	17,169	99	3,532	99	20,701	99	
Transferred	1,130	6	210	6	1,340	6	
Time spent working	0 hrs/wk	9,750	56	1,852	52	11,602	56
	1 to 5 hrs/wk	1,377	8	275	8	1,652	8
	6-10 hrs/wk	2,095	12	459	13	2,554	12
	11-15 hrs/wk	1,539	9	307	9	1,846	9
	16-20 hrs/wk	1,147	7	248	7	1,395	7
	21-30 hrs/wk	916	5	233	7	1,149	6
More than 30 hrs/wk	474	3	176	5	650	3	

The 76 institutions in the sample adequately represented the diversity of U.S. bachelor's degree-granting institutions that offer on-campus housing. Nearly

half were master's level, with the remainder divided between bachelor's and doctoral institutions. Fifty-seven percent were private institutions, and 11% were minority-serving institutions. Institutions ranged in size from small (under 1,000 undergraduates) to large (20,000 or more undergraduates), were distributed regionally across the US, and were located in cities, suburbs, and rural areas. For more details about institutional characteristics, see Table 2.

Table 2**Characteristics of participating institutions (N=76)**

		N	%
Carnegie type	Baccalaureate level	18	24
	Master's level	36	47
	Doctoral level	22	29
Control	Private	43	57
	Public	33	43
Barron's Selectivity	Non- or less competitive	5	7
	Competitive	45	59
	Very competitive	14	18
	Highly or most competitive	7	9
Locale	City	37	49
	Suburb	19	25
	Town or Rural	20	26
Region	Far West	7	9
	Great Lakes	12	16
	Mid East	14	18
	New England	7	9
	Outlying areas	1	1
	Plains	7	9
	Rocky Mountains	2	3
	Southeast	23	30
	Southwest	3	4
	Undergraduate Enrollment Size	Fewer than 1,000	4
	1,000 - 2,499	23	30
	2,500 - 4,999	16	21
	5,000 - 9,999	14	18
	10,000 - 19,999	12	16
	20,000 or more	7	9
MSI		11	14

Variables

As noted, the key independent variable utilized in the study was participation in a residential learning community as indicated above. From the living arrangements survey, we also utilized data on student participation in activities that took place *in their place of residence*. These items included attending a class, meeting with a faculty member, meeting with an academic advisor, using academic support services, studying or working on a project with other students, attending social or co-curricular activities, attending diversity-related activities, and attending health and wellness activities. We utilized these variables to show how RLCs influence student activities qualitatively. See Table 3 for the list of activities and response frequencies.

Table 3

Percentage of first-year and sophomore students who participated in selected activities in their place of residence by RLC participation

Which have you done where you live?	non-RLC	RLC
Attended a class (not online)	9	29
Met with a faculty member	10	26
Met with an academic advisor	7	18
Used academic support services	10	21
Studied or worked on a project with other students	35	53
Attended social or co-curricular activities	36	53
Attended diversity-related activities	11	22
Attended health and wellness activities	14	24
None of these	43	18

Note: All differences were significant at $p < .001$; Phi coefficients (a measure of association between two binary variables) for all but "None of these" ranged from .10 to .23 suggesting that these are small to moderate effects). The coefficient for "None of these" was -.20.

For our multivariate models, we selected ten dependent variables based on claims made in the literature about the intended purposes and benefits of RLCs. Dependent variables included six NSSE Engagement Indicators: Collaborative Learning, Student-Faculty Interaction, Discussions with Diverse Others, Reflective and Integrative Learning, Quality of Interactions, and Supportive Environment. NSSE Engagement Indicators were developed using a blend of theory and empirical analysis and were rigorously tested for validity and reliability (NSSE, 2018). Each one is calculated based on responses to a set of related survey items, which then provides information about a distinct aspect of student engagement. To answer the third and fourth research questions, dependent variables included three self-reported measures of learning: perceived co-curricular gains, perceived academic gains, and self-reported grades. Additionally, we used one dependent variable

collected on the housing supplement that asked students to rate the impact of their current living situation on their ability to succeed academically.

Because the range of possible values for the ten dependent variables varied, we standardized them so that the magnitude of the regression coefficients within each model could be interpreted as an effect size, allowing us to compare the relative strengths of the associations of the independent variables with the dependent variable.

We included a number of control variables that previous research has shown to relate to student engagement and perceived gains (National Survey of Student Engagement, 2010), including class level, sex, race/ethnicity, self-reported grades, SAT (or ACT equivalent) scores, major field category, first-generation status, traditional age status, transfer status, and hours spent working on or off campus. We also included the average adjusted gross income (Internal Revenue Service, 2018) of the students' home ZIP code as a proxy for parental income, hypothesizing that greater resources in students' home communities (economic and social) would correlate with participation in special programs in college such as RLCs. Finally, we included the institutions the students attended, thus controlling for observed characteristics like enrollment size and unobserved features like faculty efforts in promoting student learning. See Table 1 for the list of control variables.

Analysis

First, we compared the frequency of involvement for RLC participants and non-participants in several learning opportunities (e.g., attending a class, meeting a faculty member or advisor, or using academic support services) that took place *within the students' place of residence*. This descriptive analysis brought forth the distinctive ways RLC participation influences the college experience. Next, we conducted a multivariate analysis of the ten dependent variables, controlling for the salient institutional and student characteristics described above in order to isolate the net relationship of participation in a residential learning community. NSSE recommends using the following criteria to contextualize the magnitude of absolute observed differences in effect size units (in this case, the regression coefficients after all dependent variables were standardized): less than 0.1 = trivial, 0.1 to less than 0.3 = small, 0.3 to less than 0.5 = medium, and greater than 0.5 = large (Rocconi & Gonyea, 2018). In contrast to a *p*-value, effect sizes are a standardized measurement of the *magnitude* of the difference between two groups and represent the practical or clinical importance of a difference between two groups.

Limitations

Before presenting the results, our study has at least four limitations that readers should keep in mind while interpreting the results. First, while our sample is relatively diverse in terms of student and institutional participation, the sample is a convenience sample of institutions that participated in NSSE and were willing to

administer the housing items to their students. Second, roughly a third of the sample had missing data for their standardized test score (SAT I or ACT equivalent). We opted to include this variable in our analyses to prevent missing variable bias, but the substantial sample reduction could also bias our results. However, we re-estimated the multivariate models without including the standardized test score variable, and we did not observe a meaningful change in the results. Third, the results should be viewed as correlational, not causal. Due to ethical and practical concerns, we did not have the ability to randomly assign students to participate in an RLC. Furthermore, analysis of our data indicated that we were not able to predict RLC participation with sufficient accuracy, thereby obviating the possibility of alternative methods like propensity score analysis that can estimate the causal effect of a treatment such as RLC participation. Finally, the literature indicates that RLCs come in a variety of forms (Inkelas et al., 2018), but our study was dependent on a single self-reported question about RLC participation that uses a different definition of RLC from other research, namely the National Study of Living-Learning Programs (NSLLP). Thus, while our results can be viewed as a broad average of the influence of RLCs, the results for a particular program or RLC model may differ. This caveat is supported by research on non-residential forms of learning communities, which suggests that the effectiveness of learning communities varies substantially across institutions (Fosnacht & Graham, 2016).

Results

We began our analyses by descriptively examining eight items that asked about participation in educational and co-curricular activities that took place in the student's residence and then comparing RLC participants and non-participants (Table 3). Overall, RLC students participated more often in activities that involved meeting with other students (e.g., studying together or attending social activities) than they did in activities that involved outside faculty or staff members (e.g., attending a class, meeting faculty and advisors, using support services) within their place of residence. However, RLC participants engaged in all eight activities at higher rates than their non-RLC peers. For example, RLC residents were two to three times more likely to attend a class, meet with a faculty member, meet an academic advisor, or use academic support services where they lived. Participants were also substantially more likely to study with other students, attend social or co-curricular activities, attend diversity-related activities, and attend health and wellness activities in their place of residence. Conversely, non-RLC participants were more than twice as likely to state they had participated in none of the eight activities. All comparisons of activity involvement between participants and non-participants were statistically significant ($p < .001$).

Next, we estimated a series of multivariate regression models that examined how RLC participation was related to facets of student engagement. After controlling for a broad array of student and institution characteristics, we found that participating in an RLC had a statistically significant and positive relationship with

all of the engagement outcomes studied (See Table 4). The largest estimate for Engagement Indicators was associated with Student-Faculty Interaction (0.23 SDs; see the analysis section for more information on the interpretation of effect size estimates). However, RLC participation also had a non-trivial association with Collaborative Learning (0.18 SDs), Reflective & Integrative Learning (0.14 SDs), and Supportive Environment (0.11 SDs). RLC participation had lesser effect sizes in the trivial range of NSSE's effect size guidance (Rocconi & Gonyea, 2018) with two of the Engagement Indicators, Quality of Interactions (0.09 SDs) and Discussions with Diverse Others (0.07 SDs), although the estimates were also significant and positive.

Table 4**Regression results for residential learning community participation**

Dependent variable	<i>b</i>	Sig.	<i>R</i> ²	<i>N</i>
Reflective & Integrative Learning	0.14	0.000	0.05	12,336
Collaborative Learning	0.18	0.000	0.07	12,252
Discussions with Diverse Others	0.07	0.002	0.02	12,264
Student-Faculty Interaction	0.23	0.000	0.06	12,196
Quality of Interactions	0.09	0.003	0.02	12,104
Supportive Environment	0.11	0.000	0.02	12,319
Perceived Gains: Co-curricular	0.18	0.000	0.03	12,355
Perceived Gains: Academic	0.14	0.000	0.04	12,353
Housing Impact: Academics	0.25	0.000	0.02	12,327
Self-reported grades	0.12	0.000	0.17	12,334

Note: Models controlled for race/ethnicity, sex, class level, first-generation status, adult status, SAT/ACT score, major field, transfer status, educational aspirations, Greek-life participation, student athletics participation, part-time enrollment, time spent working, and average income in students' home communities; Models included institution-level fixed effects; Robust standard errors that accounted for the clustering of students within institutions; all dependent variables were standardized with a mean of 0 and standard deviation of 1. Since all dependent variables were standardized, the coefficients represent the expected change in the dependent variable in standard deviation units when a student participates in an RLC.

Last, we ran similar regression models but focused on the perceived co-curricular and academic gains, the impact of housing on academics, and self-reported grades. Again, we found statistically significant and positive relationships for all of these outcomes. The strongest result was for RLC participation on the

impact of housing on academics (0.25 SDs) whereby RLC residents perceived a greater ability to succeed academically because of their living environment. RLC participation estimates for the other three outcomes were in the small but non-trivial range of 0.12 to 0.18 SDs.

Although we cannot describe a causal relationship about the benefits of RLC participation, results clearly suggest that participation in the opportunities and resources offered through RLCs relates to greater levels of engagement and perceptions of learning and development.

Discussion

Residential learning communities represent one of higher education's longest-running student success initiatives with roots that trace back to the residential colleges at Cambridge and Oxford (Inkelas et al., 2018). While the positive benefits of RLCs have been known for decades (Lacy, 1978; NSLLP, 2008; Pascarella & Terenzini, 1981; Pike et al., 1997), changes to the landscape of higher education including an increasingly diverse student body and the proliferation of new technology (Gemmill & Peterson, 2006) require continued study of the RLC model.

In this study, we sought to re-affirm the benefits of RLC participation. We used an integrative data source that captures the experiences of over 20,000 first-year and sophomore students who lived on campus at 76 diverse institutions in 2018. In particular, we examined how RLCs related to ten outcomes that they have been reported to influence. Overall, our results align with those of previous researchers who concluded RLCs have the potential to improve the student learning experience. In this study, RLC participants were more engaged in effective educational practices that have been previously demonstrated to result in student learning and development, after adjusting for other student and institutional characteristics (NSSE, 2018). Similarly, RLC participation was positively associated with perceived curricular and co-curricular gains, self-reported grades, perceived impact of residence life on academic success, and perceptions of the campus environment. In terms of the NSSE-recommended criteria (Rocconi & Gonyea, 2018), all estimates were in the small range (0.1 to 0.3), except for Quality of Interactions and Discussions with Diverse Others, which were trivial (less than 0.1).

While none of the estimated relationships were large, results suggest that RLCs offer real benefits for engagement and perceived learning outcomes. A possible reason for the smaller effect sizes is that the lessons learned from the benefits of RLCs have been widely acknowledged by the residence life community in general, and practices from RLCs may have spread to residence life programming for non-RLC units. Still, when the multivariate results are supplemented with our descriptive findings, RLCs appear to create a better, more supportive learning experience by making classes, faculty, advisors, and academic support more readily accessible to students in their residential environment. They

also make more co-curricular learning opportunities available by increasing students' interactions with diversity and boosting their wellness opportunities. These small positive findings highlight the conceptual framework of student engagement theory. That is, the intentionality behind the programs and resources offered through RLCs lead to increased student engagement in educationally effective practices that typically result in greater learning and development (Inkelas et al., 2018; Kuh et al., 1991).

Although the results confirm that RLCs are still an effective programming type for positive undergraduate outcomes, has the influence of RLCs on student outcomes changed over time? In the initial pilot of the NSLLP, Inkelas, et al. (2006) examined the relationship of RLC (referred to as living-learning programs [L/L]) participation and various outcomes. They found L/L students reported higher critical thinking, academic self-confidence, and cognitive development. As noted earlier, the definition of RLC used in the NSLLP differs from that used in the NSSE; therefore, direct comparisons are difficult to make. However, the findings of this current study suggest that benefits of RLC participation have at least remained stable and possibly have increased over time.

Implications

Our results have multiple implications for policy, practice, and future research. The study confirms that RLCs are still an effective means to promote student engagement and success. Although the broad positive impacts of RLCs support the continuation of funding and resources for RLC programming, RLCs are not necessarily a quick fix to drastically improve a specific student outcome.

A hasty implication might be to suggest expanding the number of RLCs within an institution. In this study, only 17% of students in our sample had participated in an RLC, leaving much room for increased participation. If RLCs offer benefits to students, then expanding the number or size of RLCs is a reasonable consideration. However, simply adding more resources and programmatic efforts without the intentionality that makes RLCs unique may not be the best solution. The process to expand RLCs on campus should be thoughtfully implemented. Practitioners are encouraged to consider specific goals and the role RLCs can play in achieving them.

While RLC participants were more engaged than their peers, there is room for improvement within the RLC population. Descriptively, we found that RLC students participated in educationally purposeful activities at rates ranging from just over 50% (studied or worked on a project with other students where they live) to under 20% (met with an academic advisor where they live). Alongside expansion of RLCs, institutions should seek ways to maximize participation levels within already existing communities. RLC structures, requirements, and resources vary (Inkelas et al., 2018), with some RLCs requiring students to attend a specified number of programs or meetings and other RLCs offering voluntary-only events. With increased access to technology, such as card readers to track attendance,

building entries, and use of college resources (learning management systems, library usage, etc.), student affairs professionals have an increased ability to monitor student involvement and intervene if a student is disengaging from the academic community. Equipped with the proper data, student affairs professionals can identify at-risk students and refer them to professionals like academic advisors, mental health professionals, or other services to help students better transition to college or cope with the numerous stressors undergraduates face.

Alternatively, RLC programs could be expanded to include students throughout their undergraduate careers. Currently, a majority of RLC participants are first-year students (Inkelas et al., 2018). If more sophomores, juniors, and seniors were able to access these communities, the positive benefits may be observed across the student body. For example, the University of Michigan's Residential College, with a liberal arts curriculum as a sub-school within the university (University of Michigan, 2019), is a type of model that may deepen the benefits demonstrated in this study. This recommendation is supported by Jessup-Anger (2012) who stated that residential colleges, especially those at large research institutions, can imitate the experience of a small liberal arts institution, providing students a rigorous yet supportive academic environment.

Residential learning communities require significant resources, so these options may not be feasible for all institutions. Therefore, practitioners should consider who participates in RLCs and how participation is decided. In many cases, RLCs are an opt-in experience, which means students who are unaware of the opportunity or unsure of how well the program fits their needs are less likely to receive the benefits. Yet those students may be the type who need greater academic support, community and peer interaction, and access to faculty. What then, are institutions doing to involve students who could most benefit from RLC participation? We argue that practitioners should consider this question in their design and implementation of RLCs at their institution. Additionally, RLCs may benefit from strong partnerships with admissions and orientations staff to disseminate the availability and benefits of RLC participation.

Additionally, we join the call that Brower and Inkelas (2010) made for institutions to attend to the quality of their RLCs with the goal of amplifying their positive benefits. For practitioners who already have RLCs, an initial first step is to assess the granular effects of their RLCs for specific areas of improvement. For example, our study found that while RLC students attended more events related to diversity, the same respondents did not engage in more discussions with diverse others. Perhaps instituting a talk-back or reflection component to diversity-related events could prompt students to be more engaged, resulting in what we want for students—increased understanding and empathy—rather than just exposure. This type of on-the-ground, context-specific change could push RLCs to have a more significant impact. Such an assessment process may also inform practitioners about RLC characteristics that could reasonably and successfully expand into other

residence halls on campus. Institutions must do the work, however, of assessing their programs and implementing directed changes.

Future research should continue to examine the nuances of RLCs and on-campus living as well as how changes to both on- and off-campus resources impact the student experience. This study provides broad insight into the benefits of RLCs. However, it does not specifically address which RLC model is most beneficial to students. Therefore, future research should continue to investigate the various structures of RLCs and how these impact student learning and development differently. Institutions have their own priorities and values, so better understanding the impact of different RLC models may more deeply inform practitioners about the types of RLCs they should implement. Additionally, the relationship between RLCs and persistence and graduation, the outcomes of greatest interest to policymakers and the public, are unclear. The most recent research in this area occurred over two decades ago and did not observe a direct relationship between participation and persistence (Pike et al., 1997). Therefore, there is a need to update research in this area. With this implication, we urge researchers to examine what this relationship looks like for different student groups, particularly those who experience marginalization.

Conclusion

This study's results affirm that residential learning communities are an effective educational practice, despite the changing nature of both higher education and the undergraduate student body. Findings indicate that RLCs are positively associated with several indicators of effective educational practice such as collaborative learning, reflective and integrative learning, perceptions of a positive campus environment, perceived learning gains, and student-faculty interaction. Furthermore, a comparison of results from previous studies suggests that RLCs continue to be as or more effective than in the past. This finding suggests that RLCs remain a relevant and import tool to improve student success.

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