

RESEARCH ARTICLE

Peer leadership as an emerging high-impact practice: An exploratory study of the American experience

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Abstract

Given the powerful and ubiquitous qualities of peer influence, higher educators have begun to harness this resource in student support and service delivery by using undergraduates as leaders, mentors and educators for their fellow students. This paper analyses data from 1 942 students from 142 institutions in the United States who responded to a national survey of peer leaders administered by the National Resource Center for The First-Year Experience and Students in Transition in 2009. Descriptive and inferential analyses indicate that survey respondents often hold more than one peer leader position, academic positions were the most common peer leadership experiences, and they receive extensive training for their peer leader roles in the form of initial training, ongoing support and supervision by professional staff. Further, the overwhelming majority of survey respondents felt that their peer leadership experience was highly beneficial to their skill development, nature of interactions and campus integration. Students engaged in community service peer-leader roles reported positive change on more outcomes than peer-leader roles in academics, residence halls and orientation and peer leaders who received financial compensation reported positive differences on a wider range of self-rated outcomes than those students not receiving remuneration. In sum, the examination of peer-leader structures and outcomes provide suggestive evidence that peer leadership meets many of the criteria to be considered as a high-impact practice.

Keywords

Higher education, peer leadership, high-impact practice, first-year student experience, United States.

Introduction

One of the most profound influences on the human experience is the interaction with other individuals, especially among adolescents and particularly within an educational setting. Within the field of education in America, the role of peers in the development, learning, transition and success of fellow students is widely noted in the literature on the intellectual and personal development of undergraduates, the impact of college on students, and leadership and career development (e.g. Astin, 1993; Evans *et al.*, 2010; Pascarella & Terenzini, 1991, 2005; Skipper, 2005). In a summary of this body of scholarly work, Pascarella and Terenzini (1991) highlight

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the degree and scope of the impact of undergraduates upon one another in their statement that “students’ interactions with their peers ... have a strong influence on many aspects of change during college, [including] intellectual development and orientation; political, social, and religious values; academic and social self-concept; intellectual orientation; interpersonal skills; moral development; general maturity and personal development; and educational aspirations and educational attainment” (pp. 620–621).

Given the power and prevalence of student influence on other students, colleges and universities in many countries and various higher education contexts have begun to employ peers in key leadership roles and as a resource in the delivery of undergraduate services and support programmes. Students may be engaged in elected or appointed leadership roles or as individual mentors, group facilitators, or instructors, and as instruments of support, resource or referral (Cuseo, 2010a; Keup, 2012; Newton & Ender, 2010). Students also may be used in various domains of the institution. Peer leadership has a long history in co-curricular support and student activities, has more recently gained traction in campus governance and in the classroom, and the number of campus settings that engage students as peer leaders is likely to continue to increase (Ender & Kay, 2001; Keup, 2012). Further, student peer leaders may be useful in contexts that range from individual interaction, such as a mentoring relationships or one-on-one peer advising, to leadership in a group, organisational, or community setting. Regardless of the role, domain, or context, peer leader roles share several common features, including intentional selection, formalised training and support, authority endorsed by the college or university, a role that is intentionally designed to serve other students, and a degree of accessibility that makes them a less intimidating resource to fellow undergraduates than professional staff or faculty (Cuseo, 1991, 2010a; Greenfield, Keup & Gardner, 2013; Hart, 1995; Newton & Ender, 2010).

Research has yielded substantial evidence to support the decision to use peer leaders in higher education and in a wide array of roles and settings. Those students who are the beneficiaries of peer leadership, mentorship and education have garnered a wide range of positive benefits from the experience, including increased engagement (Black & Voelker, 2008), more timely and focused utilisation of campus services (Cuseo, 1991; Grosz, 1990; Kram & Isabella, 1985; Sharkin, Plagement & Mangold, 2003), enhanced academic skills and performance (Astin, 1993; Landrum & Nelson, 2002; Lewis & Lewis, 2005), feelings of support and sense of belonging (Colvin & Ashman, 2010; Hill & Reddy, 2007; Jacobi, 1991; Light, 2001; Nora & Crisp, 2007; Yazedjian *et al.*, 2007), and retention (Cuseo, 2010b; Schwitzer & Thomas, 1998; Tinto, 1993).

To complement this body of scholarship and to further support the impact of peer leadership, more recent research has shown that peer leaders gain as much, if not more, value from the experience than the students they serve. More specifically, students in these leadership roles report: development in their communication and leadership skills; integrative and applied learning; knowledge of campus resources; interaction with faculty, staff, and peers; critical thinking, problem-solving, and higher-order thinking skills; the ability to work under pressure; interpersonal skills; and an awareness and appreciation of diversity (Astin, 1993; Newton & Ender, 2010; Russel & Skinkle, 1990; Wawrzynski & Beverly, 2012). Furthermore, there is evidence of enhanced ability to manage groups,

empathise with students and facilitate learning (Harmon, 2006). Given the mutuality and breadth of benefits to both the students being served and the undergraduates assuming the leader roles, peer leadership has been identified as an emerging high-impact practice (Bunting, 2014; Keup, 2012,).

Despite these potential benefits to both the students being served and the peer leaders providing the support, as well as the growing use of these programmes on campuses across the country, the body of research on the effects of the peer leadership experiences on the peer leaders themselves is still relatively underdeveloped. Further, the existing studies are limited by small sample sizes and single institution accounts (Wawrzynski & Beverly, 2012). The current study seeks to add to this nascent body of literature and attempts to explore the experiences and outcomes of peer leaders on a broad level via data drawn from a national survey of peer leaders conducted by the National Resource Center for The First-Year Experience and Students in Transition in the United States. Analyses of the data will attempt to explore the following research questions: (1) What are the structural characteristics of peer leadership programmes in higher education? (2) What are the outcomes of the peer leader experience for the students in these roles? and (3) How do the outcomes of peer leader experiences vary by the structural characteristics of these programmes?

Conceptual Framework

Recently, the Association of American Colleges and Universities (AAC&U) identified four essential learning outcomes for the 21st century. These outcomes include global and intercultural competence, intellectual and practical skill development, personal and social responsibility, and integrative and applied learning (Brownell & Swaner, 2010; Kuh, 2008). In addition, AAC&U identified ten high-impact practices that facilitate student progress towards these 21st-century learning outcomes and provide essential preparation to address the personal, civic, economic and social challenges that individuals are facing in society today. High-impact practices are defined as “teaching and learning practices [that] have been widely tested and have been shown to be beneficial for college students from many backgrounds [and represent] practices that educational research suggests increase rates of retention and student engagement” (Kuh, 2008, p. 9).

The ten educational strategies and programmes identified by the AAC&U as high-impact practices (HIPs) are as follows: first-year seminars and experiences; common intellectual experiences; learning communities; writing-intensive courses; collaborative assignments and projects; undergraduate research; diversity/global learning; service learning and community-based learning; internships; and capstone courses and projects (Kuh, 2008). These ten HIPs can be viewed as an aspirational checklist of approaches to student success and guideposts for best practice in higher education. Moreover, the elements that make them impactful provide a theoretical foundation for understanding, examining and delivering a high-quality undergraduate experience. Specifically, these high-impact practices share a set of common characteristics that include an investment of time and energy, substantive interaction with faculty and peers, high expectations, a robust feedback loop, exposure to diverse perspectives, reflection and integrated learning, discovery of relevance through real-world application, and accountability (Kuh, 2008; Kuh & O'Donnell, 2013).

While these characteristics are shared features across high-impact practices, they are not unique to them. In fact, Kuh (in Brownell & Swaner, 2010) posits that “these key conditions can be adapted and incorporated into any teaching and learning situation inside or outside the classroom to promote higher levels of student performance” (p. xi). Thus, the potential exists for any student experience to emerge as a high-impact practice if these characteristics are embedded therein. Therefore, these foundational features of high-impact practice provide a conceptual framework to examine the structural characteristics and outcomes of peer leader experiences as a potential high-impact practice and as a component of a high-quality undergraduate experience.

Method

Data source and sample

The data for this study were drawn from the 2009 Peer Leadership Survey sponsored by the National Resource Center for The First-Year Experience and Students in Transition in the United States. This student-level survey contained items that measured student demographics, experiences of peer leaders, structural characteristics of peer leader roles and programmes (such as training opportunities and remuneration packages), and self-rated change as the result of peer leader experiences. The survey also included open-ended items to capture students’ perceptions of their experiences as peer leaders. The survey was administered as an online questionnaire in Spring 2009, and its recruitment represented a two-step process. Institutional representatives were recruited via invitations sent to 3 733 subscribers to the five listservs sponsored by the National Resource Center at that time. These invitations included a description of the study, a request to forward an invitation to participate in the survey to “undergraduate students who hold or have held a peer leader position on your campus”, a survey link, and a template for an invitation letter to students. Institutional representatives then forwarded the survey invitation and link to their respective networks of student peer leaders on their campuses. Completed surveys were submitted directly to the online data repository for the National Resource Center for The First-Year Experience and Students in Transition.

Survey recruitment efforts yielded responses from 1 972 students from 142 institutions who submitted usable data via the online instrument. Listserv subscribers who were sent the survey information included more than one individual per campus and campus representatives were not required to report the number of students to whom they forwarded the survey instrument, so institutional and student-level response rates cannot be calculated. Given the exploratory nature of this study, national representativeness was not a goal and the inability to calculate a response rate from what was a snowball method of recruiting participants is a limitation of the study.

Characteristics of survey respondents on several background and academic characteristics are summarised in Table 1. These analyses suggest that the survey sample is skewed towards female students and high academic performers (79.6% reported a GPA of 3.0 or above) but contains a reasonable representation of respondents by race/ethnicity, class standing

(first-year, sophomore, junior and senior), in-state and out-of-state status, and residential vs commuter students. While the sample is not representative, it represents the first national survey that focuses, in detail, on American college students' peer leadership experiences.

Table 1: Characteristics of survey respondents

Characteristic	Per cent
Gender	
Women	74.1
Men	25.6
Other/Did not report	0.3
Race/ethnicity (“mark all that apply”)	
White	72.8
Black or African-American	14.9
Prefer not to answer	7.7
Hispanic/Latino	6.8
Asian	6.0
American Indian or Alaska Native	1.4
Native Hawaiian or other Pacific Islander	0.7
Residency status	
In-state student	70.1
Out-of-state student	27.7
International student	2.2
Housing location	
On campus	62.0
Private housing off campus	34.7
University-sponsored off-campus housing	3.3
Class standing	
First-year student	10.8
Second-year student	31.4
Third-year student	30.0
Fourth-year student	24.2
Fifth-year student	3.6
Grade Point Average	
No grades	0.6
1.5 or lower	0.7
1.6–2.0	0.6
2.1–2.5	3.5
2.6–3.0	15.3
3.1–3.5	34.6
3.6–4.0	44.9
N = 1 972	

Measures

Since the primary focus of interest for this study is participation in peer leader experiences, survey participants were recruited based upon their participation as a peer leader. However, the questionnaire also contained an item to verify their involvement as “an undergraduate student who has been selected to serve as a mentor or peer educator to other students through a position with a school-run organization”.

As indicated by the research questions outlined earlier, this study was interested in exploring the various characteristics of the peer leader experiences. Therefore, a notable measure of interest was the campus unit that sponsored the experience, which, in turn, would set the expectations and context for the peer leader roles and responsibilities. This information was collected via a question on the survey that asked respondents to “please indicate the type of campus-based organization that you work or worked for as a peer leader”. Thirteen response options for this question were available to respondents as well as an “other” category with a prompt of “please specify” and room for narrative feedback. Respondents were asked to “check all that apply”, so responses to this survey item were not independent and were recoded into separate dichotomous variables for the analyses.

Similarly, quantitative measures of other key characteristics of peer leader experiences represent important independent variables for the study. Students were asked to report the number of peer leader positions that they currently held as well as the number that they had held throughout their undergraduate experience thus far. These two survey items provided five response options that ranged from “1” to “5 or more”. Measures of compensation included separate categories for course credit, financial remuneration, none (i.e. “I volunteer as a peer leader and do not receive any compensation”), and an “other” category with an option for narrative feedback. Another category of measures accounted for the provision of training (dichotomous measure) and the duration of training for peer leaders, which contained six separate response options that ranged from “half day or less” to “1 week” and a seventh response category of “other” with the option for narrative feedback. Both the compensation and training items were structured in such a manner that respondents were able to mark all response options that applied to their experience in order to capture the various types of compensation and training that may have been associated with different peer leader experiences. Thus, each response category for these items was coded as a dichotomous variable for the analyses.

Two classes of outcome variables served as important measures of potential impact of peer-leader experiences. Both types of outcome variables were worded on the survey as self-reported gains, thereby representing perceived measures of change rather than direct gauges of difference or development. The first set of outcomes included six measures of self-reported gains in skill areas: time management; organisation; written communication; interpersonal communication; presentation; and academic. Respondents were asked to indicate their self-rated change on a five-point scale – “much weaker”, “weaker”, “no change”, “stronger”, “much stronger” – and an additional category of “unable to judge”. A second set of outcomes included eight measures of self-rated change in undergraduate

experiences, such as meaningful interaction with various campus constituents (i.e. faculty, staff and peers), diversity (i.e. both interaction with and understanding of people with backgrounds different from their own), knowledge of campus resources, sense of belonging at the institution, and desire to persist at the institution. Response options for these items were coded on a three-point scale – “decreased”, “no change” and “increased” – and the option to mark “unable to judge”.

The structure of these measures on the survey represents one of the primary limitations of the scope of this research. Most notably, the wording of the outcomes of interest for peer-leader involvement as self-rated measures limits the scope to draw conclusions about true impact; it restricts the interpretation of analyses containing these measures as perceived measures of change and development. Further, survey respondents were allowed to mark “all that apply” on a number of items, thereby capturing the wide range of peer-leader sponsors, training models and remuneration plans. While this method of response enhanced the descriptive capabilities of these data, they yielded variables that were no longer independent and disrupted the continuous scales of some of the items, most notably training. Therefore, this study is unable reasonably to examine the relationships between certain structural characteristics of peer-leader experiences and self-rated outcomes.

Analyses

The quantitative data generated via this survey were used in descriptive and inferential statistical analyses to address the research questions for this exploratory study. In order to prepare items for analysis, all categories of “unknown” and “unable to judge” were recoded or removed. Means and frequency distributions were conducted for all items on the survey. Cross tabulations and Mann–Whitney U tests were the foundation of comparative analyses between groups, most notably with respect to the examination of structural characteristics of peer-leadership experiences and self-rated outcomes of those experiences. Correlations were conducted for analyses where both classes of variables under study were continuous measures (e.g. outcomes and number of peer-leader positions).

Findings

Given the survey recruitment parameters, it is not surprising that 89.5% of respondents indicated that they held a student position that met the description of a peer-leader position (i.e. “an undergraduate student who has been selected to serve as a mentor or peer educator to other students through a position with a school-run organization”). Survey data also revealed that these peer leaders often hold more than one position mentoring, educating or leading other undergraduates. More specifically, 43.6% served in more than one peer-leader position at the time they completed the survey and 7.9% held four or more peer-leader positions at the time of survey completion. Further, students held several different peer-leader positions throughout their time in college; students reported an average of 2–3 positions ($\mu = 2.67$; $SD = 1.43$).

Structural characteristics of peer leadership experiences

The survey also asked students to identify the type of campus-based organisation or institutional area for which they currently or previously worked as a peer leader (Table 2). While past research showed that academic peer-leader positions were less frequent than other types of roles (Ender & Kay, 2001), academic positions were the most common peer-leadership experiences for the students in the current study. Students' responses to an open-ended question about their peer-leader title also showed many academic roles, including first-year seminar peer leader, tutor, academic mentor, peer advisor and teaching assistant. Positions in orientation programmes, residence halls and community service were also common among the students surveyed in this study. Responses showed lower levels of peer-leader participation in student government, athletics, religious organisations, multicultural organisations and counselling or mental health – although these response options may also represent emerging areas of peer-leader involvement. Finally, fewer than 5% of survey respondents indicated that their peer-leader positions were in student productions, physical health programmes, judicial affairs and study-abroad programmes. Open-ended responses to the “other” category also showed participation in opportunities sponsored by campus organisations and units that were not included on the list such as admissions, first-year experience (FYE) programmes, student media, fraternity and sorority life, and formalised leadership curricula. While some of these write-in responses represent long-standing areas of involvement and an oversight on the survey construction (e.g. FYE and Greek life), other responses indicate innovative ways for peer leaders to engage in the campus environment.

Table 2: Sponsor of peer leadership experience

Campus-based organisation	Per centa
Academic (e.g. tutoring centre, first-year seminar)	58.6
Orientation	31.6
Residence hall	29.6
Community service	25.2
Student government	11.6
Athletics	8.6
Religious	8.2
Multicultural	7.4
Counselling or mental health	7.0
Student productions	4.6
Physical health	3.4
Judicial	3.0
Study abroad	2.5
Other	14.8

N = 1 748;

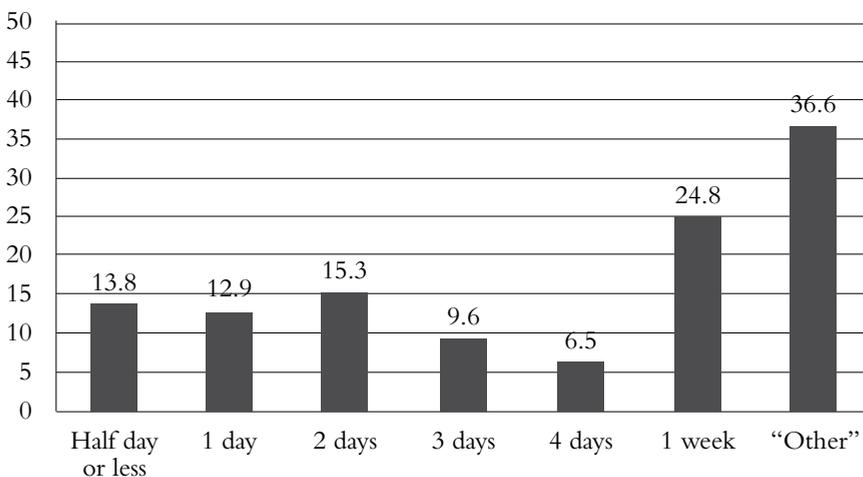
Percentages add up to more than 100% because respondents were asked to “check all that apply”.

Training is a vital component of most peer-leader programmes and what differentiates this role from informal peer-to-peer interactions (Hamid, 2001; Keup, 2012; Newton & Ender, 2010). As such, it was not surprising that 86.3% of survey respondents who participated in peer-leader roles reported that they received training for their positions. Further analyses indicated that peer leaders reported fairly consistent patterns of training across positions, although training was reported at a slightly higher level (i.e. greater than 90%) for students who identified counselling or mental health, orientation, physical health and residence halls as the sponsoring organisation for their peer-leader position. Conversely, just under 80% of students with peer-leader positions in religious organisations, student government and student productions reported that they participated in training, a finding that indicates areas where additional professional development and support may be necessary.

As shown in Figure 1, the duration of training for peer leaders varied. The figure shows that 42% of respondents reported that they participated in training that was two days or fewer in duration. On the other side of the spectrum, nearly one quarter of survey respondents reported that their training lasted one week. Over one third reported some other amount of training. Narrative feedback to an open-ended item asking for additional information about this response option indicated that nearly all of the respondents in the “other” category experienced training that was longer than one week. In fact, these “other” training modules often represented sustained professional development and support throughout the peer-leader experience (e.g. a leadership course, ongoing workshops, supervision) rather than just an initial infusion of training before or at the outset of the peer-leader experience.

Figure 1: Amount of training for peer leaders

(Percentages add up to more than 100% because respondents were asked to “check all that apply”).



The survey also inquired about compensation models and rewards for students in these peer-leader positions. Nearly two thirds of respondents (65.1%) reported that they received financial compensation for their peer-leader position and 21.9% indicated that they received course credit instead of, or in addition to, being paid. However, it appears that many peer leaders are also motivated by the intrinsic rewards of the experience as 50.5% stated that at least one of their peer-leader positions was on a volunteer basis. Perhaps given their long history as paraprofessional positions, peer-leader roles in residence halls and orientation tended to report being rewarded with monetary compensation at a higher rate (77.4% and 70.5% respectively) than other positions. Academic peer leaders were much more likely to receive course credit for their service than other positions (30.3%).

Outcomes of peer leadership experiences

In addition to providing national data about the structure and characteristics of peer-leader programmes, the survey also asked students to rate the outcomes of their leadership experience. Table 3 shows self-rated change in six skill areas and Table 4 shows self-rated change in eight undergraduate experiences. Overall, these data indicate that survey respondents believe that their peer-leadership experience was highly beneficial to their skill development, nature of interactions and campus integration. Over 90% of the peer leaders in the current study reported that they became “stronger” or “much stronger” in their interpersonal communication skills and perceived particular gains in meaningful interaction with peers, staff and faculty. An overwhelming majority of survey respondents also reported an enhanced understanding of campus resources, a greater sense of belonging, as well as increases in experiences with, and understanding of, students from different backgrounds from their own. Further, over three quarters of peer leaders in the study reported positive gains in organisation, time management and presentation skills. In addition, 70% of respondents indicated that their peer-leader experience “increased” their desire to persist at the institution. Given the high number of survey respondents engaged in academic peer-leader roles, it is interesting to note that the proportion of survey respondents reporting gains in academic skills was the lowest of all areas. However, when coupled with the fact that 97.7% of peer leaders in this study report that they would recommend being a peer leader to other students, these data provide evidence that students generally perceive that peer-leadership experiences are positively associated with student development and important college outcomes.

Table 3: Self-rated change in skills as the result of peer leadership experience

Skill	% reporting “Stronger” or “Much Stronger”
Interpersonal communication	93.8
Organisation	80.7
Time management	79.5
Presentation	79.2
Written communication	60.7
Academic	51.2
N = 1 654	

Table 4: Self-rated impact of peer leadership on undergraduate experience

Experience	% reporting “Increased”
Knowledge of campus resources	91.1
Meaningful interaction with peers	89.1
Meaningful interaction with staff members	85.6
Meaningful interaction with faculty	82.8
Feeling of belonging at institution	80.7
Understanding of people from different backgrounds	78.5
Interaction with people from different backgrounds	78.1
Desire to persist at institution	70.7
N = 1 654	

Relationship between structural characteristics and outcomes

Data on the structural characteristics of peer-leader programmes offer a greater understanding of the range of administrative models for these programmes. Students’ self-reported gains in skill areas and of perception of impact provide suggestive evidence of peer-leader outcomes. However, when these two aspects of peer-leader programmes are examined together via inferential statistics, they provide even richer data on the relationship between programme characteristics and self-rated outcomes.

For example, the results of correlations between the number of peer-leader positions currently held by students and self-rated skill development reveal uniformly weak ($r \leq .20$) but statistically significant ($p < .001$) relationships. The strongest relationships between current number of peer-leader positions held and self-rated improvement in skill areas are for self-rated change in time management ($r = .201, p < .001$) and self-rated change in writing skills ($r = .210, p < .001$). When these same self-rated skills were correlated with the *total* number of peer-leader positions held during the student’s college career, a similar pattern emerged, but the correlation coefficients were slightly stronger overall and self-rated change in time management yielded a correlation coefficient of 0.245 ($p < .001$).

When similar correlation analyses were conducted between the number of current peer-leader positions and the self-rated impact of peer leadership on undergraduate experiences, as well as the total number of peer-leader positions on these same outcome variables, very few correlation coefficients were statistically significant and larger than 0.15. Only one approached 0.20, which is the threshold for even a weak correlation: the desire to stay at the institution and graduate. The correlation of this outcome with the current number of peer-leader positions yielded a coefficient of 0.192 ($p < .001$) and a similar analysis with total number of peer-leader positions resulted in an even weaker relationship ($r = .168, p < .001$).

Mann–Whitney U statistics were used to explore the relationship between self-rated outcomes of peer leadership experiences and the four most common sponsors of peer-leader experiences: academic, orientation, residence halls and community service. Since students could indicate more than one peer-leader experience with different sponsors, respondents for each of these four peer-leader experiences were not independent and separate analyses were conducted for each experience and the outcomes. Consequently, the

categories examined with each Mann–Whitney U analysis included students who engaged in that specific peer-leadership experience as compared to those who did not and, thus, represented independent categories. Table 5 indicates a summary of the Z statistics and their statistical significance and indicates patterns of results.

The results in Table 5 show that academic peer-leader experiences yield fewer statistically significant differences with respect to outcomes when compared with other peer-leader experiences. Additionally, other than self-rated change on academic skills ($U = 261342$, $Z = -5.054$, $p \leq .001$), the statistically significant differences between academic peer-leader experiences and those with other sponsoring units (i.e. in orientation, residence halls and community service) were comparatively small (i.e. Z statistics between 2.000 and 2.999).

Overall, peer-leader experiences in residence halls yielded more positive differences on self-rated outcomes between that group and other peer-leader sponsors than did these same comparisons for academic peer-leader experiences. The largest positive difference for peer leaders in residence halls emerged for self-rated change in time management skills ($U = 242540$, $Z = -4.975$, $p \leq .001$). Gains for residence-hall peer leaders were slightly more consistent for self-rated change in skill development areas than for the outcomes related to undergraduate experiences; all of the self-rated skills were statistically significant, whereas only half of the undergraduate outcomes were.

Table 5: Student self-rated outcomes by sponsorship of peer-leadership experience

Outcomes	Academic		Residence Halls		Orientation		Community Service	
	Z	Sig	Z	Sig	Z	Sig	Z	Sig
Time management			+++	***	+	*	+++	***
Organisation			+	**	+	**	+++	***
Written communication	+	*	+	**			+++	***
Interpersonal communication			+	*	++	**	++	**
Presentation			+	**	++	***	++	**
Academic	+++	***	++	***			++	***
Meaningful interaction with faculty	+	**	+	**	+++	***	+	**
Meaningful interaction with staff members			++	***	+++	***	+	**
Meaningful interaction with peers					+	*	+	*
Diverse interactions					++	***	++	***
Understanding of diversity			++	**	++	***	++	***
Knowledge of campus resources	+	**	++	***	++	***		
Feeling of belonging at institution	+	*			+++	***	+	*
Desire to persist at institution					+++	***	++	***

Notes: $N = 1\ 654$; + Z statistic 2.000–2.999; ++ Z statistic 3.000–3.999; +++ Z statistic > 4.000 * $p < .05$; ** $p < .01$; *** $p < .001$

Conversely, peer-leader experiences in orientation as compared to peer-leadership experiences sponsored by other campus units yielded uniform differences on self-rated change in all six measures of undergraduate experiences, but only four measures of self-rated change in skill areas had statistically significant results. Differences between peer leaders in orientation as opposed to other areas were especially noteworthy for feeling of belonging at the institution ($U = 259314.5$, $Z = -5.753$, $p \leq .001$.), meaningful interaction with faculty ($U = 262196$, $Z = -5.392$, $p \leq .001$.), desire to persist at the institution ($U = 261784.5$, $Z = -4.340$, $p \leq .001$.) and meaningful interaction with staff ($U = 270474.5$, $Z = -4.206$, $p \leq .001$.).

Even though only one quarter of respondents indicated that they engaged in peer-leader roles in a community service capacity, results of the Mann–Whitney U analyses indicate that these experiences were connected to more outcomes than peer-leader roles in academics, residence halls and orientation. Comparisons between peer leaders in community service and other leadership experiences yielded statistically significant positive differences on all but one of the self-rated outcomes (knowledge of campus resources), thereby suggesting that this form of peer leadership is especially impactful on students' perceptions of gains. The most substantial positive differences occurred with respect to three skill areas: written communication ($U = 207954.5$, $Z = -5.874$, $p \leq .001$.), organisation ($U = 220502$, $Z = -4.761$, $p \leq .001$.) and time management ($U = 222080.5$, $Z = -4.599$, $p \leq .001$.).

A final series of analyses between structural characteristics and outcomes explored the relationships between form of compensation for the peer-leader experience and self-rated outcomes, which also employed Mann–Whitney U statistics. As noted above, survey respondents reported whether they received financial compensation (65.1%), course credit (21.9%), or no compensation (50.5%) for their service as peer leaders. Again, students were invited to mark all the compensation options that applied to the range of peer-leader positions in which they serve(d) and, thus, the responses for each of the three compensation categories were not independent. Therefore, in order to create compensation categories that were independent, separate analyses were conducted for dichotomous measures of each form of compensation (as compared to the other two) and the outcomes. Table 6 indicates a summary of the Z statistics and their statistical significance, and highlights patterns of results.

Results of these analyses indicate that peer leaders who received financial compensation reported positive differences on a wider range of self-rated outcomes than those students not receiving remuneration for their service in these roles. The significance of these relationships was especially consistent for self-rated changes in skills, particularly for time management. In fact, only one category of self-rated skills – academic – did not yield a statistically significant Z -statistic. Analyses showed that peer leaders who were paid also reported substantially greater levels of meaningful interaction with staff members and knowledge of campus resources as well as moderately greater levels of meaningful interaction with faculty than peer leaders who did not receive financial compensation. Considering that these student paraprofessionals were likely to go through in-depth

training and be supervised by professional staff at the college or university, it is not surprising that they would report development in these areas. Further, the receipt of financial compensation could be interpreted as the compensation category with the highest level of accountability of the three; students who receive payment for their service as a peer leader may feel a greater obligation to demonstrate proficiency in the skill areas related to their position. It is also worthy to note that these findings are consistent with those reported for student leaders in residence halls and orientation (Table 5), which are the most common areas of peer leadership that receive remuneration for their service.

Table 6: Student self-rated outcomes by sponsorship of peer-leadership experience

Outcomes	Financial		Course credit		None/volunteer	
	Z	Sig	Z	Sig	Z	Sig
Time management	+++	***				
Organisation	+	**			+	**
Written communication	++	***	++	***	+	*
Interpersonal communication	++	***				
Presentation	++	***	+	*		
Academic			+++	***		
Meaningful interaction with faculty	+	*	++	**		
Meaningful interaction with staff members	+++	***				
Meaningful interaction with peers					++	***
Diverse interactions						
Understanding of diversity						
Knowledge of campus resources	++	***				
Feeling of belonging at institution						
Desire to persist at institution					++	**

Notes: $N = 1\,748$; + Z statistic 2.000–2.999; ++ Z statistic 3.000–3.999; +++ Z statistic > 4.000 * $p < .05$; ** $p < .01$; *** $p < .001$

Although the allocation of course credit could be interpreted as another area of accountability, students who received course credit as compensation for their peer-leader roles showed fewer statistically significant relationships with self-rated outcomes than for the analysis of financial compensation. Those students who reported receiving course credit were more likely to report gains in academic skills, written communication, presentation skills and meaningful interaction with faculty, which are consistent with the structure and interactions of a classroom-based environment that would be the foundation of awarding course credit. Again, there is overlap between these findings and those for students in peer-leader positions sponsored by academic units on campus as noted above.

Finally, analyses of students who reported that they volunteered for their peer-leader positions and did not receive compensation resulted in statistically significant positive relationships for meaningful interaction with peers, desire to persist at the institution, organisation skills and written communication. It is interesting to note that volunteer peer leadership was the only compensation category that yielded an association with desire to persist at the institution. However, one needs to be cautious about the issue of directionality when interpreting this finding; it is very likely that more involved students who are already more likely to persist are the ones who are most inclined to volunteer their time in these peer-leader positions.

Significance and Implications

The findings of this study have the potential to impact educational research and practice. The results of this study provide the first national portrait of the structure and characteristics of peer-leader programmes, training and compensation, which can provide a context in which to guide decisions on the institutional level, identify prominent and emergent models, and suggest trends for the development, delivery and administration of peer-leader programmes. These data show that residential life and orientation remain strongholds of activity for peer leadership in higher education and that community service is another common location for peer-leadership activity. Further, responses to the survey items suggest that student media, first-year experience and formalised leadership curricula are emergent areas of peer leadership that could represent opportunity for development on a practical level and for future research studies. The most substantial finding from this sample regarding sponsoring organisations for peer leadership was the position of academic-sponsored peer-leader roles as the most common among the respondents in this sample.

Given that academic and instructional roles for peer leaders have historically been the least common in American higher education (Ender & Kay, 2001), the results of the current study suggest the potential for a substantial paradigm shift in peer-leader programmes and research in the United States. This finding may result from the development and expansion of roles for peer leaders in first-year seminars, supplemental instruction, peer advising, and tutoring. However, these findings may also be the result of a more collaborative relationship between academic and student affairs in the delivery of student services such that peer roles that have been solely the province of student affairs (e.g. residential life and orientation) may now also include academic support responsibilities. The examination of peer-leader roles that represent horizontal structures across student and academic affairs would be a topic worthy of exploration in future research.

In addition, this study provides different models and emergent trends in the area of peer-leader compensation and rewards. While there may be pressure to focus on remuneration and credit-bearing alternatives, it appears that a large proportion of students are engaged in peer-leader opportunities on a volunteer basis, which will continue to make them a valuable and cost-effective support structure in resource-sensitive times. Yet, an analysis of the relationship between compensation models and outcomes show preliminary evidence that compensation models do seem to affect student leaders' self-rating of gains

in skill development and perception of impact on the undergraduate experience. Most notably, students in paid peer-leader positions report gains across more self-rated outcomes and especially for skill development than those not receiving remuneration for their service. However, compensation models that included course credit and volunteer peer-leader positions were associated with some self-rated gains on associated outcomes such as academic skill development for peer leaders who receive course credit, and meaningful interaction with peers and a desire to persist at the institution for students who volunteer. Thus, while financial compensation may yield the greatest range of outcomes, other more fiscally conservative and financially manageable compensation models also appear to generate meaningful experiences for the students serving in these roles.

These data also offer a current empirical picture of peer-leader training tactics. More specifically, findings from the current study indicate that peer-leader training is often longer than one week in duration and suggest an emergent model of best practice for peer-leadership training that represents a sustained professional development programme inclusive of initial training, ongoing support and supervision by professional staff. Unfortunately, the structure of these items on the survey did not allow for meaningful analyses of training modules or duration and the relationship with self-rated outcomes measures, which suggests an area for future study in the peer-leader research agenda.

The current study also indicates that student peer leaders do, in fact, perceive benefit from their service in these roles in both skill areas and enhancements to their undergraduate experience. Peer leadership seems an effective tool for forging connections with campus constituents (i.e. faculty, staff and peers) and enhancing a sense of belonging. Further, it provides a valuable means to advance diversity skills and intercultural competence in a way that is more organic and less socially engineered than more formal curricula and events about the topic of cross-cultural awareness and interaction. The fact that academic outcomes are last among the areas of perceived benefit is interesting, especially given the expansion in academic areas as a sponsor for these opportunities. This begs for additional research to examine this disconnect, as well as for the educators who oversee peer-leader programmes to place greater focus on the enhancement of academic skills as an outcome of students' service in this role.

The examination of outcomes by peer-leader role offers additional information and suggestive evidence about how to leverage these programmes and focus future efforts. Again, academic peer-leader programmes were found to be the least influential when examining students' self-ratings of outcomes. Conversely, peer-leadership programmes sponsored by community service were especially impactful across both skill areas and experiential outcomes; this suggests that there is great potential in expanding peer-leader opportunities in this area to more than one quarter of the student population. Peer-leader roles in both orientation and residence life also yield significant returns. However, peer leaders perceive that their service in a residential setting is slightly more beneficial to the development of their skill-based outcomes whereas orientation leaders yielded slightly greater benefits across experiential outcomes. Whereas this may be appropriate to the scope of responsibilities for these respective roles, these results provide a framework for educators

to examine these peer-leader positions to expand their range of impact, to communicate to current and potential peer leaders the developmental areas associated with their service, and to identify outcomes for future research on the most common peer-leadership roles.

Finally, the examination of peer-leader structures and outcomes provides suggestive evidence that peer leadership meets many of the criteria to be considered as a high-impact practice. For instance, the number and wide range of peer-leader positions held by students indicates a strong investment of time and energy. The positive results of self-rated measures on faculty, staff and peer interaction indicate high levels of meaningful contact. Further, the high self-ratings on interaction with, and understanding of, people from backgrounds different from their own illustrate the potential for peer leadership to expose students to diverse perspectives. The more sustained model of peer-leader training and the initial evidence of supervision as a substantial part of peer-leader training are important vehicles for communicating high expectations and providing frequent feedback. Training and rewards structures for peer-leader programmes also represent a means of creating accountability loops. The quantitative data drawn from the current study did not directly address reflection, integrated learning, or discovery through real-world application. However, these may be considered in future examinations of data drawn from the open-ended items included in the survey and guidelines for the examination of those qualitative data in future research. These results suggest that peer leadership is an emerging high-impact practice and, thus, a valuable tool toward the advancement of 21st-century learning outcomes.

In sum, the findings of this study have the potential to impact educational research and practice in several ways. First, the diversity and relative size of the sample allowed for an exploration of a wide range of peer-leader experiences as well as the structure and outcome of these experiences and, thus, represent a unique opportunity to explore and capture a more comprehensive picture of peer-leadership programmes and outcomes than has been achieved in past research. Results of this examination include a national portrait of the characteristics of peer-leader programmes, training and compensation; the expanding use of peer leaders in academic programmes; and the important benefits and potential challenges that peer leaders report as the result of these experiences. Second, the exploration of the interrelationships between structural characteristics of peer-leadership experiences and their outcomes lends important empirical support for the nature, structure, area of focus and impact of peer-leader experiences, which can help institutional efforts to develop and support peer-leader programmes as a cost-effective means of student support for both the curricular and co-curricular student experience. Third, these data identify common structures for peer-leader recruitment and training and suggest ways to enhance the effectiveness of these methods, which is one of the most important components of peer-leader success (Hamid, 2001). As such, these data represent the first national portrait of peer-leader programmes and have the potential to enhance the recruitment, preparation and continued support of peer leaders as well as significantly to advance the research agenda on this important undergraduate experience of and for students.

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