Sophomore Thriving: the Influence of Co-curricular Involvement and Leadership

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Executive Summary

In the fall of 2019, the Sociology/Anthropology 371 course conducted research on sophomore thriving. We sent an anonymous online survey to 764 sophomores at St. Olaf College. We received 248 responses, a 32% response rate.

Prior studies have found that sophomore thriving is related to student-faculty relationships, friendship and belonging, academic engagement and self-efficacy, and the topic of our team's research, co-curricular activities and leadership. Our research focuses on three main questions:

1. Is there a relationship between leadership and co-curricular involvement and sophomore thriving?
2. Do motivations or barriers relate to leadership and co-curricular involvement?
3. Do demographic groups vary in sophomore thriving, co-curricular involvement, co-curricular leadership, motivations for involvement, and barriers to involvement?

The most important results of our research are:

- There is a positive relationship between co-curricular involvement and social thriving (r=0.15). This supports the scholarly literature and indicates the benefits of co-curricular engagement.
- Students of color (m=51.4), first-generation students (m=50.6), and students with disabilities (m=50.7) had poorer thriving. Our finding concurs with the literature and should inform college initiatives to improve the sophomore experience.
- Employed students were more involved in co-curriculars (m=2.52) and leadership (m=0.47). This challenged our expectation that employment would hinder students' ability to get involved.
- Students of color (m=17.1), international students (m=19.18), and LGBTQIA+ students (m=17.49) faced more barriers to involvement. Although their involvement doesn't differ from the majority, their co-curricular experience is likely worse.
- There is a negative relationship between co-curricular involvement and lack of information about how to get involved in co-curriculars (r= - 0.177).
- Sophomore thriving has a positive relationship with time spent per week in cc-curriculars (r=.125).

Based on our research, we offer four recommendations:

1. Make co-curriculars more financially accessible.
2. Specifically recruit sophomores to co-curriculars.
3. Encourage quality vs. quantity of involvement.
4. Promote inclusivity initiatives in co-curriculars.

Background and Literature

In recent years, college campuses in the United States have increased their focus on students' thriving rather than simply academic achievement or retention. Past research has placed much attention on facilitating first years' transition into college life and on upperclassmen poised to enter the workplace. The lack of programming that targets sophomores has led to recognition of the 'sophomore slump'. Because of the recent focus on the 'sophomore slump' and also on sophomore thriving, St. Olaf College created a committee with various stakeholders interested in improving the experience of sophomores. Our research team was tasked with exploring the nuances of how sophomores at St. Olaf College are thriving so that recommendations might be made to better the sophomore experience.

In this literature review, we explore the dimensions of thriving for sophomores in college through examining the impact of co-curriculars and leadership development. Co-curricular involvement is a catch-all term for many different activities outside of class, such as community service, athletics, and political organizations. It is relatively easy to describe what students do in the name of involvement. It is much more difficult to establish whether these activities make a difference in student thriving, particularly since student thriving is influenced by many factors, such as race, GPA, and sexual orientation. We examine some of the measures and analysis of student thriving from recent studies in the field. Conclusions from these studies indicate that co-curricular involvement and leadership development in college students has a powerful impact on their thriving.

Thriving in College

Much contemporary research on college student thriving has drawn on the work of Schriener (2010). Schriener has drawn up a typology of forms of thriving, shown below in Table 1. This framework is not based on the empirical evidence of students merely 'surviving' in college. Rather, it is based on a reflection about the factors that encourage students' positive growth.

Table 1: Shriener's Dimensions of Thriving

Dimensions of Thriving	**Definition** (adapted from Schriener 2010)
Academic Thriving	**Comprised of both <u>engaged learning</u> and <u>academic determination</u>.** ● Engaged learning involves student immersion in the learning process itself, and finding meaning in the academic content they learn. ● Academic determination refers to both control over and resilience to continue the pursuit of one's academic goals.
Intrapersonal Thriving	**Comprised of <u>positive perspective</u>.** ● Students with positive perspective espouse optimism in the way they view their life and college experience, enabling them to handle stressors better.
Interpersonal Thriving	**Comprised of <u>social connectedness</u> and <u>diverse citizenship</u>.** ● Social connectedness measures friendships and peer relationships that are fundamental to a positive college experience. ● Diverse citizenship expands this construct to include engagement in differing perspectives and valuing differences amongst peers.

Measuring Thriving

This framework is shown in Schriener's Thriving Quotient (TQ) which provides a measure for student thriving. The TQ survey instrument evaluates three different dimensions of student engagement that contribute to their flourishing in college: academic thriving, intrapersonal thriving, and interpersonal thriving. The TQ uses Schriener's five measures of thriving: engaged learning, academic determination, positive perspective, social connectedness, and diverse citizenship.

Sophomore Thriving

Previous literature on college students has primarily focused on retention rates and academic performance as metrics of success in college, but recent work suggests that these measures do not adequately assess students' full college experience. Schriener's five measures of thriving inform current research examining thriving specifically in sophomore college students. Research on the phenomenon of the 'sophomore slump' has identified the need for focusing particularly on thriving in sophomore year due to less programming and institutional focus compared to the first year of college. Wang ad Kennedy-Phillips (2013) assessed the factors that influence sophomores' academic and social involvement. This work found that the biggest predictors of involvement were high academic self-efficacy and institutional commitment, corresponding with Schriener's dimension of academic thriving. In the context of STEM students specifically, Gregg-Jolly et al. (2016) found that sophomores experienced more stress and were less involved in student organizations than first years, but that certain interventions such as faculty interactions mediated the 'sophomore slump', which aligns with Schriener's interpersonal and academic thriving. Research on thriving in higher education has yielded critical findings already, and must continue to fully distinguish all facets of the sophomore experience. Further work by Schriener et al. (2014) explored four pathways to thriving amongst students of color (SOC). One of the four pathways, campus involvement, is highly important and often directly contributes to thriving in certain SOC groups. This particular aspect of campus involvement and sophomore thriving has yet to be teased out. Thus, our research focus is on how co-curricular involvement and leadership experiences contribute to sophomore interpersonal thriving.

Social Thriving Through Co-Curriculars and Leadership

In relation to the main focus of our research, the impact of involvement in co-curriculars and leadership on social thriving, different studies have demonstrated that higher extracurricular involvement is correlated with higher cumulative GPA and overall satisfaction with one's college experience. A study conducted by Webber, Krylow, and Zhang (2013) at a US university in the Mid-Atlantic region in 2008 shows that students who reported more frequent engagement in social activities earned higher grades. Additionally, students involved in extracurricular activities also reported a positive association to their overall college experience, reporting higher levels of satisfaction. Webber, Krylow, and Zhang measure success in relation to academic GPA, however, it is important to remember that for the purpose of our research we are using Schreiner's academic, intrapersonal, and interpersonal dimensions of thriving.

Our research aims to specifically explore the relationship between social thriving and extracurricular involvement. To attain this goal, we reviewed studies that looked into student co-curricular engagement qualitatively and quantitatively. A study conducted by Foreman and Retallick sampled students at Iowa State University College of Agriculture and Life Sciences and concluded that engaging in three to five extra-curricular activities is significant in leadership

development. Findings of this study show that those in leadership roles spend more time per week in extracurricular activities, which related to higher individual leadership development. However, leadership development also varied by the type of student organization and the role of each student within the organization.

Moreover, further studies carried out by Vetter, Schreiner, McIntosh, and Dugan (2019) reported that quantity indirectly predicts thriving, whereas quality predicts thriving directly. These researchers sampled undergraduate students at 13 colleges and universities, and their results suggest that students would benefit from investing deeply in one or two meaningful co-curricular experiences. Asking about quality and quantity of co-curricular experiences at St. Olaf seems important for the focus of our research, as this approach provides a holistic perspective on student thriving.

Furthermore, the type of involvement students hold within the various co-curriculars they are engaged in is important to look into in terms of quality and leadership. A study conducted at a research university by Dugan (2006) found that community service was the most influential type of involvement on leadership development. In addition, another study, conducted by Baker in 2008, looked into the effect of involvement in athletic organizations, Greek-letter organizations, political organizations, religious organizations, arts organizations, and co-ethnic organizations on the academic performance of Black and Latinx students at selective institutions. This study reported that co-ethnic and Greek organizations had a negative effect on students' GPA, and that political and arts related organizations positively affected students' GPA. This research pushes our research further to question the types of co-curricular categories that we should include in our survey, and how these categories affect each of the components of Schreiner's thriving model and vary along demographic lines.

Benefits of Co-Curriculars and Leadership

Our research also aims to focus on the benefits of involvement in co-curricular activities and leadership. Studies show that co-curricular activities can positively influence a student's overall well-being. Soria, Werner, Roholt, and Capeder (2019) found in their study at the University of Minnesota that strengths-based co-curricular opportunities are positively associated with students' sense of psychological, intellectual, social, and emotional well-being. They describe "strengths-based" approaches as ones that seek to help individuals identify their greatest skills and talents and apply them, rather than focusing on their deficiencies or weaknesses. The researchers found that students' participation in strengths-based student organizations was associated primarily with thriving in social domains, yet it explained a very low amount of variance in their holistic thriving. As this study uses data from only first year students from a single university, we wonder how co-curricular activities ("strengths-based" or not) affect the various aspects of thriving among sophomores at St. Olaf.

Furthermore, co-curriculars provide other benefits such as opportunities for student leadership, community building, and individual meaning-making activities (Vetter, Schreiner, McIntosh, Dugan, 2019). Community building in particular is important, as a community of support is key in developing relationships (Nicol 2011). Nicol's (2011) study conducted at the University of South Carolina found that students who carry a controversial label, specifically those who were a part of the LGBTQ+ community, might hold back from involvement on their college campuses due to discriminatory attitudes. However, those who do participate often enjoy the benefits of a sense of community, especially in LGBTQ+ related organizations.

Co-curriculars can also be beneficial in terms of students' academic experiences. Webber, Krylow, and Zhang (2013) found that higher levels of engagement in numerous activities contribute to a higher cumulative GPA and perceived satisfaction with one's entire academic experience. Yet this seems inconsistent with the findings of Soria, Werner, Roholt, and Capeder (2019) which state that involvement in co-curriculars is more connected to thriving in social and psychological domains as opposed to academic, although they define "academic thriving" in terms of engaged learning and academic determination rather than grades/GPA and academic satisfaction.

Barriers to Co-Curriculars and Leadership

Our research also focuses on the barriers students face to involvement in co-curriculars and leadership. Studies show that belonging to a minority or underrepresented community is often a barrier to involvement. This can be the case for LGBTQ+ individuals (Nicol, 2011), as well as Latinx students. Cavazos, Johnson, and Sparrow (2010) identify the reasons why many Latinx students perceive barriers to higher education and the different coping responses they use to achieve success in higher education. Their research sheds light on the systemic barriers to higher education that minority students face. Our research aims to identify the barriers they might face specifically in terms of co-curriculars and leadership and what the institution can do to remove them. The type of organization might also play a role on how co-curriculars affect under-represented students. Baker's 2008 study suggests that different types of student organizations such as athletic organizations, Greek-letter organizations, political organizations, religious organizations, etc. affect the academic performance of students of different race and gender identities differently. In our survey we ask about the different types of organizations students are involved in as well as demographic information in order to account for these potential differences.

Research Methods

Our study was administered through an anonymous, online cross-sectional survey that examined sophomore thriving at St. Olaf College, a private liberal arts college located in Minnesota. Of the 764 sophomores, 248 (around 32%) completed the survey over the course of eight days, through St. Olaf's survey platform to collect and manage feedback. Before designing the survey, our research team held a focus group to gain insights on the experiences of sophomores in co-curriculars and on their attitudes towards student organizations and leadership. Afterwards, our research team designed survey questions to reflect aspects of co-curricular involvement and leadership related to sophomore thriving. Our intent in the survey design was to bridge the gap between the scholarly literature and St. Olaf sophomores; additionally, our questions were part of a larger study about various facets of sophomore thriving. The students represented in our sample were fairly similar to the student population of St. Olaf College.

The first dependent variable we explored was *sophomore thriving*. We considered five dimensions of thriving: engaged learning, academic determination, positive perspective, social connectedness, and diverse citizenship. Each dimension was measured by three survey items, all of which were scored on a five point scale (see Table 2). The fifteen items were then summed to create a Sophomore Thriving Index.

Table 2: Dimensions of Sophomore Thriving

Dimension of Sophomore Thriving (all included in Sophomore Thriving Index)
Engaged Learning
Apply skills from class to other areas of life (A)
Think about course learning even when not in class or studying (A)
Participate actively in class (A)
Academic Determination
Grades are a top priority (A)
Tend to go beyond assignment requirements (A)
*Regularly procrastinate on school work (A)
Positive Perspective
Feel hopeful about future after graduation (A)
*Respond to stress by giving up or walking away (E)
Maintain positive perspective (E)
Diverse Citizenship
Have friendships across racial/ethnic identity (S)
Have friendships across political identity (S)
Desire to contribute to the world motivates co- curricular involvement (I)
Social Connectedness
Respondent and friends listen to each other (E)
Believe St. Olaf friendships will last beyond graduation (E)
Feel valued by St. Olaf College (A)

The first independent variable we examined was sophomores' quantity of co-curricular involvement by asking about *hours per week* spent on co-curriculars so far this semester. There were seven ordinal response categories, ranging from 0 hours per week to 16+ hours per week. We also examined sophomores' types of co-curricular involvement via *participation/leadership* in eight types of co-curriculars. We asked respondents to indicate whether they were participants but not leaders, leaders, or not involved in the following co-curricular types: visual or performing arts, athletics, student life, religious, multicultural or diversity initiatives, political or awareness, community service or volunteering, and academic interest or special interest. Each of the types of co-curriculars was considered its own separate variable, with nominal measures of membership, leadership, or noninvolvement. We summed these responses into two indices: the Co-curricular Involvement Index and the Co-curricular Leadership Index. These indices were used as both independent and dependent variables, depending on the relationship being analyzed.

We then inquired about another dual independent/dependent variable by asking sophomores to reflect on eight potential *motivators for joining co-curriculars*. The potential motivators included feeling welcomed into co-curriculars, wanting to meet new people, developing professional/academic skills, having an interest in the co-curricular's subject, finding a sense of belonging, adding meaning to one's life, making a contribution to the world, and feeling connected to St. Olaf. Respondents were asked to rate how important each motivator was to them: extremely important, very important, moderately important, a little important, not at all important, or not applicable. These motivators were each considered their own variable with ordinal response measures, and we summed these into an index of motivations to join co-curriculars; high scores indicated high motivation.

We used another survey question to inquire about the types of *barriers to co-curricular involvement* sophomores experienced or perceived, which was also a dual independent/dependent variable. The six barriers included were time issues, seeing a lack of inclusiveness for all identities, co-curriculars expecting too much commitment, difficult application process, lack of information on how to get involved, and not being recruited as a sophomore. We asked respondents to indicate to what extent each of the six barriers had deterred them from getting involved or more involved in co-curriculars: to a very large extent, to a large extent, to a moderate extent, to a small extent, not at all, and not applicable. Each of these variables had ordinal measures; we summed individuals scores to create an index of perceived barriers, with higher scores indicating greater perceived barriers to co-curricular involvement.

We also collected additional information about co-curriculars and leadership in two open ended questions. We asked respondents to share if they had experienced any barriers to co-curricular involvement that were not listed among the six barrier items. We also asked whether respondents had experienced any barriers to leadership as a sophomore, and what these barriers were. Responses to both questions were sorted into categories to summarize the myriad responses that sophomores shared.

We analyzed all demographic information as independent variables. Demographic variables included *gender, racial/ethnic group, sexual orientation, first-generation status, international status, transfer status, disability status, current employment,* and *GPA*. Students could self-identify for gender, race/ethnicity, sexual orientation, and disability status in open-ended questions. For first-generation, international, and transfer status, respondents indicated either yes or no. When asked about employment, respondents could select either on campus (work study), on campus (not work study), off campus, or not employed this semester. GPA response categories began at below 2.00, and increase by 0.25 up to a 3.75-4.00 category. With the exception of GPA (an ordinal measure), all demographic variables were nominal.

Validity

In constructing our survey, we strove for measurement validity, which is the extent to which a measurement assesses what the researchers claim it assesses (Neuman 2012). We worked towards both content and face validity. Content validity is defined as all aspects of a construct's conceptual definition being represented by survey measures, and face validity is defined as subjective efficacy of indicators as determined by experts in the field (Neuman 2012). We achieved face validity by collaboratively constructing survey questions measuring type of co-curricular/leadership, motivations and barriers to co-curricular involvement, and barriers to leadership with our professor. Additionally, peer researchers and teachers assistants reviewed our constructs in a pilot test of the survey. During our conceptualization phase, we consulted our focus group and literature review data to create our dimensions of motivations and barriers. When operationalizing, we ensured that both dimensions were directly measured by multiple indicators in the survey, thus achieving content validity.

Reliability

We also aimed for reliability with our survey questions. Reliability refers to a measure's consistency in yielding the same results if it were given to different random samples with the same experiences, demographics, etc. (Neumann 2012). To achieve this, we went through several iterations of conceptualization for our research concepts before beginning operationalization. When writing our survey, we used explicit, precise language and made all

response categories exhaustive and mutually exclusive, thus avoiding common survey mistakes as identified by Neuman (2012). Additionally, we used multiple indicators for a single concept (for both potential motivators and barriers). Peer researchers also offered feedback from the survey pilot test that further polished our questions.

Sample and Sampling

The target population for our survey was sophomores at St. Olaf College. We sent an emailed invitation to all sophomore students to take the survey. Additionally, we emailed specific clubs and organizations which sophomores are involved in, we promoted the survey in our individual classes, and we advertised the survey as a group in Buntrock Commons to gain more responses. In general, the smaller the population, the bigger the sampling ratio has to be for an accurate sample. The commonly accepted ratio for a small population (<1,000) is 30%. The sophomore class at St. Olaf this year would be considered a small population (764 students), so our attempted sample size was 30% of the sophomore class, or about 229 participants. While we can assume that the population of sophomores at St. Olaf is fairly homogeneous (according to the demographic information of the "Class of 2022 Profile" on the St. Olaf website) we still wanted a larger sample size in order to reach any unusual or uncommon attitudes or behaviors among sophomores so that our analysis accounts for a variety of sophomore experiences. Our survey received a total of 248 responses, giving us a response rate of 32%. Among those who provided demographic information, 58.5% of our respondents identified as female (145), 21.4% identified as male (53), 2% identified with other gender identities (5). Our sample includes racial and ethnic identities of white (58.1%, 144), black or African American (2.4%, 6), Hispanic/Latinx (6.5%, 16) and other racial or ethnic identities (14.2%, 35). In addition, 15.7% of our sample are first generation students (39), 2% are transfer students (5), 8.1% are international students (20), and 59.6% were employed (148).

Ethics

In order to address ethical considerations, every member of our research team completed an online training on ethics, offered by the CITI (Collaborative Institutional Training Initiative). This training focused on concerns about privacy, consent, anonymity, confidentiality, and survey questions. Each member of our team got certified by the CITI, ensuring that all of us were aware of the ethical regulations constructed by the St. Olaf College Institutional Review Board (IRB). The completion of this training allowed us to proceed with our research.

For our focus group, we ensured that participants were aware of our research topic and the kind of conversation they were going to engage with. Through an informed consent agreement, we explained that participation was voluntary and that they could stop at any point, as stated by Neuman (2014). We also ensured that participants knew that everything said in our focus group was intended to be confidential, reflected in our focus group report, although we also said that we could not ensure that focus group members would maintain confidentiality. Finally, we anticipated any emotional risk by coming up with neutral and sensitive questions, making sure that participants felt comfortable sharing their personal experiences. We enabled this comfort by avoiding leading questions and respecting the participants' privacy.

For our survey, we avoided threatening questions, defined as "a type of survey research question in which respondents are likely to cover up or lie about their true behavior or beliefs because they fear a loss of self-image or that they may appear to be undesirable or deviant" (Neuman 2014). We also avoided leading questions, making sure that our survey did not influence our participants' responses. Our survey considered potential harm to our respondents before being sent out, and also ensured that we did not violate respondents' privacy.

Responses were recorded anonymously, and participants provided informed consent by taking the survey. Finally, we encouraged participation by advertising our survey at St. Olaf College, incentivizing participants with a chance to win a gift card of $20. Participants were asked to sign up for the raffle in a separate email in order to maintain anonymity.

esearch Results and Discussion

UNIVARIATE ANALYSIS

For our univariate analysis, we created five indexes each of which summarized scores for all of the items included within each index. These indexes analyzed sophomore co-curricular involvement, leadership, barriers, and motivations, in relation to thriving and social thriving in particular.

Firstly, we created a *Sophomore Thriving Index* that summarized in a score the five dimensions of thriving from Schreiner (engaged learning, academic determination, positive perspective, diverse citizenship, and social connectedness). We included three items per dimension for a total of 15 items to measure overall sophomore thriving, all shown in Table 3 below.

Table 3: Dimensions of Sophomore Thriving by Percentage

Dimension of Sophomore Thriving (all included in Sophomore Thriving Index)	**Highest 5**	**4**	**3**	**2**	**Lowest 1**
Engaged Learning					
Apply skills from class to other areas of life (A)	30.0	49.8	16.1	4.1	0.0
Think about course learning even when not in class or studying (A)	34.6	48.8	11.5	5.1	0.0
Participate actively in class (A)	25.8	50.7	13.8	8.8	0.9
Academic Determination					
Grades are a top priority (A)	54.9	33.5	4.2	6.5	0.9
Tend to go beyond assignment requirements (A)	9.7	26.9	31.5	24.1	7.9
*Regularly procrastinate on school work (A)	12.1	16.4	18.2	34.6	18.7
Positive Perspective					
Feel hopeful about future after graduation (A)	41.0	39.7	9.8	7.3	2.1
*Respond to stress by giving up or walking away (E)	2.4	7.7	16.3	35.6	38.0
Maintain positive perspective (E)	12.6	23.7	36.2	21.7	5.8
Diverse Citizenship					
Have friendships across racial/ethnic identity (S)	28.1	22.7	31.0	6.6	11.6
Have friendships across political identity (S)	35.1	34.3	19.4	7.0	4.1
Desire to contribute to the world motivates co-curricular involvement (I)	23.4	31.1	24.7	14.9	6.0
Social Connectedness					
Respondent and friends listen to each other (E)	38.8	44.9	13.9	2.0	0.4
Believe St. Olaf friendships will last beyond graduation (E)	25.8	32.4	30.3	9.0	2.5
Feel valued by St. Olaf College (A)	26.8	37.2	19.9	12.1	3.9

**Reverse-coded items (worded negatively; coded in opposite direction from most items)All items were measured on 5-points scales: A = strongly agree to strongly disagree; E = very large extent to not at all; I = extremely important to not at all important; S = very similar to very dissimilar*

The mean, or arithmetic average, on the Sophomore Thriving Index was 53.23, and the standard deviation, or average distance from the mean, was 6.09, which means that over two-thirds of respondents scored between about 47 and 59, as shown in Figure 1.

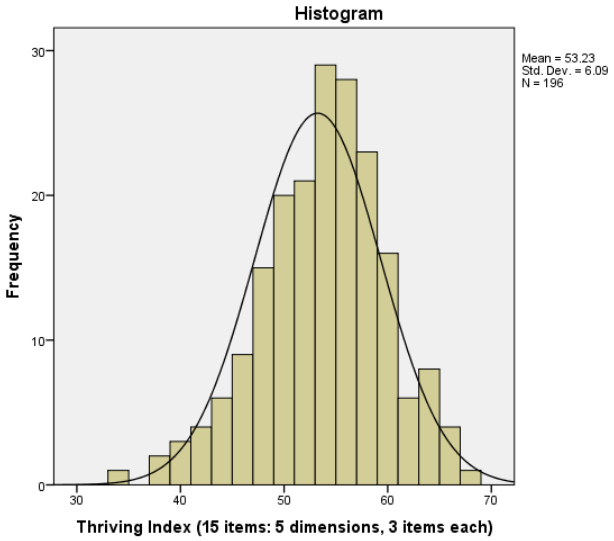

Figure 1: Index of Sophomore Thriving

To analyze co-curricular involvement, we examined the percentage of sophomore participation in eight types of co-curriculars. Based on our survey responses, the most common co-curriculars were the arts (42.42%) and academic related (34.98%), and the least common co-curriculars were multicultural (12.5%) and student life (15.25%). Moreover, the most common co-curriculars in which sophomores were engaged in leadership positions were academics (8.07%) and athletics (6.22%), as shown in Table 4.

Table 4: Co-Curricular and Leadership Involvement by Type of Organization

CC Involvement	Non-Leader Participant	Leader Participant	Not involved
Arts	42.42%	5.63%	51.95%
Athletics	34.22%	6.22%	59.56%
Student Life	15.25%	5.58%	79.07%
Religious	22.43%	4.67%	72.90%
Multicultural	12.5%	5.09%	82.41%
Political	16.90%	5.63%	77.46%
Service	32.26%	4.61%	63.13%
Academic	34.98%	8.07%	57%

Additionally, we created a *Co-curricular Involvement Index* that summarized in a score involvement in all eight types of co-curriculars listed in Table 3. The mean was 2.40 and the standard deviation was 1.317, which means that most sophomores are involved in two to three co-curriculars, with a variation of about 1 co-curricular in general, as shown in Figure 2.

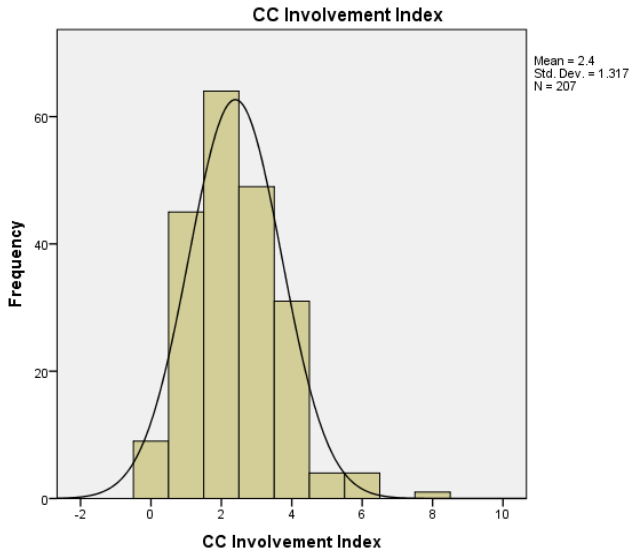

Figure 2: Index of Co-Curricular Involvement

We also created a *Co-curricular Leadership Index* that summarizes in a score three levels of involvement in relation to leadership within the eight co-curricular types mentioned in Table 2. The mean was 0.45, and the standard deviation was 0.636, which shows that most sophomores do not hold any leadership positions in their co-curriculars. This can also be seen in Figure 3, where the distribution is significantly skewed to the right.

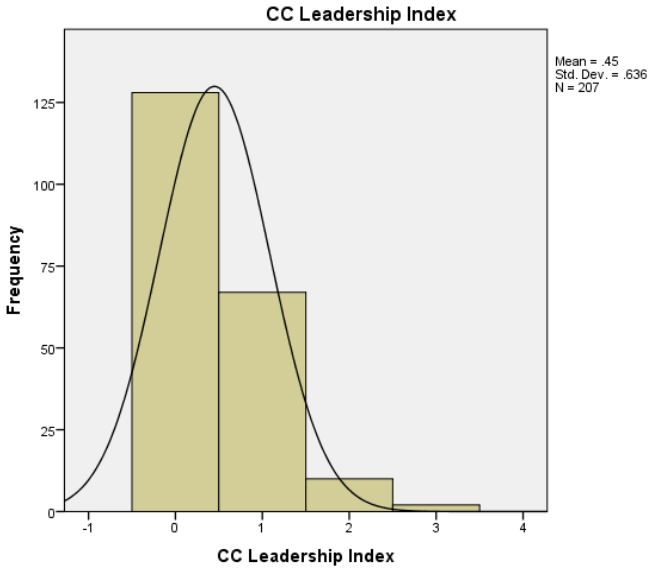

Figure 3: Index of Involvement in Co-Curricular Leadership

To examine motivation to join co-curriculars, we analyzed the degree of motivation sophomores experienced in eight categories of motivation. From our survey responses, the most common motivators for co-curricular involvement were interest in the subject (54.58%) and feeling welcomed (40.00%), and the least common motivators to co-curriculars were sense of belonging (42.92%%) and feeling connected to St. Olaf (8.75%), as shown in Table 5.

Table 5: Motivators for Co-Curricular Involvement

Motivation	Not applicable	Not at all important	A little important	Moderately important	Very important	Extremely important
Welcome	0.83%	0.00%	2.08%	10.83%	46.25%	40.00%
Meeting people	0.42%	2.50%	9.17%	36.25%	32.5%	19.17%
Skill dev.	1.25%	5.83%	17.08%	27.92%	26.67%	21.25%
Interest	0.42%	0.00%	1.25%	7.08%	36.67%	54.58%
Belonging	30.83%	42.92%	19.58%	5.00%	1.25%	0.42%
Meaning	0.42%	1.25%	5.00%	19.58%	42.92%	30.83%
Contribution	2.08%	5.83%	14.58%	24.17%	30.42%	22.92%
Connectedness	0.83%	8.75%	14.17%	29.58%	29.17%	17.50%

Moreover, we created a *Motivations to Involvement Index* that summarizes in a score the eight types of motivations to co-curricular involvement and the degree of importance of each motivator, as shown in Table 5. The mean was 30.36 and the standard deviation was 4.773, which means that the average score of motivation to co-curricular involvement was about thirty, with about two-thirds of respondents scoring between 25 and 35. Additionally, from Figure 4, we can see that the scores of the Motivations to Involvement Index were normally distributed.

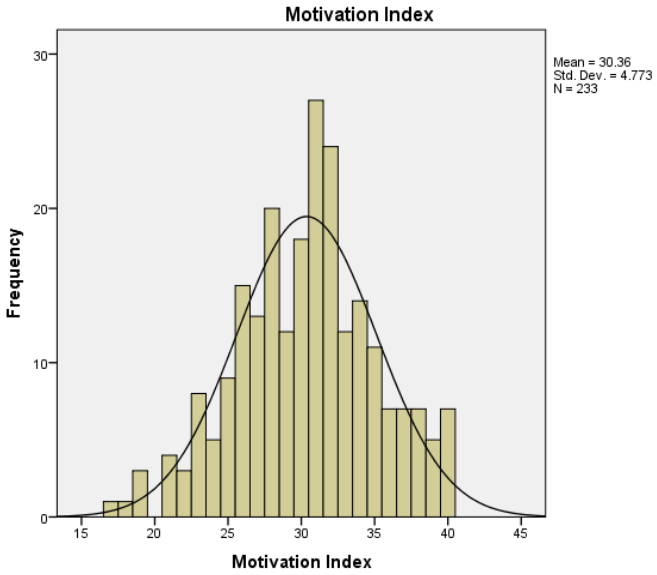

Figure 4: Index of Motivations to Co-Curricular Involvement

To analyze barriers to co-curricular involvement, we examined how strongly sophomores experience six types of barriers to co-curricular engagement. Our survey responses showed that the most common barriers to co-curricular involvement were time (78.57%, combining to a large extent and to a very large extent) and lack of information (29.29%, again combining the top two response categories), and the least common barriers to co-curricular activities were the application process (43.88%%) and lack of inclusiveness (37.82%), as shown in Table 6.

Table 6: Barriers to Co-Curricular Involvement

Barrier	Not applicable	Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent
Time	0.42%	1.68%	5.04%	14.28%	30.25%	48.32%
Exclusive	5.05%	37.82%	27.31%	17.65%	5.88%	6.30%
Commitment	2.09%	17.99%	32.22%	27.62%	10.04%	10.04%
Application	8.44%	43.88%	22.36%	10.97%	8.44%	5.91%
Lack of info	5.86%	20.92%	25.10%	18.83%	21.34%	7.95%
Lack of sophomore recruitment	12.18%	34.87%	15.13%	18.07%	12.60%	7.14%

Finally, we created a *Barriers to Involvement Index* that summarized in a score the six types of barriers from Table 6 and how strongly sophomores experienced them. The mean was 15.8 and standard deviation was 4.848, which means that on average sophomores experienced barriers to co-curricular engagement in a score of about sixteen, with about two-thirds scoring between 11 and 21, as shown in Figure 5.

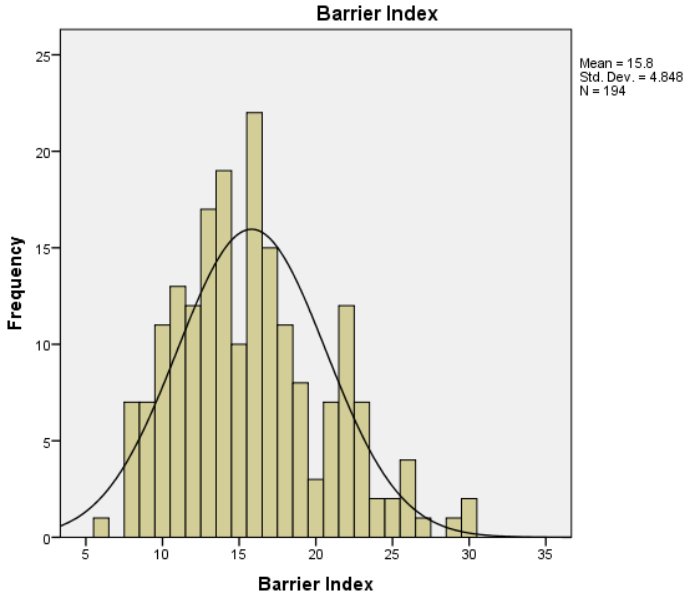

Figure 5: Index of Barriers to Co-Curricular Involvement

We also asked sophomores in an open-ended question to describe any additional barriers they face to co-curricular involvement. After coding the responses, we found several recurring themes. The most common barrier was the financial cost of involvement. Related to this, many students also expressed that their need to work has prevented them from participation in co-curricular activities. Other common barriers included mental health/personal issues and a lack of co-curricular activities that match their interests. One barrier that stood out was the idea that sophomore year is too late to join new co-curricular activities. One student said, “It sometimes feels a little awkward to jump into a co-curricular that has already started. It may make one feel like they are outside of the group because most people already know each other”. Others remarked that joining new co-curricular activities is especially difficult for second year students. One respondent said, “There seems to be a ‘snooze you lose’ when it comes to joining clubs as

a sophomore–if you haven't done so as a first year it's too late". This view was also expressed by several students in our focus group.

We asked a second open-ended question to give sophomores the chance to report any additional barriers they experience to co-curricular leadership. The most common barrier reported was time, including both lack of time and difficulty with time management. Many students also wrote that feelings of anxiety, intimidation, and fear have prevented them from obtaining leadership positions. Other common barriers were lack of funding for co-curricular activities, lack of skills and experience, and the fact that leadership positions tend to go to juniors and seniors. Upon completing univariate analysis and exploring responses to open-ended questions, we began bivariate analysis of the relationships between our variables.

BIVARIATE ANALYSIS

We formulated three primary research questions to explore various relationships between the indices we constructed (Figure 6):

1. Are leadership andco-curricular involvement related to sophomore thriving?
2. Do motivations and barriers affect leadership and co-curricular involvement?
3. Do demographic groups vary in sophomore thriving, co-curricular involvement, leadership, barriers to involvement, and motivations to involvement?

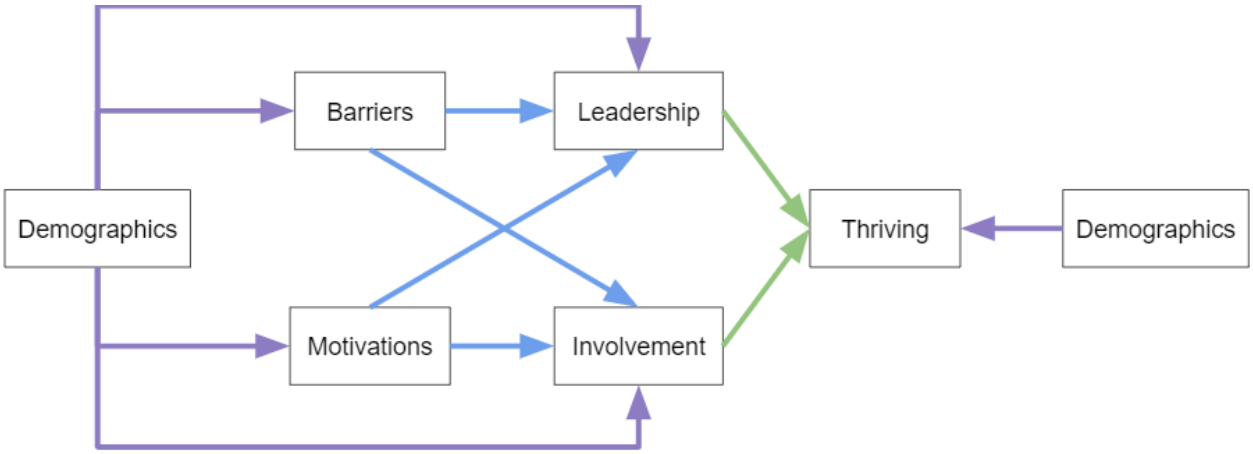

Figure 6: Conceptual map of our research questions. All green arrows correspond with Question 1, all blue arrows correspond with Question 2, and all purple arrows correspond with Question 3.

Question 1 (green arrows): Are leadership and co-curricular involvement related to sophomore thriving?

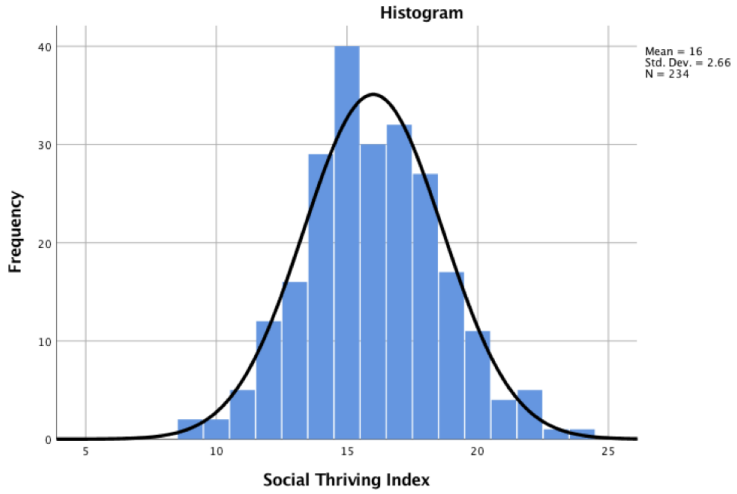

Figure 7: Index of Social Thriving Among Sophomores

To examine the relationship between co-curricular involvement and sophomore thriving, we ran a Pearson test with the Sophomore Thriving Index and the Co-Curricular Involvement Index. While the test revealed a positive association between co-curricular involvement and sophomore thriving, the p-value was not less than 0.05 (p=0.0645), therefore the results are not statistically significant and we cannot confidently say that the relationship exists.

While we did not find a significant association between co-curricular involvement and sophomores' overall thriving, we did find a significant association between co-curricular involvement and sophomores' social thriving in particular. To examine this relationship we created a Social Thriving Index, in which we used five items from the sophomore thriving index related to diverse citizenship and social connectedness to create a sub-index that focused specifically on social thriving. We then analyzed this index against the Co-Curricular Involvement Index by running a Pearson test. We found that r=0.146, which indicates a small positive association between social thriving and co-curricular involvement, with a p-value of less than 0.05 (p=0.020), meaning that the results are statistically significant and we can confidently say that the relationship between co-curricular involvement and social thriving is not due to chance. Overall, the Pearson test shows us that sophomores tend to experience greater levels of social thriving when they are more involved in co-curricular activities. This finding supports prior research on co-curricular involvement and thriving, in which the most consistent relationships observed are between co-curricular involvement and thriving primarily in social and psychological domains, as opposed to academic and holistic thriving (Werner, Roholt, and Capeder 2019).

In addition, we looked into the relationship between time spent on co-curricular activities and sophomore thriving. Because the time spent on co-curriculars was not normally distributed, we ran a Spearman's test with the Sophomore Thriving Index and Time spent per week on Co-Curriculars (CCTime). The test showed a positive association between time spent per week in co-curriculars and sophomore thriving that is small but statistically significant (r=0.13, p<0.05). This indicates that sophomores who spend more time on co-curriculars tend to experience greater levels of thriving. However, looking back at prior research we can see that this is true up to a point. There a threshold of time spent on co-curriculars, and when students exceed that

threshold, their thriving tends to go down. Thus the quality of involvement should be encouraged over the quantity (Vetter, Shreiner, McIntosh, and Dugan 2019).

We also examined thriving in relation to co-curricular leadership. Because the distribution for the Leadership Index was not normal, we used a Spearman test to analyze the relationship between the Sophomore Thriving Index and the Leadership Index. While the results indicate a positive association (r=0.118), the p-value was greater than 0.05 (p=0.062), so they were not statistically significant. We also ran a Spearman test to examine the relationship between the Social Thriving Index and the Leadership Index. We found no correlation between social thriving and leadership (r=0.021).

Question 2 (blue arrows): Do motivations and barriers affect leadership or co-curricular involvement?

We explored the barriers to co-curricular involvement and motivators for being involved in co curricular involvement and leadership. We first looked for any relationships between motivators and barriers with leadership. The correlation coefficients showed a negative relationship between leadership involvement and motivation (r= -.10, p=.447) and barriers (r = .086, p=.135), and a positive relationship between barriers and co curricular involvement (r=.105, p=.091). However, these correlations were not significant at the p<.05 level. Additionally, there was no relationship between motivation and co curricular involvement (r= .039, p= .293.)

We then looked into specific motivators and barriers and found one significant relationship. This was between lack of information on how to get involved and co-curricular leadership (r= -0.177, p= 0.012). This barrier was the second most reported from our barriers index.

These results suggest that motivators do not have a substantial effect on both co-curricular leadership and involvement. Specifically, our results suggest instead that barriers such as lack of information on how to get involved appear to significantly impact sophomore thriving and their levels of social engagement.

Question 3 (purple arrows): Do demographic groups vary in sophomore thriving, co-curricular involvement, leadership, barriers to involvement, and motivations to involvement?

We first answered this question by running bivariate analysis of all demographic variables against the Sophomore Thriving Index using independent-samples t-tests. In order to run bivariate analysis for this index and the indices in the following paragraphs, we combined all demographic groups into binaries so that the groups had substantial enough numbers for statistical analysis. For instance, responses to the race/ethnicity question were combined into students of color and white students. It is problematic to combine in this manner because it generalizes students' identities and glosses over potential within-group differences, but this was necessary to allow us to run our statistical analysis. Demographics with groups large enough to be included in this analysis were race and ethnicity, gender, sexual identity, first-generation status, international status, disability status, and employment status. We found three significant relationships between the Sophomore Thriving Index and demographic factors:

- Students of color (m=51.44) vs. white students (m=53.79, t(181)=-0.216, p<0.05)
- First generation students (m=50.58) vs. non-first generation students (m=53.80, t(184)=2.796, p<0.01)
- Students with disabilities (m=50.66) vs. students without disabilities (m=54.20, t(168)=2.892, p<0.01).

Gender, sexual identity, international status, and employment status did not yield any significant differences. Ultimately, students of color, first generation students, and students with disabilities tended to score lower on the Sophomore Thriving Index than their respective counterparts.

We then examined whether demographic categories yielded different scores on several of our indices that we thought potentially contributed to sophomore thriving. We conducted multiple Mann-Whitney U-tests due to the non-normality of the data. We analyzed each of the aforementioned demographic variables against our Co-curricular Involvement Index, Co-curricular Leadership Index, Barriers to Involvement Index, and Motivations to Involvement Index. Across all of these tests, we found five significant relationships. The first two relationships involved employment status:

- Co-curricular involvement: employed students (m=2.52) vs. not employed students (m=2.08, U=2364 , $p<0.05$)
- Leadership: employed students (m=0.47) vs. not employed students (m=0.23, U=2349.5 , $p<0.01$).

Thus, employed students tended to be more involved in both co-curriculars and co-curricular leadership than their counterparts. Barring employment status, no other demographic factor had a significant impact on students' involvement in co-curriculars and leadership. The last three relationships showed differences in group mean score on the Barriers to Involvement Index:

- Students of color (m=17.14) vs. white students (m=15.34, U=2254 , $p<0.05$)
- LGBTQIA students (m= 17.49) vs. heterosexual students (m=15.2, U=1765.5 , $p<0.01$)
- International students (m=19.18) vs. domestic students (m=15.50, U=865.5, $p<0.05$)

Students of color, LGBTQIA, and international students all experienced higher barriers to co-curricular involvement than their counterparts.

We then examined whether any of the six barrier items was significantly different amongst students of color, LGBTQIA+ students, and international students. To accomplish this, we performed chi-square (Cramer's V) tests of independence. To meet assumptions with expected frequencies, we combined the two response categories "not at all" and "to a small extent" for all groups, and combined "to a large extent" and "to a very large extent" for race and ethnicity. We found a significant interaction between race and ethnicity and the barrier of co-curricular lack of inclusivity ($X^2(2)=15.740$, $V=0.286$, $p<0.01$); students of color were more likely to indicate this as an impactful barrier than white students (Table 7). We also found a significant interaction between sexual identity and two barrier items: co-curriculars expecting too much commitment ($X^2(3)=8.311$, $V=0.211$, $p<0.05$) and lack of information on how to get involved ($X^2(3)=8.378$, $V=0.216$, $p<0.05$). LGBTQIA students indicated that these barriers affected them to a larger extent than heterosexual students (Table 8, Table 9). We were unable to perform chi-square analysis on international status and barrier index score; the threshold for expected counts was not met despite the combined categories, and combining any further to meet the expected count requirement would not have been practical. Notably, no demographic group significantly differed on our Motivations to Involvement Index, implying that motivation to join co-curriculars doesn't significantly impact sophomore thriving.

In most of the significant relationships we found, marginalized groups tended to have lower thriving scores and higher co-curricular barrier scores. It is also notable that actual involvement in co-curriculars or leadership did not vary across any demographic variables except employment. In fact, employment was associated with higher levels of co-curricular and leadership involvement, which contradicted our expectation that employment would leave students less time for co-curriculars. This indicates that although involvement does not differ between any demographics, the co-curricular experience may be worse or more difficult for the marginalized groups with significant scores above. Students of color, LGBTQIA+ students, and

international students all tended to perceive more barriers to co-curricular involvement. This supports previous literature on students with a marginalized identity, like LGBTQIA+ and Latinx students (Nicol 2011; Cavazos, Johnson, and Sparrow 2010). The demographic group of particular focus is students of color, as this group was the only one with significant relationships in both directions of the schematic flowchart (Fig. 6). Thus, the college should focus on improving the co-curricular experience for marginalized students, especially students of color.

Table 7: Extent of barrier impact - exclusivity

Co-curricular lack of inclusivity for all identities	Students of Color	White Students
Not at all/to a small extent	50.9%	77.8%
To a moderate extent	24.6%	14.8%
To a large extent/to a very large extent	24.6%	7.4%

Table 8: Extent of barrier impact - commitment

Co-curriculars expecting too much commitment	LGBTQIA Students	Heterosexual Students
Not at all/to a small extent	37.5%	55.4%
To a moderate extent	29.2%	29.5%
To a large extent	18.8%	7.9%
To a very large extent	14.6%	7.2%

Table 9: Extent of barrier impact - lack of information

Lack of information on how to get involved	LGBTQIA Students	Heterosexual Students
Not at all/to a small extent	37.8%	57.1%
To a moderate extent	20.0%	21.5%
To a large extent	22.2%	21.5%
To a very large extent	20.0%	5.9%

Conclusion and Recommendations

Based on our results we would like to make several recommendations regarding co-curricular activities and leadership at St. Olaf.

1. First, we recommend that co-curriculars are made more financially accessible. In our open-ended question about additional barriers to co-curricular involvement, many students indicated that the financial costs of co-curriculars was a barrier to involvement. In addition, several students said that their need to work has prevented them from being involved in co-curriculars. Furthermore, in our open-ended question about additional barriers to leadership, several students expressed that lack of funding for co-curriculars was a barrier to leadership. Thus, St. Olaf might provide co-curriculars with better funding, as well as create scholarships for students who are unable to afford any required fees or associated costs. Co-curriculars themselves also might do more to accommodate students' work schedules, specifically for those who work many hours off-campus. Co-curriculars should also be encouraged to more accurately advertise the time commitment and feasibility of participation for students who may be worried about interference with work schedules.

2. We also recommend that co-curriculars at St. Olaf do a better job of recruiting sophomores specifically. In our bivariate analysis we found that one of the main barriers to co-curricular involvement for sophomores was lack of information on how to get involved. This finding was reflected in our focus group, as several students expressed that co-curriculars should be better advertised in general, and that the co-curricular fair should be held at a slightly later date when more upperclassmen are on campus and can attend. Many students also indicated in our open-ended questions that they felt it was too late to join new co-curriculars as sophomores. Thus, co-curriculars should do more to make sophomores feel included and welcomed. They might reach out directly to sophomores via email or posters on campus. Additionally, a co-curricular fair specific to sophomores or upperclassmen in general may create a more welcoming, encouraging atmosphere for students to join organizations after their freshman year. Perhaps St. Olaf could hold two separate co-curricular fairs, one earlier in the year and another later in the year for students to reevaluate their options or join new activities if they did not get a chance to do so in the fall (this would also benefit students who studied off-campus during the fall semester).

3. Furthermore, we urge St. Olaf to encourage its students to deeply engage in a few co-curricular activities rather than overextending themselves with superficial involvement in many. While we did find a positive association between sophomore thriving and time spent per week on co-curriculars, prior research cautions against spending too much time or being over-involved in co-curriculars. Not only do many students seem to struggle with managing their time and feeling overwhelmed, but it is the quality of co-curricular involvement that leads to increased levels of thriving, not the quantity (Vetter, Shreiner, McIntosh, and Dugan 2019).

4. We also recommend that St. Olaf promote inclusivity initiatives in co-curriculars. Our research suggests that marginalized groups such as students of color, first-generation students, and students with disabilities experienced lower levels of thriving than other demographic groups. We also found that students of color, international students, and LGBTQIA+ students experienced more barriers to involvement. Not only do we want co-curriculars to foster a welcoming environment for all sophomores, but we might pay particular attention to the groups of students that seem to struggle the most in terms of overall thriving as well as getting involved in co-curriculars. Inclusivity initiatives might involve changes in any policies or practices that are discriminatory or exclusive, training for students in leadership positions, and targeted recruitment of groups that face more barriers to involvement.

5. Finally, we encourage further research in two main areas. First, our research looked broadly at barriers to co-curricular involvement. Consequently, we were only able to identify larger themes/ideas. Thus it might be useful to look more specifically into different types of barriers and how they affect thriving. Secondly, we encourage further exploration of how types of co-curriculars affect thriving differently. Prior research suggests that the specific types of co-curriculars might play a role in student thriving; one study found that certain types of student organizations affected students' GPA differently than others (Baker 2008). As co-curricular involvement is mainly associated with social thriving, it might be useful to research how different types of co-curriculars affect social thriving in particular.

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Appendix: Survey Questions

1. This semester so far, about how many hours per week do you spend on each of these areas of life?

	0 hours	1-3 hours	4-6 hours	7-9 hours	10-12 hours	13-15 hours	16 or more hours
Studying	○	○	○	○	○	○	○
Working for pay	○	○	○	○	○	○	○
Co-curriculars (doing them or planning them)	○	○	○	○	○	○	○
Socializing with friends (separately from studying or doing co-curriculars with them)	○	○	○	○	○	○	○
Spirituality	○	○	○	○	○	○	○
Self-care (whatever you think of as self-care OTHER THAN time for co-curriculars, friends, and spirituality)	○	○	○	○	○	○	○

7. Which other types of co-curriculars are you involved in this semester, either as a member or a leader?

	Participant but not leader	Leader	Not involved
Visual or performing arts	○	○	○
Athletics (varsity, club, or intramurals)	○	○	○
Student life (such as residence life, student government branches)	○	○	○
Religious	○	○	○
Multicultural and diversity initiatives (such as Diversity Initiative Support Committee organizations)	○	○	○
Political or awareness (e.g. Students for Reproductive Rights, Model UN, etc.)	○	○	○
Community service/volunteering	○	○	○
Academic interest (such as Psychology Club) or special interest (such as Chess Club)	○	○	○

8. How important is each of these factors in motivating you to participate in co-curricular activities this year?

	Extremely important	Very important	Moderately important	A little important	Not at all important	Not applicable
Feeling welcomed in a co-curricular	○	○	○	○	○	○
Wanting to meet new people	○	○	○	○	○	○
Developing professional/academic skills	○	○	○	○	○	○
Having interest in the subject or focus of the co-curricular	○	○	○	○	○	○
Finding a sense of belonging or community	○	○	○	○	○	○
Adding meaning to your life	○	○	○	○	○	○
Making a contribution to the world	○	○	○	○	○	○
Feeling connected to St. Olaf College in general	○	○	○	○	○	○

9. Think about barriers to your sophomore co-curricular participation. (This does *not* include co-curricular leadership, which we ask about next.) To what extent have these factors deterred you from being involved (or being more involved) in co-curriculars?

	To a very large extent	To a large extent	To a moderate extent	To a small extent	Not at all	Not applicable
Time issues (time conflicts, lack of time, time management, etc.)	○	○	○	○	○	○
Seeing a lack of inclusiveness for all identities	○	○	○	○	○	○
Co-curriculars expecting too much commitment	○	○	○	○	○	○
Difficult or bothersome application or audition process	○	○	○	○	○	○
Lack of information about how to get involved	○	○	○	○	○	○
Not being recruited as a sophomore	○	○	○	○	○	○

10. If there are other barriers or factors that have deterred you from co-curricular participation as a sophomore, what are they (for example, not finding co-curriculars that match your interests or not wanting or being able to afford the monetary costs for participation)?

11. Have you experienced any barriers to co-curricular leadership involvement as a sophomore (or to additional leadership involvement), such as the co-curricular not having enough funding, anxiety or intimidation about leadership, unwelcoming social dynamics, etc.? If yes, what were the barriers?

55. What gender do you identify as?

56. What racial/ethnic group(s) do you identify as?

57. What sexual orientation do you identify as?

58. Are you a first-generation college student?

- Yes ◯
- No ◯

59. Are you an international student?

- Yes ◯
- No ◯

60. Are you a transfer student?

- Yes ◯
- No ◯

61. Do you identify as having a disability?

62. If you work for pay this semester, where do you work? Check all that apply.

- On campus, work-study ☐
- On campus, not work-study ☐
- Off campus ☐
- I'm not employed this semester. ☐

63. What is your current GPA (grade point average)?

- below 2.00 ◯
- 2.00-2.24 ◯
- 2.25-2.49 ◯
- 2.50-2.74 ◯
- 2.75-2.99 ◯
- 3.0-3.24 ◯
- 3.25-3.49 ◯
- 3.50-3.74 ◯
- 3.75-4.00 ◯