Student Involvement as a Predictor of Thriving

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Institutions of higher education committed to achieving excellence in student success are more likely to survive, and even thrive, in challenging economic times (Kuh, Kinzie, Schuh, Whitt & Associates, 2005). Moreover, there are growing public expectations for quality university education that enhances student success; however, research exploring factors that impact student success is scant in Canada (Cox & Strange, 2011). Therefore, the current study addresses an acute need in higher education scholarship by investigating how student involvement factors predict student thriving. By conducting student-success focused research, educational practitioners, policy-makers, and researchers will be better informed in making decisions and pursuing research that enhances student positive student outcomes. Moreover, institutions committed to student success can contribute to society by graduating students who are skilled, civil, and committed to making a meaningful difference in the world (Cox & Strange).

Student thriving (Benson & Scales, 2009; Schreiner, 2010), and retention (Milem & Berger, 1997; Pritchard & Wilson, 2003) have been suggested by some authors as significant factors related to student success. Although retention is an important measure of student success, because thriving has been empirically established as a predictor of retention (Schreiner, Pothoven, Nelson, & McIntosh, 2009), only thriving will be directly explored in the current study. Co-curricular involvement, such as living in residence, student leadership, and athletics, is experiential and generally involves thinking, relating, physical, and emotional engagement. Dewey (1938), the modern father of experiential education, provided an impetus for the growth of experiential education by suggesting the student experience is central to the learning process. Dewey's (1938) thesis that educators "must recognize in the concrete what surroundings are

conducive to having experiences that lead to growth" (p. 35) aligns with Astin's (1999) suggestion that student involvement in the ecosystem of higher education learning is beneficial for the development of the learner. To summarize, co-curricular programming in higher education is growing in importance (Cox & Strange, 2010), awareness and implementation of general experiential education practices in higher education is gaining credibility (Eyler, 2009), Astin's theory of involvement continues to influence policy and practice in higher education today (Milem & Berger, 1997), and thriving is gaining prominence in research and practice (Schreiner, 2010).

The Canadian higher education literature seems scant with empirical research exploring the relationship between student involvement in co-curricular activities and student success. Moreover, a significant amount of student success research is based on participants from only one institution. Schreiner et al. (2009) suggest that future student success research should be conducted to include thriving as a dependent variable and other constructs as independent variables. The purpose of this study therefore, is to fill an important scholarship gap by: (1) extending thriving research and using thriving as a criterion variable, (2) operationally building upon Astin's involvement theory, (3) specifically exploring if, and how, co-curricular experiences uniquely predict thriving, and (4) conducting research using participants from a minimum of two institutions.

Conceptual Framework

Astin's (1999) student development theory based on student involvement provides a theoretical framework for the research project: "Quite simply, student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience" (p. 518). Astin describes involvement from a behavioral perspective (Milem &

Berger, 1997), suggesting that involvement can be observed and measured and is more than just a psychological state based on motivation. The theory involves five basic principles: (1) physical and psychological energy constitute involvement, (2) involvement occurs along a continuum, (3) involvement has qualitative and quantitative features, (4) student learning and development is directly proportional to the level of student involvement, and (5) effective educational policy is related to the capacity of the policy to increase student involvement.

To maximize learning and development, Astin (1999) posits that the central focus of educators and administrators should be primarily on student involvement and not, for example, on courses, resources, or laboratories. Examples of involvement that generally produce positive learning outcomes include co-curricular and academic activities: place of residence, honors programs, academic involvement, student-faculty interaction, athletics, and student government (Astin, 1999). Experiential education (Dewey, 1938), which also provides a theoretical framework for the research project, seems to have linkages to Astin's theory of involvement, as both theories note the importance of personal engagement between people and their surrounding environment as critical for learning. Astin gives several reasons for why involvement theory is a helpful theory for research and practice in higher education.

First, involvement, which can be easily observed, is connected to positive student outcomes such as persistence, student-faculty interaction, social and academic integration. Second, the theory is interdisciplinary and utilizes constructs from across various disciplines. Third, the theory can be used by both higher education practitioners to improve the learning environment, and by scholars to guide student development research. Fourth, the theory can provide a framework for how educational programs and policies impact student achievement and development, because the theory is based on student involvement in the ecosystem of learning.

Although Astin's theory of involvement provides the primary conceptual framework for the current study, engagement theory is also closely related to involvement theory and has significantly influenced theory and practice in higher education.

Kuh et al. (2005) proposed a theory of student engagement that overlaps with student involvement. Engagement theory suggests that students who engage in meaningful educational activities, such as studying or attending class, will learn and develop more. Similar to involvement theory, engagement theory is also a relatively simple theory to understand. Scholarship on engagement (Carini, Kuh, & Klein, 2006; Hu & Kuh, 2002; Umbach & Wawrzynski, 2005) has added value to higher education literature and practice by establishing a relationship between student engagement and student learning outcomes. Although a significant amount of recent research has focused on how student behavior is associated with academic learning outcomes (Kuh, Schuh, & Whitt, 2005), Schreiner et al., 2009 conducted research that demonstrated how social and psychological factors significantly predict variation in the intent of students to graduate from college. In addition, whole-person student development should be a fundamental goal of the academy because it is necessary for developing graduate who will be responsible and contributing citizens in society (Cox & Strange, 2011). Moreover, in a qualitative study on college student success, students identified social integration as important student success factor (Yazedjian, Toews, Sevin, & Pursell, 2008). The emergence of thriving theory and assessment has provided a unique opportunity of pursuing research based not just on academic outcomes, but also on social and psychological dimensions.

Thriving

Thriving is garnering increased attention by scholars and practitioners in higher education (Benson & Scales, 2009; Schreiner, 2010). Emerging out of the positive psychology movement,

thriving is a concept used to describe healthy functioning in adolescents and college students, and has connections to positive youth development and developmental systems theory (Benson & Scales, 2009). Thriving focuses on the promotion of positive human development and not only on the remediation of illness and dysfunction, and as a concept, has only recently been developed. The notion of thriving has been defined as a unique and valuable construct for theory, research, and application purposes (Benson & Scales, 2009: Schreiner, 2010). However, the concept of thriving significantly overlaps with the constructs of flourishing (Howell, 2009), psychological sense of community (PSC); (DeNeui, 2003), psychological well-being (Bowman, 2010), and belonging (Ostrove & Long, 2007), but seems to differ from the concept of engagement (Kuh, et al., 2005), because engagement is behaviorally focused, but thriving includes interpersonal and intrapersonal constructs.

Schreiner et al. (2008) conducted thriving research and noted that thriving encompasses three domains: (1) academic thriving refers to positive academic functioning and academic integration; (2) intrapersonal thriving refers to healthy individual functioning; and (3) interpersonal thriving refers to healthy relational functioning and sense of belonging. Similarly, Benson and Scales (2009) conducted thriving research with adolescents, and defined thriving using several concepts: (1) spiritual development, (2) responsibility to others and a greater good, (3) individual uniqueness and gifting, and (4) healthy relationships.

Flourishing is concept developed by Keyes (2002) and refers to a state of complete mental health where a person is "filled with positive emotion and functioning well psychologically and socially" (p. 210). Howell (2008) conducted research on flourishing and academic functioning and referenced Keyes' (2007) conceptualization of flourishing as: emotional well-being, psychological well-being, and social well-being. In comparing flourishing

as defined by Keyes (2002) and thriving as defined by Schreiner et al. (2008), there is significant conceptual overlap. Emotional and psychological well-being seems to overlap with intrapersonal functioning, and social well-being seems to overlap with interpersonal functioning. Thriving is similar to psychological well-being (PWB), psychological sense of community, and belonging, but dissimilar to the concept of engagement (Kuh, et al., 2005).

First, the positive relational functioning component of thriving overlaps with two constructs: belonging, because belonging refers to the ability to connect and feel part of a group of people (Ostrove & Long, 2007), and with psychological sense of community, because psychological sense of community refers to the sense of connection with a group of people (DeNeui, 2003). Second, the notion that thriving is linked to academic functioning, spiritual development, and intrapersonal functioning is related, respectively, to the PWB concepts of mastering one's environment, purpose in life, and autonomous functioning and decision making (Bowman, 2010). In contrast, the concept of engagement is quite different from thriving because the focus of engagement is exclusively on behavior, such as time spent studying, writing papers, or going to class (Kuh, et al., 2005), and thriving reflects a healthy state of psychological and social functioning. Therefore, thriving, and well-being constructs, are useful constructs to research because they reflect a more holistic view of human functioning, in comparison to taking an exclusively behavioral approach.

Research has been conducted through numerous studies exploring either thriving or well-being (Benson & Scales, 2009; Bowman, 2010; DeNeui, 2003; Howell, 2009; Ostove & Long, 2007; Schreiner, et al., 2008), which has enhanced the theoretical and empirical understanding of well-being constructs within higher education literature. However, few studies include experimental, longitudinal, and multi-institutional designs. Moreover, the development of

thriving instruments (Schreiner, et al., 2008; Benson & Scales, 2009) will enable further quantitative thriving-focused scholarship. Schreiner, et al. conducted correlational research on thriving using 6,617 participants at 27 public and private colleges across the United States and found that thriving, after controlling for demographic and institutional type, uniquely predicted retention and grades. Similarly, Howell (2009) conducted exploratory correlational research investigating the relationship between flourishing and academic functioning, with 397 participants at a single university, and found that flourishing was positively related to academic performance. In the aforementioned research studies, thriving was a predictor variable and student success a criterion variable; however, Bowman (2010) conducted well-being research using PWB as the criterion variable, and student experiences as the predictor variable, and found that types of college experiences such as positive relationships with diverse peers, student government involvement, and not drinking alcohol are positively related to PWB and college adjustment. Bowman's research is an example of a research design that uses student experience as the independent variable and a well-being as the dependent variable, which is in alignment with the current study's design.

Student Learning In and Outside the Classroom

Light (2001) recommends that student success is best achieved when in and outside classroom experiences are acknowledged, encouraged, and integrated. For example, Light posits that student motivation will be enhanced if there is participation in activities such as student government, particularly if connections to classroom learning are made by students. Faculty (Lundberg & Schreiner, 2004; Umbach & Wawrzynski, 2005) and student development professionals (Moran, 2001) contribute to positive in and out of classroom learning experiences. Because much research has demonstrated that healthy student-faculty interaction is an important

factor impacting student outcomes (Astin, 1999), student-faculty interaction is a key variable that will likely predict thriving in the current study. Therefore, student-faculty interaction will be controlled for in the regression analysis to allow evaluation of the unique contribution that co-curricular involvement makes in predicting thriving.

Kim and Sax (2009) conducted research with 58,281 participants using data from the 2006 University of California Undergraduate Experience Survey and confirmed a positive relationship between healthy student-faculty interaction and a number of student outcomes; however, the study uniquely added value to the literature by identifying factors, such as gender, race, and social class, that varied across outcomes. For instance, Kim and Sax found that gender differences were statistically significant on the majority of the types of student-faculty interaction. As an example, for research-related faculty contact, males were more likely than females to help faculty as a volunteer or for pay, whereas females were more inclined to help faculty with scholarly activities if it was for credit. Similarly, Lundberg and Schreiner (2004) conducted research with 4,501 participants exploring the predictive nature of the frequency and quality of student-faculty interaction outside the classroom on key learning outcomes. Lundberg and Schreiner used background characteristics such as race, gender, degree plans, class level, employment status, and financial support as controls, and found that student-faculty interaction was a stronger predictor of learning outcomes than background characteristics and that the quality of interaction between students and faculty predicted learning for all racial groups. Clearly, student-faculty interaction matters to student success, as supported by empirical research; however, co-curricular involvement and experiences also impact student outcomes.

Cox and Strange (2010) posit there is a growing sentiment in Canadian higher education that the role of student services is critical for enhancing learning outcomes; however, very little

research has been conducted in Canada exploring the relationship between co-curricular involvement and student outcomes. Fortunately, research has been conducted in U.S. higher education exploring co-curricular involvement and student success. Astin's (1999) involvement theory has roots in a longitudinal study of college student retention that clearly found linkages between persistence and co-curricular involvement. For example, Astin's research demonstrated that involvement in residence, athletics, social fraternities or sororities, and extracurricular activity are linked to persistence. Astin posits that the living on campus was the most pervasive and important factor because it was positively correlated to retention among all types of students regardless of sex, race, or background. Moreover, Umbach and Wawrsynski (2005) conducted correlational research using data from 137 colleges and universities. Data was utilized from National Survey of Student Engagement (NSSE) with 20, 2226 senior students and 22,033 first-year students as participants and from the Faculty Survey of Student Engagement (FSSE) with 14, 336 faculty as participants. Through hierarchical linear modeling the findings suggest in general that faculty significantly influence learning and engagement, and that in particular, that students are more engaged when faculty place a higher value on student co-curricular involvement.

Astin's (1999) theory of involvement provides a conceptual framework for exploring the relationship between co-curricular involvement and thriving. The following research question will guide the study: To what extent do students' co-curricular experiences predict their thriving, after controlling for their demographic characteristics and student-faculty interaction, among undergraduates at two faith-based private liberal arts institutions in Canada? The study fills an important scholarship gap in Canadian higher education by uniquely extending thriving and

involvement research and by using thriving as a dependent variable and co-curricular involvement as an independent variable.

Methods

Participants

In the spring of 2012 the Thriving Quotient was sent to 1365 undergraduate students at two faith-based, liberal-arts institutions in Canada. The number of participants for the research sample was 201 students with an institutional response rate ranging from 3% to 34%. Although one institution is located in eastern Canada and the other in western Canada, both have moderately selective admission practices and are classified as Arts and Sciences Baccalaureate Colleges according to the Carnegie classification. Institutional participation was solicited through an online higher education Google group and through personal contacts. Student responses were collected by PerformaHE through an email invitation sent to students by a contact person at each campus. Each campus approved the research project through their respective Research Ethics Board. A $25 gift card, drawn randomly for each campus, was offered as an incentive for participation. As noted in Table 1, a majority of the students were female and between the age of 18 and 23. The sample included 92.3% as full-time students, 38.5% living on-campus, 13.2% as student athletes, and 87.8% as Caucasian.

Insert Table 1 about here

Measures

The 25-item Thriving Quotient was utilized for this study and has been utilized with thousands of college students (Schreiner, 2010). As noted by Schreiner (2012), The Thriving Quotient is a reliable and valid instrument for measuring thriving: (a) test-retest reliability is stable (r = .87), (b) construct validity from confirmatory factor analysis of a 5-factor structure suggests an excellent fit (RMSEA = .042; CFI = .956), (c) predictive validity indicates that thriving adds 12-18% variance in explaining student success outcomes, and (d) concurrent validity on the correlation of thriving with student's perception is strong (r = .67; p < .001) (Schreiner et al., 2009). The instrument includes five scales: (a) Engaged Learning, (b) Academic Determination, (c) Diverse Citizenship , (d) Positive Perspective, and (e) Social Connectedness. Each thriving scale is measured by averaging the scores from several questions rated on a Liker-type scale with 1 indicating "strongly disagree" and 6 indicating "strongly agree." Each of the five thriving scales is utilized as a dependent variable in the study. The developer of the instrument is the principal investigator in this study, so no copyright permission is necessary. Separate regression analysis was conducted for each of the five thriving outcomes.

In addition to the Thriving Quotient, students are asked to provide information about their demographics, relationship with faculty, and involvement with co-curricular activities. The aforementioned variables are entered as blocks in a regression analysis. The first block includes four control demographic variables: (a) gender, measured by male or female, (b) class level, measured by first-year, sophomore, junior, senior, or other, (c) first generation, measured by asking a "yes" or "no" question: Are you the first in your immediate family to attend college?,

and (d) first choice, measured by asking a "yes" or "no" question: When you chose to enroll in this institution, was it your first choice?

The second block includes a faculty-student relationship scale based on the average of three items in the Thriving Quotient: (a) Interaction with faculty outside of the class, (b) The amount of contact you have had with faculty this year, and (c) The quality of the interaction you have had with faculty on this campus so far this year; measured on a scale with 1 indicating "never" and 6 indicating "frequently".

Finally the last block includes seven variables representing co-curricular involvement and measured by rate of participation on a scale with 1 indicating "never" and 6 indicating "frequently": (a) student organizations on campus, (b) campus events or activities, (c) leadership of student organizations, (d) community service, (e) and religious services or activities; while the other two independent variables are measured by a "yes" or "no" answer and include: (a) Do you live on campus? and (b) Are you a student athlete? Table 2 includes response scales and coding strategies for all variables utilized in the study.

Insert Table 2 about here

Procedures

The initial email was sent to students by a campus contact person at the one institution on March 29, 2012, with follow-up reminders on April 2, 2012 and April 11, 2012. The initial email for the other institution was sent to students on March 19, 2012, with follow-up reminders on April 23, 2012 and April 28, 2012. An informed consent form was included at the beginning of the survey, and if students provided informed consent, the survey could then be accessed and

completed by the participant. PerformaHE administered the collection of the data and emailed a copy of the data to the investigator as an SPSS file on May 1, 2012.

Results

A hierarchical multiple regression analyses was conducted for each of the five thriving variables: Engaged Learning, Academic Determination, Social Connectedness, Positive Perspective, and Diverse itizenship. In addition to the Thriving Quotient, students were asked to provide information about their demographics, interaction with faculty, and involvement with co-curricular activities. The aforementioned variables were entered as blocks into the regression analysis. The first block includes four control demographic variables: (a) gender, measured by male or female, (b) class level, measured by first-year, sophomore, junior, senior, or other, (c) first generation, measured by asking a "yes" or "no" question: Are you the first in your immediate family to attend college?, and (d) first choice, measured by asking a "yes" or "no" question: When you chose to enroll in this institution, was it your first choice?

The second block includes a student-faculty interaction scale based on the average of three items in the Thriving Quotient: (a) Interaction with faculty outside of the class, (b) The amount of contact you have had with faculty this year, and (c) The quality of the interaction you have had with faculty on this campus so far this year; measured on a scale with 1 indicating "never" and 6 indicating "frequently". Finally the last block includes six variables representing co-curricular involvement and measured by rate of participation on a scale with 1 indicating "never" and 6 indicating "frequently": (a) campus events or activities, (b) leadership of student organizations, (c) community service, (d) and religious services or activities; while the other two

independent variables are measured by a "yes" or "no" answer and include: (a) Do you live on campus? and (b) Are you a student athlete?

Table 3 summarizes the means and standard deviations of the five scales of the Thriving Quotient, student background variables, and the levels of student involvement in various co-curricular activities. Table 4 outlines the correlations between the variables. Table 5 summarizes the results of each of the regression equations. Total variance explained by each of models ranged from 17.0% for Social Connectedness to 33.1% for Diverse Citizenship, and all models were significant predictors of the five thriving scales.

Demographics was a significant predictor for three of the five thriving scales and accounted for 5.7% of variance in Positive Perspective, 8.8 % variation in Academic Determination, and 11.4 % variation in Engaged Learning. Gender was a significant predictor of variance in Academic Determination, Engaged Learning, and Positive Perspective. First choice of institution was a significant predictor of variance in Engaged Learning. Student-faculty interaction was a significant predictor for all five thriving scales and accounted for an additional 8.5% to 16.7% of the variance in the desired thriving outcomes.

Insert Table 3 about here

Insert Table 4 about here

After controlling for demographics and student-faculty interaction, co-curricular involvement accounted for an additional 7.0% of the variance for Social Connectedness, 9.4% of the variance for Positive Perspective, and 22.8% of the variance for Diverse Citizenship. The factors of living on campus, leadership involvement, and community service were significant predictors of desired outcomes and explained the most variance in Engaged Learning, Social Connectedness, and Diverse Citizenship.

Insert Table 5 about here

Discussion

The current study sought to extend the student success and involvement literature by implementing the research recommendation to use thriving as criterion variable (Schreiner, at al., 2009) and to study co-curricular student involvement as a predictor of student thriving. The study answers the following research question: To what extent do students' co-curricular experiences predict their thriving, after controlling for their demographic characteristics and student-faculty interaction, among undergraduates at two faith-based private liberal arts institutions in Canada? The results of the study demonstrate that co-curricular student involvement, after controlling for demographic and student-faculty interactions, uniquely and

significantly predict a range of 7.0 % to 22.8% of variation in three of the five thriving scales. The study filled a scholarship gap by establishing an important relationship between co-curricular student involvement and thriving with students from a small liberal arts institution in Canada. The suggestion that student involvement enhances student success as posted by Astin (1999) is also supported by the study's findings because student involvement was shown to predict variation in thriving scales linked to emotional and social health. The study also affirms that demographics and student-faculty interaction are important predictors of variation in thriving.

The contribution of student background variables is relatively small for the thriving scales and explains a range of variation from 5.7% to 11.4 %. However, background variables account for a greater percentage of the variance in the scales related to academic performance including: Academic Determination (8.8% of variance) and Engaged Learning (11.4% of variance). In particular, the findings suggest that gender is the most influential background factor that predicts Academic Determination, Engaged Learning, and Positive Perspective. A higher percentage of women students on campus is predictive of higher thriving outcomes. Women students on campus are also positively correlated to all five thriving scales. In addition, first choice of institution was a significant factor in predicting Engaged Learning. A higher percentage of students on campus who indicate that the institution they attend was their first choice is predictive of higher levels of Engaged Learning. First generation and level of schooling is not significantly predictive of variation for any of the five thriving scales.

Having controlled for demographics characteristics, student-faculty interaction significantly added to the explanation of variance for all thriving scales, ranging from 8.5% of variance for Social Connectedness to 16.7 % for Engaged Learning. Student-faculty interaction

accounts for a greater percentage of the variance in the thriving scales related to academic performance including: Academic Determination (13.3% of variance) and Engaged Learning (16.6% of variance). However, student-faculty-interaction is also predictive of social and emotional health and accounts for: 10.4% variation in Positive Perspective, 8.5 % variation in Social Connectedness, and 9.2% variation in Diverse Citizenship. Higher levels of student-faculty interaction are predictive of higher thriving levels across all thriving scales. The findings support the substantial empirical research within the United States that links student-faculty interaction and student success outcomes (Astin, 1999; Kim & Sax, 2009; Lundberg & Schreiner, 2004). The findings on student-faculty interaction and thriving are not surprising; however, they are important because they extend the literature outside the United States by empirically validating the predict nature of faculty-student interaction on student success outcomes, and in particular, thriving outcomes in a Canadian educational environment.

Having controlled for student demographics and student-faculty interaction, co-curricular student involvement uniquely added a moderate to high degree of explanation of variance for three of the five thriving scales related to social and emotional well-being. The findings empirically validate Astin's (1999) theory of student involvement by confirming student involvement is predictive of interpersonal and intrapersonal well-being. Moreover, the findings confirm the growing sentiment that co-curricular programming in Canada plays an important role in student success (Cox & Strange, 2010).

Co-curricular involvement uniquely predicted 9.4% variance in Positive Perspective, 7% of variance Social Connectedness, and 22.8% of variance in Diverse Citizenship. Student involvement factors contributed only a small amount of the explanation of variance in Academic Determination and Engaged Learning, with one exception. Living off campus was a significant

predictor of higher levels of Engaged Learning. The finding that living on campus negatively impacts Engaged Learning is not supported by Astin (1999) because living on campus was found to be an involvement factor that is positively related to learning outcomes. The student engagement theory purported by Kuh et al. (2005) may provide an explanation for the negative correlation between Engaged Learning and living on campus if it is true that residence students are participating less in certain educationally meaningful activities, such as studying and group work, because of more readily available opportunities and for social interaction that may be available in a residence environment.

Of all the thriving factors, co-curricular student involvement uniquely accounted for the most variance in Diverse Citizenship at 22.8%. In comparison, student-faculty interaction accounted for 9.2% of the variance in Diverse Citizenship. The factors of leadership and community service are significant predictors of Diverse Citizenship and explained most of the variation in Diverse Citizenship. Leadership and service, in comparison to athletics, living on campus, religious activities, and campus activities represent involvement factors that engage others on and off campus through service and leadership. Leadership was also positively correlated to Positive Perspective and Social Connectedness and community service was positively correlated to all five thriving scales.

In general, background variables, student-faculty interactions, and co-curricular involvement are predictive of variance in thriving outcomes. By better understanding the findings that suggest background variables are associated with academic thriving, that student-faculty interaction is correlated to all thriving scales, and that co-curricular involvement is associated with social and emotional thriving scales, faculty and student development professionals can enhance their effectiveness in supporting student success. In particular,

because co-curricular activities that involve leadership and community service account for much of the variance in Diverse Citizenship, educators can consider policy and practices that increase these types of involvement factors, assuming enhancing Diverse Citizenship is a desired learning outcome.

Limitations

The study had several limitations. First, the research design was correlational, not experimental. The study did not include a control group, participants were not randomly assigned to groups, and the independent variable was not manipulated. Therefore, caution should be taken in the interpretation of results. For example, it should not be assumed that participation in leadership on campus causes an increase in the Diverse Citizenship. However, the study's results can be interpreted in ways that reflect important relational patterns among variables. Using the aforementioned example, the study's findings can be interpreted in a way that suggests there was a strong and positive relationship between leadership involvement and Diverse Citizenship, which is supported by the significant correlation between these two variables.

Second, despite that participants were from more than one institution, which increased the sample size and opportunity for generalizing the results, the sample included only two small faith-based, liberal arts institutions in Canada, and caution should be taken in generalizing the results. For example, suggesting that the findings are directly applicable to a large research-based institution of higher education in the United States or Europe would be erroneous. Moreover, a disproportionate of participants in the study were from on institution, and caution should be taken in interpreting the results as though the study was multi-institutional, because the participants reflects a much higher response rate and sample size at one institution.

Third, despite the study including all five thriving scales, the design could have included a greater range of student success criterion variables such as retention, psychological sense of community, and spirituality. By including more dependent variables, the study could have more comprehensively predicted the unique contribution co-curricular programming on the variation of wider range of student success factors, thus giving educational practitioners a greater understanding of how educational policy and practice could be implemented to support student success. Despite the limitations, the study has meaningful implications for practice and research.

Implications for Practice

The thriving and involvement literature was extended because the findings suggest co-curricular student involvement does uniquely predict variation in the emotional and social components of thriving. Thus, there are several implications for policy, research, and practice that could advance scholarship and support student success in higher education instititons.

Because the study affirmed the important association between student-faculty interaction and student success (Kim & Sax, 2009; Lundberg & Schreiner, 2004; Umback & Wawrzynksi, 2005) and that student involvement is also related to student success (Astin, 1999), perhaps faculty could exert more influence in encouraging student involvement in and outside the classroom. If faculty were fully aware of the comprehensive co-curricular opportunities for students at their institution, they could leverage their influence with students by recommending appropriate and beneficial involvement opportunities (Umbach & Wawrsynski, 2005). For example, many institutions of higher education have a range of student leadership positions, and if a student was challenged or encouraged to pursue a leadership position by a faculty member, the likelihood of leadership involvement would likely be enhanced. Moreover, faculty could

enhance their ability to influence student involvement by actively engaging in co-curricular programming on campus by supporting student development professionals in the design and implementation of interventions outside the classroom, including programs such as orientation, service learning, and student leadership development.

Institutions of higher education should ensure that policies and resource allocation decisions support co-curricular programming, because in doing so, student thriving would be enhanced. When senior administration, faculty, and student development professionals are focused on the design, implementation, and maintenance of a student-learning focused culture as a primary institutional goal, it should result in enhanced levels of: student involvement (Astin, 1999), student engagement in educationally meaningful activities (Kuh et al., 2005), and integration of classroom and out of classroom student experiences (Light, 2001). Because the study's findings support the notion that the total student experience is linked to thriving, educators should seek to understand and shape the student experience in order to maximize student success.

Interventions that enhance opportunities for leadership and community service could be integrated into existing co-curricular programs such a residence life, athletics, orientation, and campus activities. Thus, co-curricular student development programming within the ecosystem of the entire learning environment could include an emphasis on involvement not only for social connection within the campus community, but connection with, and service to, others outside the campus community. For instance, orientation programs could include opportunities for senior students to provide leadership in the planning and implementation of the program. Moreover, first-year students could participate in an experiential (Dewey, 1938: Eyler, 2009) community service project such a picking up litter in the local community during the orientation program.

Self-transcendent acts of service would likely enhance students' feeling that they are making a meaningful and important contribution to others and the world (Schreiner, et al., 2009), thus helping students develop a sense of responsible citizenship. In addition to enhancing opportunities for service and leadership, policies and practices accounting for student background characteristics should also be considered by educational practitioners.

Because gender, and to a lesser degree first choice of institution, is associated with student thriving, practitioners should be cognizant of the gender ratios at their institution. Practitioners should consider differential strategies that target interventions for enhancement of thriving in males, particularly in educational programs that are male dominated. In addition, institutions should be aware of, and ensure services that encourage Engaged Learning, are offered to students who are not attending the institution of their first choice. The study's findings have implications not only for practice but also for future research.

Despite the current study advancing the literature on involvement and thriving, several areas of additional research could be pursued to advance scholarship in involvement, thriving, and student success. First, to enhance the ability to generalize results, the study could be replicated using participants from more, and diverse, institutions across Canada and the United States. Second, the current study could be extended by continuing to use thriving as a criterion variable, but conducting an investigation using an experimental design and exploring how interventions, such as orientation, leadership development, community service impact thriving. Third, because of the negative correlation between living on campus and Engaged Learning, further research should be conducted to specifically explore the relationship between residential living and thriving. Fourth, the impacts of student involvement could be extended beyond

thriving and include constructs such as sense of belonging, psychological sense of community, retention, and spirituality.

The study has extended the thriving research (Schreiner, et al., 2009) and supported Astin's student involvement theory, thus providing practitioners and researchers opportunities to design and implement educational interventions and research projects that support student and institutional success. The study has also provided empirical evidence to support the claim made by Cox and Strange (2010) that the there is a growing sentiment in Canadian higher education that co-curricular programming is linked to positive student learning outcomes for students.

Table1

Demographic Characteristics of Participants

Characteristics	n	%
Age		
18-20	80	43.7
21-23	61	33.3
24-26	25	13.7
27-30	10	5.5
31-34	3	1.6
35-38	1	0.5
39-42	1	0.5
Over 50	2	1.1
Class level		
First-year	55	30.1
Second-year	49	26.8
Third-year	36	19.7
Fourth-year	27	14.8
Other	16	8.7
Enrollment status		
Full-time	168	92.3
Part-time	14	7.7
First choice to enroll at institution		
Yes	138	76.2
No	43	23.8
Gender		
Female	123	67.2
Male	60	32.8
Generation		
First generation	61	33.3
Not first generation	122	66.7
High School Grades		
Mostly A’s	47	25.8
A’s and B’s	53	29.1
Mostly B’s	41	22.5
B’s and C’s	34	18.7
Mostly C’s	6	3.3
C’s and D’s	1	0.5
Hours worked off campus per week		
None	94	51.6
Less than 5	9	4.9

6-10	13	7.1
11-15	26	14.3
16-20	21	11.5
More than 20	19	10.4
Housing		
On-campus	70	38.5
Off-campus	112	61.5
Student athlete		
Yes	24	13.2
No	158	86.8
Race		
Asian-American	10	5.5
Caucasian/White	159	87.8
Latino	1	0.6
Multiracial	5	2.8
International Student	2	1.1
Other	4	2.2
Working on campus		
Yes	18	9.8
No	165	90.2

Note N = 183

Table 2

Description of Variables and Coding Scheme

Dependent Variables:	**Definition and Coding Scheme**
Academic Determination	Mean score of 8 items: (1) I am confident I will reach my educational goals, (2) I find a way to get everything done for classes that I need to do in a given week, (3) Once I start a project, I stick with it until I am finished, (4) Even if assignments are not interesting to me, I find a way to keep working at them until they are done well, (5) I know how to apply my strengths to achieve academic success, (6) I am good at juggling all the demands of college life, (7) Other people would say I'm a hard worker, and (8) When I'm faced with a problem in my life, I can usually think of several ways to solve it. Each item is measured on a 6-point scale: 1=strongly disagree, 6=strongly agree. (α = .83)

Diverse Citizenship	Mean score of 4 items: (1) I spend time making a difference in other people's lives, (2) I know I can make a difference in my community, (3) I speak up for those who cannot speak for themselves, and (4) It's important for me to make a contribution to my community. Each item is measured on a 6-point scale: 1=strongly disagree, 6=strongly agree. (α = .80).
Engaged Learning	Mean score of 5 items: (1) I feel as though I am learning things in my classes that are worthwhile to me as a person, (2) I can usually find ways of applying what I'm learning in class to something else in my life, (3) I find myself thinking about what I'm learning in class even when I'm not in class, (4) I feel energized by the ideas I'm learning in most of my classes, and (5) I am bored in class a lot of the time (reverse-scored). Each item is measured on a 6-point scale: 1=strongly disagree, 6=strongly agree. (α = .83).
Positive Perspective	Mean score of 5 items: (1) My perspective on life is that I tend to see the glass as "half full," (2) College life is excellent for me, (3) I believe I have a bright future, (4) Life is good for me right now, and (5) I always look on the bright side of things. Each item is measured on a 6-point scale: 1=strongly disagree, 6=strongly agree. (α = .83).
Social Connectedness	Mean score of 4 items: (1) Other people seem to make friends more easily than I do (reverse scored), (2) I find the relationships in my life difficult (reverse scored), (3) I don't have as many close friends as I wish I had (reverse scored), and (4) There are people in my life who are willing to listen when I need to talk. Each item is measured on a 6-point scale: 1=strongly disagree, 6=strongly agree. (α = .82).

Student Background Variables: Definition and Coding Scheme

Age	1 = 17 or younger, 2 = 18-20, 3= 21-23, 4 = 24-26, 5= 27-30, 6 = 31-34, 7 = 35-38, 8 = 39-42, 9 = 43-46, 10 = 47-50, 11 = over 50
Class level	1=First-year, 2=Sophomore, 3=Junior, 4=Senior, 5=Other
Degree goal	Response to "What is the highest degree you intend to pursue in your lifetime?" Measured as 1 = none, 2 = bachelor's, 3 = teaching credential, 4 = master's degree, 5 = doctorate, 6 = medical or law degree, 7 = other graduate degree (specify)
Enrollment status	1=Full-time student, 0 = Part-time student

First-generation	First in immediate family to attend college=1; not first to attend college=0
First choice of college at enrollment	Dummy variable coded 1=yes 0=no for institution was first choice
Gender	Female=1, male=0
High school grades	Self-reported variable with response options on a 6-point scale where 1=mostly A's 2= A's and B's 3=mostly B's, 4=B's and C's 5=mostly C's 6=below a C average. (Reverse scored.)
Hours worked off campus	Response to "How many hours per week do you spend working for pay off campus?" Measured as 1 = none, 2 = less than 5 hours per week, 3 = 5-10 hours per week, 4 = 11-15 hour per week, 5 = 16-20 hours per week, 6 = more than20 hours per week
Race/ethnicity	1 = African American/Black, 2 = American Indian/Alaskan Native, 3 = Asian American/Asian/Native Hawaiian/Pacific Islander, 4 = Caucasian/White, 5 = Latino/a, 6 = Multiracial, 7 =International Student, 8 = Other (specify)
Work on campus	Response to "Do you work on campus?" Coded 1 = yes, 0 = no
Independent Variables:	**Definition and Coding Scheme**
Athlete	Response to "Are you a student athlete?" Coded 1=yes, 0=no
Campus Events	Response to the item: "How often do you participate in campus events or activities." Measured with a 6-point scale, 1=very dissatisfied, 6=very satisfied.
Community Service	Response to the item: "How often do you participate in community service." Measured with a 6-point scale, 1=very dissatisfied, 6=very satisfied.
Leadership	Response to the item: "How often do you participate in leadership responsibilities in student organizations." Measured with a 6-point scale, 1=very dissatisfied, 6=very satisfied.

On-campus	Live on campus, coded 1=yes, 0=no
Religious Activities	Response to the item: "How often do you participate in religious services or activities." Measured with a 6-point scale, 1=very dissatisfied, 6=very satisfied.
Student Organizations	Response to the item: "How often do you participate in student organizations on campus." Measured with a 6-point scale, 1=very dissatisfied, 6=very satisfied.
Student-faculty Interaction	Mean score of 3 items: (1) How often do you interact with faculty outside of class? Measured with a 6-point scale, 1=never, 6=frequently; (2) Rate your satisfaction with the amount of contact you have had with faculty this semester. Measured with a 6-point scale, 1=very dissatisfied, 6=very satisfied; (3) Rate your satisfaction with the quality of the interaction you have had with faculty on this campus so far this semester. Measured with a 6-point scale, 1=very dissatisfied, 6=very satisfied.

Table 3

Means and Standards Deviations for Demographic and Involvement Items and TQ Scales

Item	Mean	SD
Engaged Learning Scale	4.28	0.94
Academic Determination Scale	4.61	0.79
Diverse Citizenship Scale	4.44	0.85
Positive Perspective Scale	4.68	0.81
Social Connectedness Scale	4.23	1.00
Student-Faculty Interaction	4.39	1.06
Level of involvement: Campus events or activities	3.51	1.60
Level of involvement: Leadership of organizations	2.79	1.93
Level of involvement: Community service	2.87	1.72
Level of involvement: Religious services or activities	4.01	1.79
First Generation	0.33	0.47
First Choice	0.76	0.43
Gender	0.67	0.47

Level Athlete On Campus	2.46 0.12 0.39	1.29 0.33 0.49
Note: N = 178		

Table 4

Summary of Correlations Between Study Variables

Measure	1	2	3	4	5	6	7
1. Engaged Learning	1.0						
2. Academic Determination	.37**	1.0					
3. Diverse Citizenship	.17**	.32**	1.0				
4. Positive Perspective	.23**	.35**	.46**	1.0			
5. Social Connectedness	.14**	.21**	.31**	.34**	1.0		
6. Class Level	.07	.21**	.04	-.05	.02	1.0	
7. Gender	.21**	.18**	.12	.12	.07	.13	
8. First Generation	.06	.03	.02	-.05	-.05	.13*	-.07
9. First Choice	.11	.01	.03	.11	-.01	-.07	.06
10. Student-Faculty	.29**	.27**	.24**	.18**	.17**	-.19**	.05
11. On Campus	-.15*	-.07	.04	.18**	.07	-.37**	.18*
12. Athlete	-.01	-.03	-.07	.03	.07	-.01	.18*
13. Campus Activities	.02	.05	.27**	.24**	.19**	.07	.07
14. Community Service	.07	.12*	.37**	.18**	.20**	.05	.34
15. Religious Activity	.08	.09	.29**	.22**	.20**	.05	-.05
16. Leadership	.06	.10	.34**	.22**	.16**	-.09	.07

N = 178 * $p < 05$; ** $p < .01$; *** $p < .001$

Table 5

Summary of Correlations Between Study Variables

Measure	8	9	10	11	12	13	14	15	16
8. First Generation	1.0								
9. First Choice	-.01	1.0							
10. Student-Faculty	.07	.04	1.0						
11. On Campus	.07	-.15*	-.06	1.0					
12. Athlete	.07	.02	-.06	-.04	1.0				
13. Campus Activities	.01	.15*	.09	.36**	-.03	1.0			
14. Community Service	-.06	-.04	.17**	.13	.01	.38**	1.0		
15. Religious Activity	.01	.14*	.20**	.24**	-.01	.37**	.42**	1.0	
16. Leadership	-.05	.09	.11	.18	.00	.52**	.40**	.31**	1.0

$N = 178$ * $p < 05$; ** $p < .01$; *** $p < .001$

Table 5

Summary of Hierarchical Multiple Regression Analyses for Variables Predicting Thriving Quotient Scales

	Criterion Variables				
Variable	Academic Determination β	Engaged Learning β	Positive Perspective β	Social Connectedness β	Diverse Citizenship β
Step 1					
First generation	-.041	-.003	-.070	-.086	-.002
Gender	.218**	.257***	.196**	.078	.071
First choice	.011	.141*	.039	-.073	-.037
Level	.119	-.100	-.089	-.026	-.055
R^2	**.088**	**.114**	**.057**	**.015**	**.011**
Step 2					
Student-faculty interaction	.346***	.399***	.277***	.234**	.188**
R^2 change	**.133**	**.167**	**.104**	**.085**	**.092**
Step 3					
Athlete	.002	.029	.093	.078	-.020
On campus	.051	-.208*	.114	.020	-.036
Campus activities	-.060	.011	.053	.083	.008
Leadership	-.008	-.007	.130	.059	.271**
Community service	.153	.028	.024	.081	.233**
Religious activities	-.015	.073	.108	.104	.107

R^2 change	**.017**	**.034**	**.094**	**.070**	**.228**
Total R^2	**.238**	**.315**	**.254**	**.170**	**.331**

N = 178 * *p* < 05; ** *p* < .01; *** *p* < .001

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