

EVALUATION REPORT

# INTERNATIONAL BACCALAUREATE DIPLOMA PROGRAMME

STUDY OF NORTH AND SOUTH AMERICAN STUDENTS' CIVIC-MINDEDNESS

PHASE II

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AUGUST 2013



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## EXECUTIVE SUMMARY

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The International Baccalaureate (IB) is a nonprofit organization that works with nearly 3,300 schools in 141 countries to provide young people with an academically rigorous set of courses designed to help them become engaged world citizens who are active, compassionate, and lifelong learners. The Creativity, Action, and Service (CAS) component of the IB Diploma Programme is designed to involve students in a range of experiential service activities to enhance their personal and interpersonal and civic development. Students are expected to be involved in CAS activities at least 3 hours per week during the last 2 years of the high school program. CAS coordinators are expected to provide students with reflection activities, monitor progress, and ensure that the activities take place over the requisite period of time with the intensity desired. Students are encouraged to engage in reflection on their CAS experiences to identify the benefits of CAS participation to themselves and to others, and to evaluate the understanding and insights acquired.

In 2012, IB commissioned RMC Research to examine the extent to which participation in the CAS requirements helped students to develop civic-mindedness and experienced a variety of other social/personal and civic impacts. The study had two phases: a qualitative exploratory study and a quantitative investigative study. This report provides the results of the quantitative study.

## METHODOLOGY

The study was designed to measure questions related to motivation to serve, types of activities in which students participate, variations by region, program quality, and impact on students. In addition, RMC Research investigated the factors that served to moderate impacts. Surveys were constructed based on the research questions, findings from Phase I, and the literature review.

Schools from Canada, the United States, and a variety of South American countries were asked to participate. The resulting sample was composed of 58 schools, 17 from Canada, 29 from the United States, and 12 from South American countries. The sample had 1,295 students. Alumni from each of these countries were also contacted and 214 completed the survey.

## FINDINGS

Analysis of survey data showed the following results:

### MOTIVATION TO SERVE

Students currently enrolled in the IB Diploma Programme and alumni of the Diploma Programme were motivated to serve most often by affective rather than practical reasons, though both types of motivations were present for most students. Peers and family members

had a positive influence on the choice of service activities, though the influence had a small effect size<sup>1</sup>. By region, family members had the greatest influence on students from the United States. Students' involvement in a religious organization also had a positive influence on student motivation to serve.

Most students reported that they participated in a particular type of service because they were interested in the topic. There were variations for motivation by country, with students from Canada and the United States motivated to select a particular service activity most often by interest and students from South America motivated most often by friends.

## **PARTICIPATION IN CAS ACTIVITIES**

IB students participated in a wide variety of types of service to fulfill their CAS requirements, most frequently in education and fundraising. Most students fulfill their creativity, action, and service requirements through service activities. Students target their services to the local level far more often than to the national or global level.

## **QUALITY OF PROGRAM DESIGN**

Students across the regions typically agreed that their service activities were meaningful. Service activities, however, were not often linked to academic curriculum. The majority of students had a voice and choice in selecting the service in which they participated. Reflection activities, though, were occasional, most often occurring after service was provided. Students participated more often in low-depth than high-depth reflection activities. Most students were expected to respect others' opinions.

## **IMPACTS**

Participation in CAS had a moderate impact on student self-efficacy and acquisition of leadership skills and a small impact on acquisition of research skills. Students reported a small impact of participation in service on their civic attitudes, leading to the conclusion that participation in the program did not affect students' civic-mindedness in a meaningful way. Students did appear to acquire some civic skills, and most reported that they could perform a range of civic skills well, though not "very well."

Most currently enrolled IB students expressed a "moderate" ethic of service and sense of social responsibility, and reported they would occasionally continue to help others, but not if it

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<sup>1</sup> Effect size (ES) is a name given to a family of indices that measure the magnitude of a treatment effect, represented by differences in outcomes across groups. Unlike significance tests, these indices are independent of sample size. Cohen's *d* is the measure of effect size used for this study. Typically an effect size of .2 is considered small or less; .5 (.3 to .7) is considered medium or moderate; and .8 or higher is large.

inconvenienced them. Alumni expressed a greater ethic of service, reporting that they currently engaged in service occasionally and anticipated they would do so in the future.

Students perceived their participation in service activities as having an overall moderate impact on them. Family perceptions of impact tended to remain stable or become more positive over time.

## FACTORS THAT INFLUENCED OR MODERATED IMPACTS

Multiple demographic, motivational, and program design characteristics influenced outcomes for participating students.

- Females reported higher impacts than males.
- Students involved in religious organizations reported higher impacts than those who were not involved.
- Students with prior experience in provision of service reported higher impacts than those with no or lower levels of experience in providing service.
- Families and peers had an influence on outcomes.
- School type (public v. private) was found to have moderate impacts but in inconsistent ways, with public schools showing greater outcomes on measures of self-efficacy and private schools on measures of leadership skill acquisition.
- Students motivated by affective reasons had higher outcomes than those motivated by practical reasons.

There were only a few significant variations in impact by region. Canadian students experienced greater self-efficacy impacts than South American students. The effect size was low moderate. South American students experienced higher impacts in the acquisition of leadership skills than students from the United States. The effect size was small.

Quality mattered. High quality service-learning program design features strongly influenced all outcomes.

- The extent to which students participated in *meaningful service* strongly impacted every outcome area.
- *Link to curriculum* was related to higher impacts in all areas.
- The extent to which students were provided a *voice and choice* in their activities also had a moderate to large influence on all impacts that were measured.
- The *timing and frequency of reflection* experienced by IB students was found to have a small to moderate impact on outcomes. *Reflection* overall had a low to moderately high effect on outcomes, depending on the depth of the reflection activities.
- *Respect for diversity, expressed as valuing others' opinions*, had a statistically significant relationship with a variety of outcomes.
- IB students also were more likely to report a variety of outcomes related to personal, social, and civic development when they could see *tangible results of their efforts*.

## RECOMMENDATIONS

1. IB Programmes should do more to help students see the affective value of the provision of service.
2. Service portions of the CAS activities should look more like service-learning than community service.
3. Service activities should be linked better with what students are learning in their other classrooms.
4. To increase the development of civic-mindedness, CAS coordinators should develop a stronger set of reflection and/or investigation activities.
5. CAS coordinators should separate the requirements for creativity and action from service.

## INTRODUCTION

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The International Baccalaureate (IB) Programme is one of the premier educational programs for providing students throughout the world with the opportunity to master bodies of knowledge, acquire wide-ranging skills, and develop dispositions that will enable them to become the leaders of the future. In addition to rigorous coursework for academic purposes, the program addresses multiple facets of youth development, including cognitive, social-emotional, and physical domains, emphasizing the need for curiosity, persistence, empathy, reflection, open-mindedness, understanding of diversity, and other aspects of young people's growth to help prepare them for the future, both for college/career and as citizens of the world.

The IB is a nonprofit organization that currently works with nearly 3,300 schools in 141 countries to provide young people with an academically rigorous set of courses designed to help them become engaged world citizens who are active, compassionate, and lifelong learners. The Creativity, Action, and Service (CAS) component of the IB Diploma Programme is designed to involve students in a range of experiential service activities to enhance their personal and interpersonal and civic development. Creativity is interpreted broadly and may include participation in arts-related activities or be defined as the creativity students demonstrate in designing and implementing service projects. Action can include participation in sports or any type of local or international projects, including those associated with service activities. Service activities include any form of volunteerism in which students serve the community.

Students are expected to be involved in CAS activities at least 3 hours per week during the last 2 years of the high school program. CAS coordinators are expected to provide students with reflection activities, monitor progress, and ensure that the activities take place over the requisite period of time with the intensity desired. Students are encouraged to engage in reflection on their CAS experiences to identify the benefits of CAS participation to themselves and to others, and to evaluate the understanding and insights acquired.

In 2012, IB commissioned RMC Research to design and implement a two-phase research project to examine the activities students are undertaking as part of the service component of the CAS requirement and to determine impacts on students, particularly with regard to changing their ideas of civic-mindedness. Phase I of the study was exploratory in nature, and included a study of students and CAS coordinators at sites representing the Americas (Canada, the United States, and South America) to refine the research questions and inform the development of survey instruments to be used to guide the full investigative study.

A brief review of the research literature was conducted to inform the research design. First, literature from the past 10 years that addressed civic-mindedness was collected and reviewed. Next, studies on the impact of providing service and participating in service-learning were analyzed. The literature is summarized below and was used to inform the study and to compare results from the IB Programme to high schools more generally.

This report provides a description of the results of the Phase II study. First, a brief summary of the research literature on civic-mindedness, service, and service-learning is provided. Next the methodology for the Phase II study is presented. This is followed by a presentation of results organized in subsections aligned to the research questions. The last section summarizes the findings and discusses them in the context of the research literature, comparing IB Programme findings with those from the service-learning literature. This section ends with a set of recommendations for IB to consider as it further develops its CAS approach. The Appendix contains the survey instruments used for the study.

## LITERATURE REVIEW

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*This section provides a brief review of the research literature on civic-mindedness, service, and service-learning.*

The IB Diploma Programme was designed to provide juniors and seniors with service experiences that help them to develop personally, socially, and civically. Ideally, the Programme would lead to students becoming more civic-minded and to developing a sense of self- and civic-efficacy. This review briefly discusses the concept of civic-mindedness and the impact of participating in service and service-learning activities on high school students.

### CIVIC MINDEDNESS

Civic-mindedness has multiple definitions in the theoretical and research literature, most of which have to do with the individual's sense of identity as a citizen of a community, his/her sense of responsibility and attachment to that community, and the actions that the individual takes on behalf of the community. Some researchers use civic-mindedness interchangeably with terms like social capital, civic engagement, and civic responsibility (Hua & Wan, 2011). Others discuss the set of values purportedly associated with the term, such as an orientation toward pluralism or democracy and a desire to help the community through volunteerism (Smart, Sanson, Da Silva & Toumbourou, 2000; Crystal & DeBell, 2002).

Most researchers agree that civic-mindedness has both social-emotional and behavioral components. The social-emotional aspect of civic-mindedness is typically operationalized as the development of a sense of social responsibility, an ethic of service, and a sense of civic duty. The behavioral aspect is often defined as actions that help others. The nature of these actions may be civic (e.g., community service, obeying the law, and/or respecting the rights of others) or political (e.g., voting, working on a public problem, and/or staying current with the news).

Some theoreticians (for example, Dewey, 1916; Bellah, Madsen, Sullivan, Swidler & Tipton, 1987; and Putnam, 2000) believe that civic-mindedness is critical to the survival of democracy and becoming fully educated. They and other well-known researchers and theoreticians in the field (e.g., Battistoni, 1997; Jones & Steinberg, 2010) believe that engaging in civic activities contributes to the development of normative behavior and attachment to society and community, without which democracy cannot be sustained.

Others connect civic-mindedness with being essential to educating the “whole child” (Association for Supervision and Curriculum Development, 2009), with the rationale that schools are the most influential source on human development, trumped only by the influence of the family and for some, the influence of peers. As such, schools are exhorted to go beyond helping young people to acquire knowledge and skills in academic domains and provide many types of experiences that lead to positive social-emotional and character development, ability to work well with others, and attachment to the community and society as a whole.

A landmark publication in 2003, *The Civic Mission of Schools* (Gibson & Levine, 2003), carefully documents the decline in civic knowledge, skills, and engagement of young people. The report strongly suggests that schools need to become the vehicle through which civic education must take place because schools serve all students and are best equipped to the cognitive aspects of citizenship, which include critical thinking, deliberation, and acquisition of specific skills and knowledge. According to the report (p.2):

*Civic education should help young people acquire and learn to use the skills, knowledge, and attitudes that will prepare them to be competent and responsible citizens throughout their lives. Competent and responsible citizens:*

- 1. are informed and thoughtful; have a grasp and an appreciation of history and the fundamental processes of American democracy; have an understanding and awareness of public and community issues; and have the ability to obtain information, think critically, and enter into dialogue among others with different perspectives.*
- 2. participate in their communities through membership in or contributions to organizations working to address an array of cultural, social, political, and religious interests and beliefs.*
- 3. act politically by having the skills, knowledge, and commitment needed to accomplish public purposes, such as group problem solving, public speaking, petitioning and protesting, and voting.*
- 4. have moral and civic virtues such as concern for the rights and welfare of others, social responsibility, tolerance and respect, and belief in the capacity to make a difference.*

The research synthesis within this report shows that six approaches are most promising for helping students to become civically engaged, competent, and knowledgeable. The six include: (1) formal interactive instruction in government, history, law, and democracy; (2) carefully moderated classroom discussion of current local, national, and international issues that potentially affect students' lives; (3) service-learning programs that provide students with opportunities to acquire civic learning through meaningful opportunities to meet community needs linked to serious community issues; (4) extracurricular activities that provide students with opportunities to get involved in their schools and communities; (5) participation in school governance; and (6) simulations of democratic processes and procedures, particularly those that feature legislative deliberation, diplomacy, and voting.

Kirlin's (2002) research review further suggests that high schools promote civic engagement and the development of civic skills best when they engage in participatory activities that allow them to express opinions and work collaboratively to establish common goals and action plans. To maximize civic impacts, students need to be motivated to become involved and be asked to

develop specific civic skills such as thinking critically about issues, deliberating public policy, researching current community problems, and planning approaches that address community problems. She also emphasizes the importance of having a network of peers who participate in civic endeavors together.

## COMMUNITY SERVICE AND SERVICE-LEARNING

The IB Programme includes several of the promising practices promoted by the Campaign by the Civic Mission of schools, most notably the service-learning and extracurricular activities. IB promotes service and service-learning through its CAS requirement: the service component is designed to engage students in the provision of service to the community or school during out-of-school hours. During school, students are to reflect on the experience to identify benefits to themselves and others. Students may engage in school governance and other extracurricular activities, such as sports, to fulfill the requirements.

CAS coordinators are specifically asked to ensure that students engage in community service, though many have been taught to implement service-learning since it has been found in the research to be a more powerful experience than service alone. The difference between community service and service-learning lies in the link to curriculum and the incorporation of specific program design components within the service experience. Both community service and service-learning are intended to help meet community needs through volunteerism. In contrast, service-learning programs typically include service as one of five components: investigation of a community need; planning activities to meet needs; action or the provision of service; reflection; and demonstration of impact.

Service-learning as a formal educational strategy has been adopted by about 50% of all high schools in the United States and most other countries as a way to encourage civic engagement and the development of an ethic of service (Skinner & Chapman, 1999; Meyer & Billig, 2012). Pritchard (2002) found that private schools in the United States were even more likely to adopt service or service-learning strategies, with 88% of all private schools reporting implementation in the 1990s. The Corporation for National and Community Service (Grimm, Dietz, Spring, Arey & Foster-Bey, 2005) estimated that 30.4% of all teens in the United States provide service, at an average of 35 hours per year. Females volunteered more often than males and those from more affluent homes provided service more often than those from economically disadvantaged families. Most youth participate in tutoring or mentoring young children, raising funds, or collecting, preparing and distributing food. Other types of service more popular with females were providing transportation, distributing clothing, coaching a sports team, and counseling. Males were more apt to help with civic protection and disasters.

Young people who volunteer while in high school are more likely to become lifelong volunteers than those who do not provide service. McBride, Benitez, and Sherraden (2003) found that 54% of students who volunteered were still performing community service after being graduated from high school and 45% were still providing service 6 years later. This percentage compares to 26% who had not volunteered before their high school graduation. Those who

engaged in mandatory service during high school also later had a 26% volunteerism rate, showing that motivation for volunteering likely plays a role in developing an ethic of service.

Youth report that they volunteer primarily for two reasons: feeling a moral or religious obligation to solve a problem and/or as a benefit to oneself (Billig, 2009a). Most youth say they volunteer for both reasons. Those who serve for longer periods of time also report that they participated in service because they liked connecting to people like themselves, gained important perspectives on life, and/or found it important to confront and address a social issue (Billig, 2009b).

Service-learning is also popular internationally. The United Nations Education, Scientific, and Cultural Organization (2005) has supported youth service since 1947 and made it a priority in 1998, citing its importance as a youth empowerment and civic engagement strategy. Community service is institutionalized in at least 57 nations as a way to give children and youth a sense of efficacy and attachment to community.

Torney-Purta, Amadeo, and Richardson (2007) conducted studies of youth participation in volunteer activities and other civic education-related activities in 28 countries. They found that youth volunteerism is most prevalent in countries where large proportions of adults volunteer and when youth do not believe that it is the government's responsibility to care for the poor and elderly. In Chile, England, and the United States (and more modestly in Denmark), students who learn about issues in school and subsequently or simultaneously provide service connected to their learning tend to develop greater trust in their governments, self-efficacy, civic identity, prosocial attitudes, and tolerance for diversity.

The National Survey of Voluntary Activity in Canada (1989) showed that about 23.2% of Canadian youth between the ages of 15 and 19 volunteer. About a third of these teens work with organizations involved in education and youth development. The rest tend to volunteer in the areas of religion, leisure and recreation, and health. Females tend to average more volunteer hours per week (3.9) than males (2.8). Most Canadian youth become involved through personal contact, primarily being approached by an organization in need, rather than initiating contact themselves. Pancer and Pratt (1999) found that Canadian youth tend to become interested in volunteering primarily for affective reasons, such as moral obligation, for practical reasons, such as an opportunity to explore career options or enhance one's resume, or for social reasons, such as influence of family or peers.

Flanagan, Jonsson, Botcheva, Csapo, Bowes, Macek, Averin and Sheblanova (1999) found that about 20% of youth in Sweden, 28% in Australia, 60% in Hungary, 46% in the Czech Republic, 42% in Bulgaria, and 23% in Russia engage in volunteerism. In East European countries, ecological projects such as recycling and cleaning up parks, rivers, and public lands are the most common forms of volunteerism. In Australia, youth volunteers most often work on environmental projects. This study showed that youth around the world were most likely to engage in volunteer activities to save the environment, help their society or country, and/or work with those less fortunate.

Japan started to offer school-based opportunities in 1989, with the Ministry of Education promoting the implementation of community service in high schools. A study of the prevalence and impact of volunteerism (Takahashi & Hatano, 1999) found that about 65% of students participated in some form of service through their schools. Most of the students who volunteered in 1993 participated in environmental projects, helped the elderly, or conducted activities to contribute to the “traditional culture,” respectively.

Tapia (2007), explaining the differences between service-learning in North and South America, points to the difference in conceptualization of the term in the two regions. In Argentina, for example, service-learning is expressed as a “solidarity-oriented educational process,” targeted toward meeting a real community demand and specifically planned to enhance academic learning. In other South American and Latin American countries, service-learning is not a balance between service and learning, but rather tips toward one component (service) or the other (learning). Many have a long history of service requirements, counted in months rather than hours. Some countries, such as Columbia, Costa Rica, Santo Domingo, and Venezuela, mandate 30 to 90 service hours per year.

Few studies of the impact of participation in service-learning in countries other than the United States have been conducted. The Chilean Ministry of Education assessed the impact of participation in 200 schools that serve “vulnerable” students and found that there was a strong increase in school attendance and a decrease in dropout and school failure rates (Eroles, 2004). A study of service-learning in Argentinian schools that served disadvantaged youth similarly found improvements in attendance, dropout rates, and achievement test scores.

Participation in service and service-learning has been linked to a variety of outcomes, including civic development. For example, Yates and Youniss (1996) found that students who engaged in service activities in soup kitchens were more likely to develop a sense of agency, social relatedness, and political-moral understandings. Melchior and Bailis (2002) demonstrated that high school students’ participation in service or service-learning had an impact on the acquisition of communication skills, personal and social responsibility for the welfare of others, leadership, and acceptance of diversity. Meyer, Billig, and Hofschire (2004) showed that Michigan high school students who participated in service-learning were both more civically and academically engaged when they participated in service-learning than their peers who did not participate. Most of these studies found that impacts were higher for females than males.

Kahne and Sporte (2008) in their large scale survey found that Chicago high school youth who participated in service-learning were more likely than non-participating peers to develop an ethic of service and become civically engaged over time. The influence of participation in service-learning was stronger than other effects including influences from the family, neighborhood, or school. The effect size of participating in service-learning, however, was relatively modest at .26.

Studies of high school students in sites throughout the United States affirm these findings. Billig, Jesse, and Brodersen (2008), for example, showed that Philadelphia youth in service-

learning programs were also more likely than non-participants to develop an ethic of service, sense of citizenship, and pro-social behaviors than those who did not. Differences were significant, though effect sizes were relatively modest at .28. Billig, Meyer, and Hofschire (2003) found that service-learning students in high schools in Hawaii were significantly more likely than their nonparticipating peers to think that school was stimulating and meaningful. Ammon, Furco, Chi, and Middaugh (2001) found that California students who participated in service-learning were more likely to become civically engaged than their peers, particularly when programmatic goals were clear and adults facilitated student thinking about good citizenship.

## FACTORS THAT INFLUENCE OUTCOMES

Many researchers have found that higher impacts occur when specific service-learning program design characteristics are in place (Billig, 2000; Billig, 2009b; Melchior, 1999; Perry, 1997; Furco & Root, 2010). The characteristics found to be most highly predictive of outcomes were translated into the K-12 Standards and Indicators for High Quality Service-Learning (National Youth Leadership Council, 2008) and include:

- the provision of meaningful service;
- link to curriculum;
- sufficient duration and intensity;
- student voice;
- mutually beneficial partnerships;
- respect for diversity;
- indepth reflection; and
- progress monitoring and ability to see tangible impacts.

A series of studies have tested the influence of these variables on student outcomes and have shown that, as a group, the standards are strongly predictive of academic, civic, and social-emotional impacts of participation in service-learning. For example, Fredericks (2012), in her study of Youth Service America, found that high school students in high quality service-learning programs experienced significantly higher impacts than their peers who participated in programs with low quality. The influence of the quality variables was significant across all outcomes measured, including academic engagement, civic engagement, workforce readiness, and acquisition of civic skills. Effect sizes were in the low range.

Northup's (2011) evaluation of a service-learning program called Schools of Success found that service-learning programs in Grades 6-12 that featured "high quality" service-learning, relative to those with low quality, had statistically significantly greater impacts on students' academic and community engagement. Billig, Northup, and Jaramillo (2012), in their study of Seattle high school students, found a small but significant impact of participation in service-learning on students' development of social responsibility, academic engagement, and interest in careers associated with the service-learning project. Effect sizes were also low.

Across the studies, the quality indicators as a group predicted impacts, and those students in high quality service-learning programs defined by the quality standards experienced significantly higher impacts than those who participated in low quality service-learning and those who did not participate in service-learning. The quality standards that tended to have the highest effects, in descending order, were meaningfulness of the service to the participant; link to curriculum; reflection; tangible results; and respect for opinions/diversity.

Many of the findings from the literature were used to inform this study and generate the research questions to be investigated. Specifically, the study will investigate the influence of demographics and six of the program design characteristics on outcomes for IB students.

## METHODOLOGY

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*This section provides the research questions guiding the study and a description of the methodology used to conduct the study, including a description of the quantitative data collection instruments, data analysis techniques, and sample.*

### RESEARCH DESIGN

The Phase II study was guided by questions that were jointly developed by IB and RMC Research Corporation researchers and then modified based on the findings from the Phase I study. Guiding research questions for Phase II included:

#### STUDENT MOTIVATION

1. Given that participation in service activities is required, what motivates IB Diploma Programme students to engage in particular types of service (e.g., service associated with environment, health-related issues, senior citizens, and other types of service)?
  - a. What motivates students to provide service?
  - b. Does motivation vary by country?
  - c. To what extent is choice of activity influenced by family and friends?
  - d. Does family and friends influence vary by country?
  - e. To what extent is choice of activity influenced by current service and/or connection to faith-based institutions?
  - f. Is motivation related to the types of activities that students select?
  - g. Do alumni have the same motivations and sources of influence on their choice of activities as current IB program participants?

#### EXPERIENTIAL LEARNING ACTIVITIES AND VARIATION BY STUDENT, TEACHER, AND COUNTRY

2. In what types of experiential learning activities and service are IB Diploma Programme students engaged in order to satisfy CAS requirements?
  - a. Which types of activities are most and least prevalent in junior and senior years?
  - b. How do these experiential learning activities vary by country?
  - c. To what extent do students try to fulfill all of their CAS requirements through service?
  - d. At what level do students target their services: local, national, or global?

#### PROGRAM QUALITY

3. To what extent do IB Programmes exhibit program design characteristics associated with high-quality service-learning?

## STUDENT OUTCOMES

4. What impact does service in CAS have on students':
  - a. personal development in terms of sense of self-efficacy?
  - b. personal/social development in terms of leadership skills?
  - c. academic development in terms of research skills?
  - d. civic development in terms of civic attitudes, skills, sense of efficacy and impact on the community?
  - e. development of an ethic of service and continued volunteerism?
  - f. career choices?
  - g. Does impact in any of these areas vary by country?
  - h. Do alumni report the same levels and types of impacts as current students?
5. To what extent do families perceive the positive benefits of the CAS service-related requirements?
6. What demographic, motivation, school, and program design factors influence (moderate) impacts? What is the effect size of these influences?
7. How do the outcomes experienced by IB students compare with outcomes experienced by non-IB students who participate in service-learning activities, as indicated by the research base for the service-learning field?

## SAMPLE SELECTION AND DATA COLLECTION

This study examined the impact of the IB Programme on students in the Americas (Canada, the United States, and South America) currently in their senior year of high school and recent alumni. This section describes the process used for recruiting students and alumni for the study.

### STUDENTS

RMC Research worked with IB Global Research staff on procedures to identify schools for recruiting, to coordinate contact with CAS Coordinators at each school, and to collect data through an online survey. An international sample of IB students was selected by IB Global Research based on consideration of school characteristics including length of IB Diploma Programme authorization, teacher and student population, and geographical location. The sample was intended to yield relatively equal numbers of participants from Canada, the United States, and South America. Schools from the following countries were included in the sample for recruitment: Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Honduras, Paraguay, Peru, United States, Uruguay, and Venezuela.

CAS coordinators at each identified school were first contacted by IB Global Research via e-mail between February and March 2013. This message introduced the purpose of the study,

outlined expectations for the voluntary participation by schools, and notified coordinators to expect a follow up message from RMC Research. RMC Research staff then contacted each coordinator introducing the organization, summarizing the research questions and data collection process to be used, and asked coordinators to respond via e-mail indicating if they agreed or declined to participate. When coordinators agreed to participate, RMC Research confirmed their participation and sent passive parent permission forms to coordinators who were asked to distribute the form to parents of potential student respondents. When coordinators did not respond to RMC’s follow-up message, they were contacted again via e-mail or by telephone. Up to eight contacts were made with each identified site.

Exhibit 1 summarizes the number of schools identified and contacted in each region, along with the number of schools that declined, did not respond, or agreed to participate. Of the 161 schools contacted, 34 schools responded and chose not to participate in the study, 58 schools agreed to participate, and 69 schools did not respond to any message.

**EXHIBIT 1. RECRUITMENT BY REGION**

Region	Number of Schools Contacted	Number of Schools That Declined	Number of Schools That Did Not Respond	Number of Schools That Agreed to Participate
Canada	36	13	6	17
South America	46	6	28	12
United States	79	14	36	29
<b>Total</b>	<b>161</b>	<b>33</b>	<b>70</b>	<b>58</b>

The study was intended to ensure that multiple countries in South America were represented. Schools in 10 countries were contacted. Exhibit 2 shows the status of schools located in each country found in the South American region.

## EXHIBIT 2. RECRUITMENT IN SOUTH AMERICA BY COUNTRY

Country	Number of Schools Contacted	Number of Schools That Declined	Number of Schools That Did Not Respond	Number of Schools That Agreed to Participate
Argentina	13	2	8	3
Bolivia	2	0	1	1
Brazil	3	1	1	1
Chile	8	1	7	0
Colombia	10	2	6	2
Guatemala	1	0	0	1
Honduras	1	0	1	0
Peru	4	0	2	2
Uruguay	1	0	0	1
Venezuela	3	0	2	1
<b>South America Total</b>	<b>46</b>	<b>6</b>	<b>28</b>	<b>12</b>

Each of the 58 coordinators who agreed to allow their school participate in the study was sent an e-mail by RMC Research containing directions for administering the online survey to students whose parents did not return a passive consent form. IB coordinators were asked to administer the online survey between March 5th and April 12th, 2013 by giving students time in class to complete the survey, or to distribute the survey link to students to complete on their own time.

RMC Research asked IB coordinators to report the total number of students asked to complete the survey in order to determine response rates since the student survey was anonymous and response rates could not be tracked without this information. As shown in Exhibits 3 and 4, only two thirds of coordinators supplied their school's final participation estimate to RMC Research. Student sample sizes from these reporting schools varied between three and 88 students. The Exhibit is an estimate and does not reflect the actual survey completion rates due to the anonymity of the survey and non-responses from coordinators.

## EXHIBIT 3. STUDENT PARTICIPATION BY REGION

	Number of Schools That Agreed to Participate	Number of Schools That Reported Student Participation	Number of Students Reported by Schools <sup>a</sup>
Canada	17	14	402
South America	12	8	197
United States	29	17	696
<b>Total</b>	<b>58</b>	<b>39</b>	<b>1,295</b>

<sup>a</sup> This number is not based on survey completed at the school but on the number of students the IB coordinator at the reporting school asked to complete the survey.

#### EXHIBIT 4. STUDENT PARTICIPATION BY SOUTH AMERICAN COUNTRY

	Number of Schools That Agreed to Participate	Number of Schools That Reported Student Participation	Number of Students Reported by Schools <sup>a</sup>
Argentina	3	3	54
Bolivia	1	1	15
Brazil	1	0	n/a
Chile	0	0	n/a
Colombia	2	1	54
Guatemala	1	1	25
Honduras	0	0	n/a
Peru	2	2	32
Uruguay	1	1	17
Venezuela	1	0	n/a
<b>South American Total</b>	<b>12</b>	<b>9</b>	<b>197</b>

<sup>a</sup> This number is not based on survey completed at the school but on the number of students the IB coordinator at the reporting school asked to complete the survey.

## ALUMNI

IB Global Research and RMC Research collaborated to identify a sample of IB alumni to be administered a survey that was similar to the one for the current IB students. IB Global Research e-mailed the online survey link to 1,275 alumni who graduated from an IB Programme within the past 5 years. The alumni were located in: Argentina, Bahamas, Bolivia, Brazil, Canada, Chile, Columbia, Costa Rica, Ecuador, Honduras, Mexico, Nicaragua, Peru, United States, and Venezuela. The first request was sent on April 3, 2013 and a follow-up request was sent on April 19, 2013 in order to increase response rates.

To enhance the sample size, IB Global Research selected another 1,007 alumni from Canada, the United States, and South America who were e-mailed information about the study and the survey link on May 8, 2013. The administration of the alumni survey concluded on May 16, 2013. A total of 2,282 alumni were asked to complete the survey, and 214 responses were collected, resulting in a 9.4% response rate.

## SURVEYS

Two surveys were developed by RMC Research: a student survey and an alumni survey. Students and alumni were able to access the surveys in either English or Spanish. Copies of the English versions of the surveys are included in the Appendix.

**Demographics and Family Characteristics.** Both surveys asked respondents to answer a set of demographic questions that included their geographic location, whether they attend(ed) public

or private school, and their gender. Respondents were also asked to rate their level of engagement with service activities prior to the CAS requirement of the IB Programme.

**Types of CAS Service Activities.** Students currently enrolled in IB Programmes were asked to identify the types of service activities in which they participated during their junior year and their senior year of high school. Alumni were asked to identify the types of service activities they participated when in the IB Programme. Respondents selected either “yes” or “no” for each of the following categories of activities: animal welfare, political, culture/arts, education, environment, faith-based/religious, health issues, social services, sports, fundraising, and other. When respondents selected “yes” for any category, a longer list of specific activities was presented. Respondents were again asked to indicate “yes” or “no” with regard to their participation. If respondents indicated they engaged in “other” types of activities, they were asked to provide a statement describing the activities. Respondents were also asked to indicate if their activities targeted the local, national, and/or global level(s); if they chose their own activities, if the coordinator assigned activities, or if the IB cohort collectively chose the activities; and the components of the CAS requirement (creativity, activity, and service) the service activities fulfilled.

**Motivation to Engage in Service.** Both students and alumni were asked to rate the degree to which a variety of factors may have influenced their participation in service activities during their junior year and their senior year. These items assessed the influence of peers and family on their selection of activity and the degree to which they were motivated by affective and practical reasons. Each item was rated on a 5-point scale, where a rating of 1 = strong negative influence, 2 = negative influence, 3 = no influence, 4 = positive influence, and 5 = strong positive influence. Respondents were also asked a set of items assessing their family’s activism with service or the community. These three items were rated on a 5-point scale where 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly disagree, and 5 = don’t know.

**Quality of Program Design.** The student and alumni surveys included questions about the program design. The design characteristics assessed are those associated with high quality and higher impact in the service-learning literature. First, respondents rated the extent to which reflection activities occurred within their IB Programme. These items assessed the frequency and depth of reflection, including characterization of the types of reflection being used. Items were rated on a 3-point scale where 1 = never, 2 = occasionally, and 3 = frequently. Then respondents were asked to rate their level of agreement with items assessing how meaningful the activities were, if students or alumni were able to help make decisions about the activities (student voice), if there was a link made between their service activities and their classroom curriculum, and if their activities promoted respect for others’ opinions. These items were rated on a 5-point scale where 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly disagree, and 5 = don’t know.

**Impact.** The impacts of the IB Programme on students and alumni were measured through several sets of items. Respondents rated their level of agreement with items related to self-efficacy, civic attitudes, and perceived tangible impacts on a 5-point scale where 1 = strongly

disagree, 2 = disagree, 3 = agree, 4 = strongly disagree, and 5 = don't know. Due to a translation error, respondents rated the extent to which the CAS requirement influenced their leadership and research skills using two different rating scales. Students who selected the English version of the survey, and all alumni regardless of language, rated these items on a 5-point scale where 1 = no influence, 2 = mild influence, 3 = moderate influence, 4 = strong influence, and 5 = don't know. Students completing the Spanish version of the survey also used a 5-point scale but with different response categories where 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree, and 5 = don't know. When rating how well they think they would do when addressing a community need through their civic skills, respondents used a 5-point scale where 1 = not very well, 2 = moderately well, 3 = well, 4 = very well, and 5 = don't know. Respondents' attitudes towards ethic of service were rated on a 4-point agreement scale where 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. When reflecting on the impact their service participation had on their personal, social, civic, and community development respondents used a 4-point scale where 1 = no impact, 2 = a small impact, 3 = a moderate impact, and 4 = a large impact.

**Family Perceptions.** The survey also assessed family perceptions of the CAS requirement. Respondents were first asked to indicate if their families thought the service requirement would have a positive, negative, or no impact on them before their engagement in any of their service activities. They were then asked how their family perceived the service requirement now that they had participated in the service, using the same response categories as before.

**Ethic of Service.** Students and alumni were both asked to rate how likely they would continue to participate in service activities. The student survey had four items in this question and the alumni survey had three items, all rated using a 4-point scale where 1 = not at all likely, 2 = somewhat likely, 3 = likely, and 4 = very likely. The alumni survey also asked respondents to rate the same items on the frequency in which they currently engage in service using a 4-point scale where 1 = never, 2 = rarely, 3 = occasionally, and 4 = frequently. Lastly, the alumni survey asked respondents the extent to which their participation in CAS influenced their career choice, rated on a 5-point scale where 1 = no influence, 2 = small influence, 3 = moderate influence, 4 = large influence, and 5 = don't know.

## DATA ANALYSIS

**Reliability.** The responses of "don't know" were treated as missing data for purposes of statistical analyses. Internal reliability<sup>1</sup> analysis was conducted on responses from the student survey and the alumni survey to develop composite scales which produce more robust measures. The results of the reliability analysis are presented in Exhibit 5. Scales which were at

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<sup>1</sup> Internal reliability is a measure of how well multiple items on an instrument measure the same characteristic. Values range between 0 and 1. Items that cluster together well will have a high reliability coefficient.

or very near an acceptable level of Cronbach's alpha<sup>2</sup> of .7 or higher were retained for analysis. Scales which were not at an acceptable level were analyzed at the item level only.

#### EXHIBIT 5. INTERNAL RELIABILITY OF SCALES

Scale	Student Survey		Alumni Survey	
	N of Items <sup>3</sup>	Cronbach's Alpha	N of Items	Cronbach's Alpha
<b>Motivation Scales</b>				
Junior Year – Influence of Peers	2	.75	2	.70
Junior Year – Influence of Family	3	.64	3	.58
Junior Year – Practical Reasons	6	.70	6	.67
Junior Year – Affective Reasons	5	.85	5	.81
Senior Year – Influence of Peers	2	.79	2	.80
Senior Year – Influence of Family	3	.69	3	.62
Senior Year – Practical Reasons	6	.75	6	.76
Senior Year – Affective Reasons	5	.88	5	.86
Family Activism	3	.90	3	.91
<b>Program Design Scales</b>				
Meaningful Service	3	.87	3	.78
Student Voice	2	.84	2	.83
Frequency of Reflection	3	.62	3	.72
Low Depth of Reflection	2	.62	2	.45
High Depth of Reflection	8	.85	8	.84
<b>Impact Scales</b>				
Self-Efficacy	7	.91	7	.88
Leadership	---	---	12	.95
English Version	12	.96	---	---
Spanish Version	12	.92	---	---
Researching an Issue	---	---	3	.92
English Version	3	.95	---	---
Spanish Version	3	.88	---	---
Civic Attitudes	6	.91	6	.90
Civic Development Skills	6	.88	6	.86
Perceived Tangible Impacts	5	.72	5	.68
Ethic of Service (Attitudes)	6	.90	6	.85
Ethic of Service Behaviors	4	.85	3	.89
Ethic of Service (Current Behaviors)	---	---	3	.82
Overall Impacts	5	.91	5	.91

**Analysis.** This report examined students and alumni in the aggregate and by respondents' region to explore for regional differences. Descriptive data from student and alumni surveys were reported through frequency distributions and measures of central tendency (means and

<sup>2</sup> Cronbach's alpha is a measure of the reliability or internal consistency of a composite measure or scale based on multiple survey items. Values range from 0 to 1.

<sup>3</sup> N is the total number in a sample. n is the number in a subsample.

standard deviations).<sup>4</sup> Changes in ratings for respondents who were seniors and answered questions for both their junior and senior years were analyzed using paired samples *t* tests.<sup>5</sup> Differences in ratings by region were examined through the analysis of variance (ANOVA)<sup>6</sup> tests. The ANOVA test was also used to explore differences between student and alumni ratings. The Pearson product-moment correlation<sup>7</sup> was conducted when examining the association between two measures. Effect sizes<sup>8</sup>, using Cohen's *d*<sup>9</sup>, were reported for any statistically significant finding.<sup>10</sup>

To examine moderating factors associated with program impacts, a series of ANOVAs were conducted. Ratings of motivation, program design including reflection and meaningful service, and ethic of service along with respondent demographics were explored as moderators.

## SAMPLE CHARACTERISTICS: CURRENT STUDENTS AND ALUMNI

Overall, 962 student responses and 214 alumni responses were analyzed. The sample of currently enrolled students was comprised of 81% who completed the English survey and 19% who completed the Spanish survey. The alumni sample had similar characteristics, with 82% completing English surveys and 18% completing Spanish surveys. Exhibit 6 displays the geographic location of students and alumni who completed surveys. Nineteen countries are represented in the sample. There was no representation from the following countries: Barbados, Bermuda, Cayman Islands, Curacao, Dominican Republic, El Salvador, Jamaica, Panama, Paraguay, Saint Maarten, British Virgin Islands, and the U.S. Virgin Islands.

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<sup>4</sup> The mean or average value is a measure of central tendency computed by adding a set of values and dividing the sum by the total number of values. The standard deviation (*SD*) is a measure of how spread out a set of values is. Higher standard deviations indicate greater variability in data across respondents.

<sup>5</sup> The paired samples *t* test (*t*) is used when there are repeated measures over time, or when it is possible to take each measurement in one sample and pair it sensibly with one measurement in the other sample. This might be because measurements were taken from the same group twice (repeated measures) or there is some other way to join measurements. In this case, responses about junior year were paired with responses about senior year.

<sup>6</sup> Analysis of variance (ANOVA) is a statistical procedure that examines differences in outcomes for two or more groups. The *F* statistic provides a basis to test for statistical significance when used in analysis of variance.

<sup>7</sup> The Pearson product-moment correlation coefficient (*r*) is a measure of the relationship between two variables; in other words, a measure of the tendency of the variables to increase or decrease together. Values range from -1 to +1. A correlation of +1 indicates perfect positive correlation (i.e., that the two variables increase or decrease together). A correlation of -1 indicates perfect negative correlation (i.e., that one variable decreases as the other increases, or vice versa).

<sup>8</sup> Effect size (ES) is a name given to a family of indices that measure the magnitude of a treatment effect, represented by differences in outcomes across groups. Unlike significance tests, these indices are independent of sample size.

<sup>9</sup> Cohen's *d* is a measure of effect size, designed to measure the magnitude of treatment effect. Traditionally these effect sizes are measured as "small, *d* = .2," "medium, *d* = .5," and "large, *d* = .8."

<sup>10</sup> Statistically significant findings are those that have a low probability ( $p < .05$ ) that the results are due to chance. The *p*-value is an indicator that represents the likelihood that observed results occurred by chance. In education research, values of  $p < .05$  (i.e., values indicating that observed results had a less than a 5% chance of occurring by chance) are typically used to identify results that are statistically significant. Lower *p*-values indicate a smaller likelihood that observed results occurred by chance and are therefore associated with statistically significant findings.

**EXHIBIT 6. GEOGRAPHIC LOCATION OF RESPONDENTS**

Country/Territory	Student Survey		Alumni Survey	
	<i>n</i>	Percentage	<i>n</i>	Percentage
Antigua and Barbuda	2	0.2	0	0.0
Argentina	53	5.4	6	2.8
Bahamas	0	0.0	1	0.5
Bolivia	17	1.8	1	0.5
Brazil	18	1.9	4	1.9
Canada	294	30.6	64	29.8
Chile	0	0.0	6	2.8
Columbia	45	4.6	7	3.3
Costa Rica	0	0.0	3	1.4
Ecuador	0	0.0	10	4.7
Guatemala	25	2.6	0	0.0
Honduras	0	0.0	1	0.5
Mexico	0	0.0	21	9.8
Nicaragua	0	0.0	1	0.5
Peru	31	3.2	6	2.8
Trinidad and Tobago	1	0.1	0	0.0
United States	432	44.9	80	37.3
Uruguay	14	1.5	0	0.0
Venezuela	14	1.5	2	0.9
Other	0	0.0	1	0.5
Missing Response	16	1.7	0	0.0
<b>Total</b>	<b>962</b>	<b>100.0</b>	<b>214</b>	<b>100.0</b>

Alumni who responded to the survey were graduated between 2007 and 2013, most often during 2011. Exhibit 7 reveals that two thirds of all students and alumni attend or attended public schools and one third was enrolled in private schools. However, regional analysis shows that the private school sample was comprised primarily by those who reside in South American countries.

There were slightly more currently enrolled female students and alumni than currently enrolled males who completed surveys. The majority of students and alumni indicated that they participated in service activities prior to the CAS requirement “sometimes”, “regularly”, or “frequently”.

**EXHIBIT 7. RESPONDENT DEMOGRAPHICS**

	Canada				United States				South America				All			
	Students (N = 294)		Alumni (N = 64)		Students (N = 432)		Alumni (N = 80)		Students (N = 220)		Alumni (N = 70)		Students (N = 962)		Alumni (N = 214)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
<b>Type of School</b>																
Public	245	83.3	53	82.8	384	88.9	72	90.0	2	0.9	11	15.7	639	66.4	136	63.6
Private	49	16.7	11	17.2	47	10.9	7	8.8	217	98.6	59	84.3	321	33.4	77	36.0
Missing Response	0	0.0	0	0.0	1	0.2	1	1.3	1	0.5	0	0.0	2	0.2	1	0.5
<b>Gender</b>																
Male	122	41.5	23	35.9	175	40.5	28	35.0	97	44.1	36	51.4	400	41.6	87	40.7
Female	168	57.1	40	62.5	252	58.3	51	63.8	123	55.9	34	48.6	553	57.5	125	58.4
Missing Response	4	1.4	1	1.6	5	1.2	1	1.3	0	0.0	0	0.0	9	0.9	2	0.9
<b>Level of engagement with service activities prior to the CAS requirement</b>																
Never	11	3.7	1	1.6	15	3.5	3	3.8	12	5.5	10	14.3	38	4.0	14	6.5
Rarely - Less than once per year	29	9.9	8	12.5	40	9.3	10	12.5	41	18.6	8	11.4	112	11.6	26	12.1
Sometimes - More than once a year, but less than once a month	81	27.6	18	28.1	118	27.3	25	31.3	79	35.9	23	32.9	282	29.3	66	30.8
Regularly - At least once a month	73	24.8	21	32.8	129	29.9	28	35.0	54	24.5	11	15.7	259	26.9	60	28.0
Frequently - At least once a week	100	34.0	16	25.0	130	30.1	14	17.5	34	15.5	18	25.7	271	28.2	48	22.4

*Note.* The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America.

## FINDINGS

### MOTIVATION TO PARTICIPATE

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*This section includes information on IB students' motivation to participate in service activities, influences on their motivation, the types of service provided, the impacts from participation, and the program design characteristics that influenced outcomes.*

### PRACTICAL V. AFFECTIVE MOTIVATIONS TO PROVIDE SERVICE

As stated in the literature review, research indicates that students vary in their motivation to participate in service activities. Some choose their activities for practical reasons like resume enhancement or fulfilling a requirement, and some because they want to make a difference in the world.

To determine the motivation of IB students to provide service, respondents were asked to respond to a question about the degree and direction (positive or negative) of influence of a set of 16 reasons that students typically cite when they are asked why they participate in service. Items related to the 16 reasons formed two subscales:

- *practical motivation*, which refers to practical considerations such as desire to work with friends during the activities, improving their resumes, and continuing an activity in which they were already involved; and
- *affective motivation*, which includes factors such as students' interest in a certain issue, their desire to have an impact on a local/national/global level, and their desire to serve a certain population or work on a particular issue because they believed they could make a tangible impact on the targeted group or issue.

Results of the analysis on practical v. affective motivations for participating in service are shown in Exhibit 8. Students reported they were more motivated by affective reasons than practical reasons. Differences in the degree of influence of practical v. affective factors were small.

Additional analysis showed that the desire to engage in service for *practical* reasons increased from junior to senior year. These differences were statistically significant for currently enrolled Canadian students.<sup>11</sup> Alumni from Canada or the United States also were more likely to choose their activities for practical reasons during their senior year than their junior year.<sup>12</sup> In all regions, the effect size of the change was very small.

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<sup>11</sup> Practical Reasons: For Canadian students, ratings from junior year ( $M = 3.71, SD = .56$ ) to senior year ( $M = 3.75, SD = .59$ ) significantly increased with a small effect size,  $t(263) = 2.599, p < .01, d = .07$ .

<sup>12</sup> Practical Reasons: For Canadian alumni, ratings from junior year ( $M = 3.88, SD = .45$ ) to senior year ( $M = 3.91, SD = .49$ ) significantly increased with a small effect size,  $t(64) = 2.874, p < .01, d = .06$ . For alumni from the United States, ratings from junior year ( $M = 3.88, SD = .64$ ) to senior year ( $M = 3.93, SD = .67$ ) significantly increased with a small effect size,  $t(80) = 3.096, p < .01, d = .08$ .

## EXHIBIT 8. STUDENTS' MOTIVATION TO PARTICIPATE IN SERVICE ACTIVITIES: PRACTICAL V. AFFECTIVE

Motivation to Participate in Activities	Student Ratings						Alumni Ratings					
	Junior Year			Senior Year			Junior Year			Senior Year		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Practical Reasons Subscale</b>												
Canada	275	3.72	.56	266	3.75	.59	64	3.82	.45	64	3.91	.49
United States	402	3.75	.58	396	3.75	.60	80	3.68	.53	80	3.78	.58
South America	207	3.49	.43	196	3.50	.47	70	3.64	.54	70	3.70	.61
<b>All Students<sup>a</sup></b>	<b>898</b>	<b>3.68</b>	<b>.55</b>	<b>871</b>	<b>3.69</b>	<b>.58</b>	<b>214</b>	<b>3.71</b>	<b>.51</b>	<b>214</b>	<b>3.79</b>	<b>.57</b>
<b>Affective Reasons Subscale</b>												
Canada	275	3.90	.69	266	3.89	.71	64	4.03	.56	64	4.06	.58
United States	401	3.94	.70	396	3.91	.71	80	3.87	.64	80	3.93	.67
South America	207	3.79	.66	194	3.74	.65	70	3.95	.66	70	3.98	.71
<b>All Students<sup>a</sup>/Alumni</b>	<b>897</b>	<b>3.89</b>	<b>.69</b>	<b>869</b>	<b>3.87</b>	<b>.70</b>	<b>214</b>	<b>3.94</b>	<b>.63</b>	<b>214</b>	<b>3.99</b>	<b>.66</b>

*Note.* Students and alumni rated items on a 5-point Likert scale where 1 = Strong Negative Influence, 2 = Negative Influence, 3 = No Influence, 4 = Positive Influence, and 5 = Strong Positive Influence. <sup>a</sup> The All Students row includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

To further explore which of the specific reasons had the greatest influence on students, an item analysis was conducted. Exhibit 9 shows that the practical reason for participation that had the most influence was selecting an activity that allowed students to meet all of their CAS requirements (creativity, action, and service) at the same time. Other influential practical reasons, in descending order of magnitude, were:

- engaging in an activity in which students were already involved;
- improving their resumes; and
- convenience.

The connectedness of service to schoolwork was somewhat less influential than the rest of the practical reasons. This is likely because few students made a connection to schoolwork, as will be apparent later in this report.

South American students were less influenced by engaging in something in which they were already involved, improving their resumes, and convenience than their North American peers.

## EXHIBIT 9. MOTIVATION BY PRACTICAL REASONS BY REGION

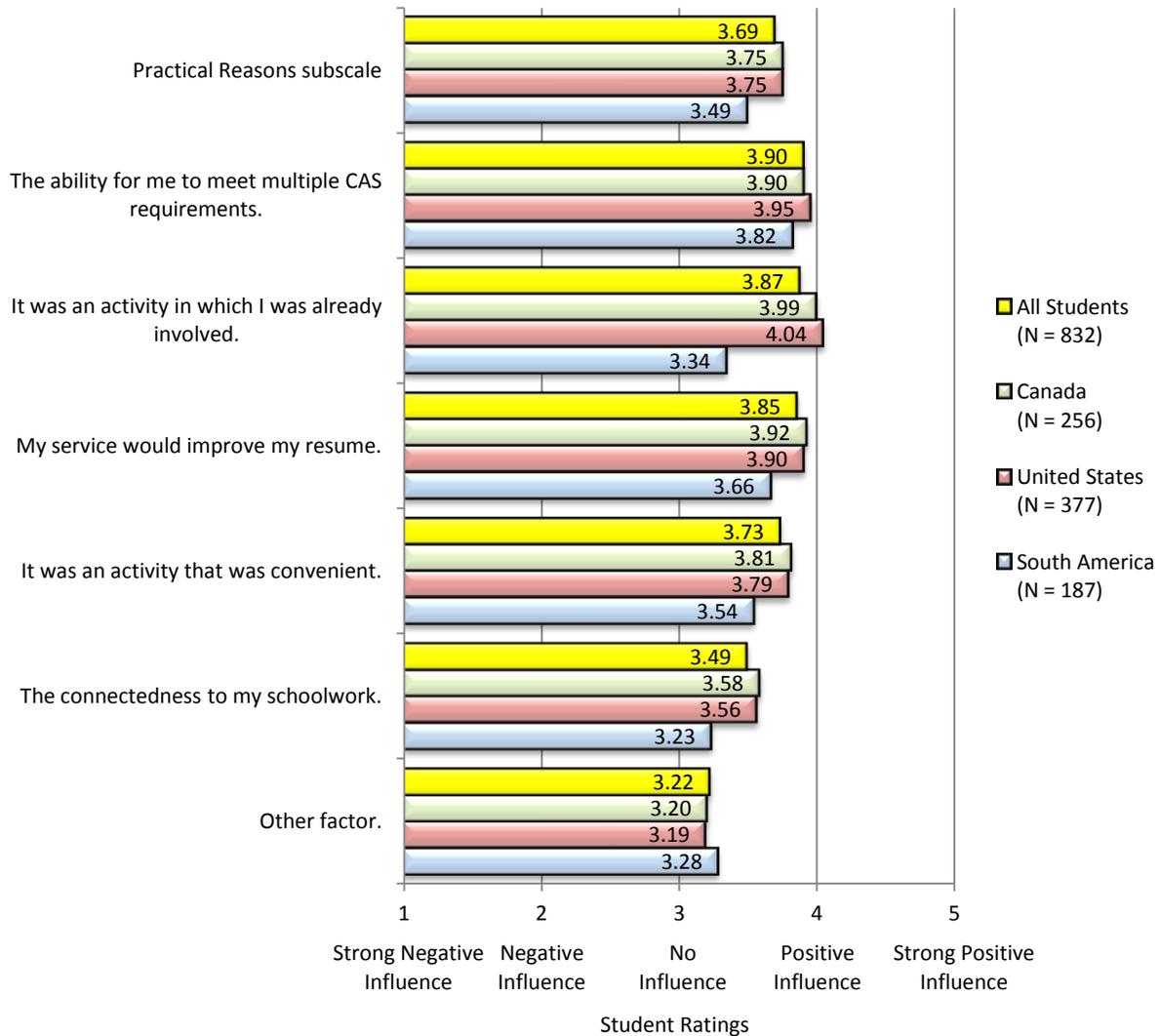
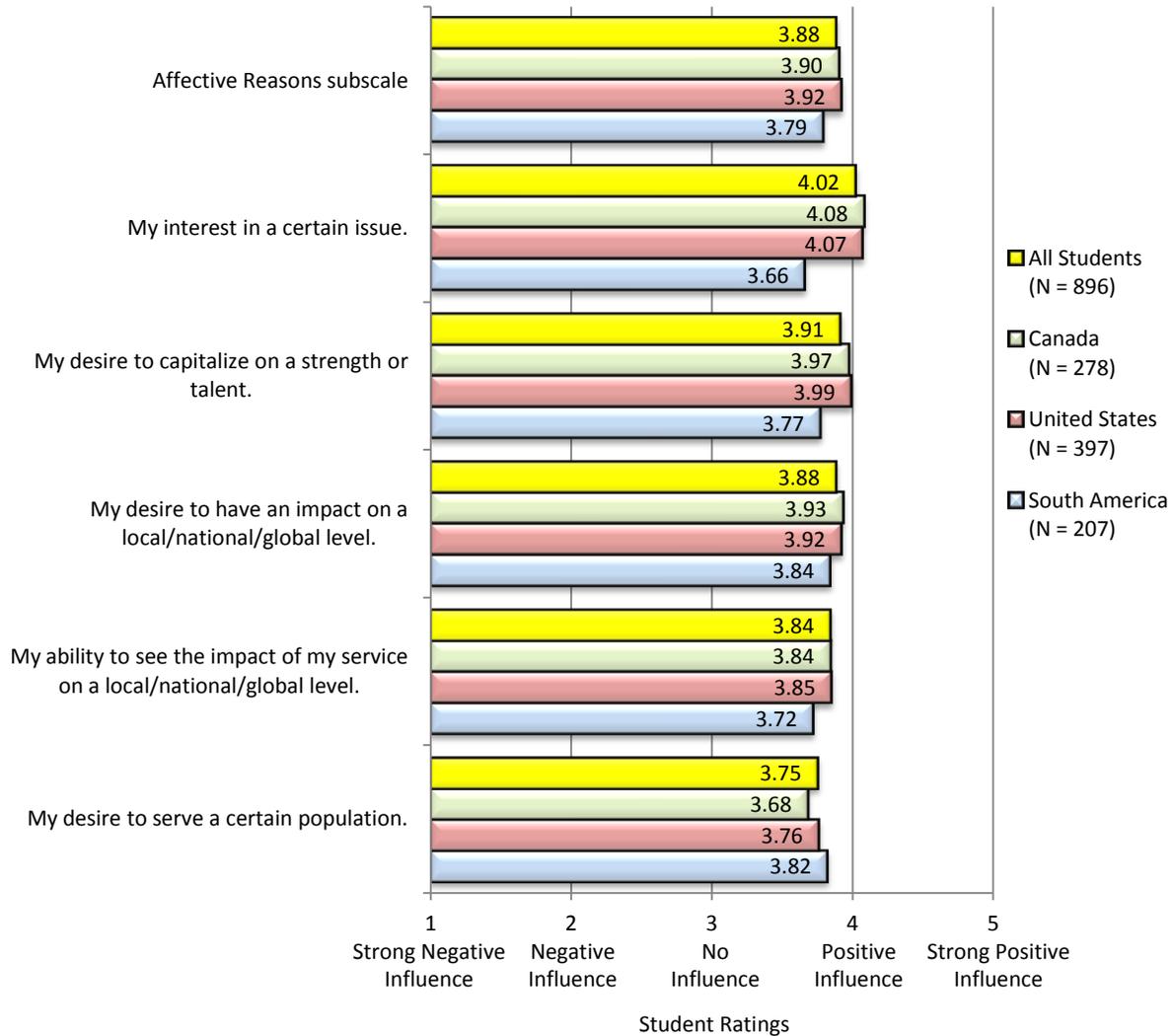


Exhibit 10 shows the degree of influence of specific affective reasons for engaging in service on students' motivation to participate. Students reported that the most influential affective reason was interest, followed by their desire to capitalize on a strength or talent, desire to have or to see an impact from their efforts, and interest in a particular population respectively. The degree of influence of each of these factors was about the same. South American students were somewhat less likely to be influenced by interest or capitalizing on their strengths and more likely to be influenced by the nature of the population being served than their North American peers.

**EXHIBIT 10. AVERAGE STUDENT MOTIVATION RATINGS  
FOR THE AFFECTIVE REASONS SUBSCALE**



**INFLUENCE OF PEERS, PARENTS, AND CONNECTION TO A RELIGIOUS INSTITUTION**

Research summarized in the literature review shows that adolescents tend to be influenced in their particular choices of behaviors by friends and family. Motivation to serve has also been found to be strongly influenced by a students’ degree of connection to a religious institution. These relationships were tested in this study.

**INFLUENCE OF PEERS**

As shown in Exhibit 11, peers had a small positive effect on students’ motivation to participate. Peers’ choices for service had the strongest influence on students from Canada, though differences between regions were very small and were not statistically significant.

Influence of peers diminished between their junior and senior years for all students. The decline of peer influence was statistically significant for South American students but not for students from North America.<sup>13</sup>

Alumni ratings of the influence of peers on their decisions were similar to those of current students. A small positive influence was reported. There were no statistically significant differences between regions.

**EXHIBIT 11. INFLUENCE OF PEERS ON STUDENTS’ MOTIVATION TO PARTICIPATE IN SERVICE ACTIVITIES**

Motivation to Participate in Activities	Student Ratings						Alumni Ratings					
	Junior Year			Senior Year			Junior Year			Senior Year		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
<b>Influence of Peers Subscale</b>												
Canada	276	3.87	.71	266	3.79	.76	64	3.90	.61	64	3.85	.68
United States	401	3.84	.75	396	3.81	.76	80	3.78	.72	80	3.78	.75
South America	207	3.79	.69	193	3.69	.71	70	3.84	.75	70	3.82	.76
<b>All Students<sup>a</sup>/Alumni</b>	<b>898</b>	<b>3.83</b>	<b>.72</b>	<b>868</b>	<b>3.78</b>	<b>.75</b>	<b>214</b>	<b>3.83</b>	<b>.70</b>	<b>214</b>	<b>3.81</b>	<b>.73</b>

*Note.* Students rated items on a 5-point Likert scale where 1 = Strong Negative Influence, 2 = Negative Influence, 3 = No Influence, 4 = Positive Influence and 5 = Strong Positive Influence. <sup>a</sup> The All Students row includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

**Family Influence.** Exhibit 12 shows influence of family recommendation and previous participation in particular activities on students’ motivation to participate. Family’s recommendation had a small positive influence on student choices. The extent of influence of the family’s recommendation significantly decreased over time for students from the United States, though the effect size was small.<sup>14</sup> Families’ previous participation in the specific service activities, reported in Exhibit 12, also had a slight positive influence on students. There were no statistically significant differences in influence between regions or between students in their junior or senior years.

Because family activism is often associated with influence on student service, IB students were also asked to indicate the extent to which their families were active in the provision of service. The extent of family activism was then correlated to reasons for providing service.

Exhibits 13 and 14 reveal relatively little family participation in service among current IB students and IB alumni. Parents were least likely to be involved in local issues. There were no differences between regions on this measure. For all students, though, family activism was

<sup>13</sup> Influence of Peers: For South American students, ratings from junior year ( $M = 3.78, SD = .69$ ) to senior year ( $M = 3.69, SD = .71$ ) significantly decreased with a small effect size,  $t(193) = 2.664, p < .01, d = .13$ .

<sup>14</sup> Family’s recommendation: For students from the United States, ratings from junior year ( $M = 3.55, SD = .83$ ) to senior year ( $M = 3.49, SD = .81$ ) significantly decreased with a small effect size,  $t(393) = 2.256, p < .05, d = .07$ .

positively correlated with affective reasons during students' junior and senior years.<sup>15</sup> Family activism was also positively correlated with students reporting they engaged in activities because of their family's recommendation of the activities, their family's previous participation in the activities, and their own involvement in a religious organization.<sup>16</sup>

**EXHIBIT 12. INFLUENCE OF FAMILY IN MOTIVATION TO PARTICIPATE IN SERVICE ACTIVITIES**

Motivation to Participate in Activities	Student Ratings						Alumni Ratings					
	Junior Year			Senior Year			Junior Year			Senior Year		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Influence of Family Items</b>												
<i>My family's recommendation of the activities.</i>												
Canada	275	3.53	.77	266	3.48	.76	64	3.55	.62	64	3.44	.61
United States	400	3.55	.84	395	3.49	.80	80	3.53	.75	80	3.54	.75
South America	206	3.39	.68	194	3.34	.70	69	3.26	.76	69	3.30	.71
All Students <sup>a</sup>	895	3.51	.78	868	3.45	.77	213	3.45	.72	213	3.43	.70
<i>My family's previous participation in the activities.</i>												
Canada	274	3.33	.74	266	3.32	.76	64	3.45	.69	64	3.39	.66
United States	396	3.42	.79	393	3.41	.77	80	3.29	.75	80	3.34	.71
South America	205	3.26	.71	193	3.27	.74	69	3.16	.70	69	3.18	.70
<b>All Students<sup>a</sup>/Alumni</b>	<b>889</b>	<b>3.36</b>	<b>.76</b>	<b>865</b>	<b>3.35</b>	<b>.76</b>	<b>213</b>	<b>3.30</b>	<b>.72</b>	<b>211</b>	<b>3.30</b>	<b>.69</b>

Note. Students and alumni rated items on a 5-point Likert scale where 1 = Strong Negative Influence, 2 = Negative Influence, 3 = No Influence, 4 = Positive Influence and 5 = Strong Positive Influence. <sup>a</sup> The All Students row includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

**EXHIBIT 13. FAMILY ACTIVISM OF CURRENT STUDENTS: PARENT INVOLVEMENT IN SERVICE AND LOCAL ISSUES**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Family Activism Scale</b>	<b>252</b>	<b>2.32</b>	<b>.81</b>	<b>362</b>	<b>2.45</b>	<b>.88</b>	<b>184</b>	<b>2.44</b>	<b>.80</b>	<b>811</b>	<b>2.41</b>	<b>.84</b>
My parents/guardians are active in the community.	246	2.39	.91	360	2.49	.95	178	2.53	.93	797	2.47	.93
My parents/guardians are active with local issues (e.g., school board, city council).	245	2.25	.87	357	2.39	.97	177	2.34	.87	792	2.34	.92
My parents/guardians do volunteer work in our community.	244	2.31	.88	357	2.43	.94	175	2.39	.94	788	2.39	.92

<sup>15</sup> Correlation between Family Activism and Affective Reasons:  $r(806) = .123, p < .001, d = .25$  for junior year and  $r(781) = .135, p < .001, d = .27$  for senior year. However, by region this positive association was only found for United States students' junior year ratings,  $r(361) = .160, p < .01, d = .32$  and senior year ratings,  $r(356) = .176, p < .001, d = .36$ . The associations for Canadian and South American students were not statistically significant.

<sup>16</sup> Statistically significant positive correlations were found between family activism and family's recommendation of the activities,  $r(973) = .244, p < .001, d = .50$ ; family's previous participation in the activities,  $r(972) = .284, p < .001, d = .59$ ; and respondents' involvement in a religious organization,  $r(970) = .111, p < .001, d = .22$ .

*Note.* Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

#### EXHIBIT 14. FAMILY ACTIVISM OF ALUMNI: PARENT INVOLVEMENT IN SERVICE AND LOCAL ISSUES

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Family Activism Scale</b>	<b>53</b>	<b>2.40</b>	<b>.85</b>	<b>61</b>	<b>2.26</b>	<b>.89</b>	<b>52</b>	<b>2.28</b>	<b>.94</b>	<b>166</b>	<b>2.31</b>	<b>.89</b>
My parents/guardians are active in the community.	52	2.44	.90	60	2.33	1.02	51	2.29	1.03	163	2.36	.98
My parents/guardians are active with local issues (e.g., school board, city council).	52	2.35	.93	59	2.25	1.01	50	2.26	1.03	161	2.29	.98
My parents/guardians do volunteer work in our community.	53	2.42	.91	58	2.16	.91	50	2.16	1.00	161	2.24	.94

Note. Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scales.

**Religiosity.** Involvement in a religious organization had a slight positive influence on students' motivation to participate in service activities, as shown in Exhibit 15. The influence was statistically significantly higher in the United States than in other regions. In addition, alumni from Canada and South America indicated that their involvement in a religious organization had a stronger influence on them during their senior year than their junior year.<sup>17</sup>

#### EXHIBIT 15. INFLUENCE OF RELIGIOSITY ON STUDENTS' MOTIVATION TO PARTICIPATE IN SERVICE ACTIVITIES

Motivation to Participate in Activities	Student Ratings						Alumni Ratings					
	Junior Year			Senior Year			Junior Year			Senior Year		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<i>My involvement in a religious organization.</i>												
Canada	275	3.05	.89	266	3.06	.88	64	3.06	.85	64	3.19	.92
United States	399	3.25	.94	392	3.29	.89	80	3.26	.94	80	3.30	.97
South America	204	3.07	.94	191	3.10	.87	69	2.97	.87	69	3.09	.82
<b>All Students<sup>a</sup>/Alumni</b>	<b>892</b>	<b>3.15</b>	<b>.93</b>	<b>862</b>	<b>3.18</b>	<b>.89</b>	<b>213</b>	<b>3.11</b>	<b>.90</b>	<b>213</b>	<b>3.20</b>	<b>.91</b>

Note. Students and alumni rated items on a 5-point Likert scale where 1 = Strong Negative Influence, 2 = Negative Influence, 3 = No Influence, 4 = Positive Influence and 5 = Strong Positive Influence. <sup>a</sup> The All Students row includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

<sup>17</sup> Involvement in a religious organization: For Canadian alumni, ratings of the influence of their participation in religious organization from junior year ( $M = 3.06$ ,  $SD = .85$ ) to senior year ( $M = 3.19$ ,  $SD = .93$ ) significantly increased over time with a small effect size,  $t(64) = 2.201$ ,  $p < .05$ ,  $d = .15$ . For South American alumni, ratings from junior year ( $M = 2.97$ ,  $SD = .87$ ) to senior year ( $M = 3.09$ ,  $SD = .82$ ) significantly increased over time with a small effect size,  $t(80) = 2.387$ ,  $p < .05$ ,  $d = .14$ .

## MOTIVATION RELATED TO ACTIVITY TYPE

Motivation was also examined by the types of activities in which students participated for their service. Current students' motivation for each type of activity was consistently higher for affective reasons than for any other motivating factor. Motivation for participating in particular activities was found to vary by region. A summary of the correlation between motivational factors and type of activity in which current students participated is presented in Exhibit 16.

**EXHIBIT 16. GREATEST MOTIVATOR FOR SELECTING ACTIVITY TYPE**

Activity	Canada		United States		South America		All	
	Students	Alumni	Students	Alumni	Students	Alumni	Students	Alumni
Animal Welfare	Resume	Resume	Interest	Interest	Friends	Interest	Interest	Interest
Political	Interest	Interest	Interest/ Already Involved	Interest	Have an Impact	Interest	Interest	Interest
Culture/Arts	Interest	Interest	Interest	Already Involved	Friends	Multiple CAS Requirements	Interest	Interest
Education	Interest	Interest	Interest	Interest	Friends	Multiple CAS Requirements	Interest	Interest
Environment	Interest	Interest	Interest	Interest	Friends	Interest	Interest	Interest
Faith Based	Interest	Already Involved	Interest	Already Involved	Friends	Serve Certain Population	Interest	Already Involved
Health Issues	Interest	Interest	Interest	Capitalize Strength	Friends	Friends	Interest	Interest
Social Services	Have an Impact	Interest	Interest	Interest	Friends	Friends	Interest	Interest
Sports	Interest	Interest	Interest	Interest	Friends	Friends	Interest	Interest
Fundraising	Interest	Interest	Interest	Already Involved	Friends	Friends	Interest	Interest

This Exhibit shows differences by region:

- Students and alumni from Canada were mostly influenced by their interest in a certain issue. The exceptions were currently enrolled students and alumni who participated in activities related to animal welfare, who were influenced by improving their resume; currently enrolled students who engaged in social service activities because they wanted to have an impact on a local, national, or global level; and alumni who engaged in faith-based activities, who tended to do so because they were already involved.
- Currently enrolled students and alumni from the United States were also mostly influenced by interest in a certain topic. Those students who engaged in political activities were equally influenced by interest and because they were already involved in the activity. Alumni, though, were most often influenced by previous involvement when

they selected culture/arts, faith-based activities, and fundraising. Alumni who provided service in the health arena most often said they were capitalizing on their strengths.

- In contrast to the North Americans, South American students were mostly influenced by their desire to work with friends. The exception for currently enrolled students was for those who engaged in political activities who were more highly influenced by the desire to have an impact. Alumni who provided service in the culture/arts and education were most influenced by the desire to meet multiple CAS requirements simultaneously. Those who provided faith-based services wanted to serve specific populations.

## FINDINGS

### STUDENTS' CAS ACTIVITIES

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*This section describes the types of CAS activities in which the students engaged in their junior and senior years.*

Creativity, action, and service (CAS) is a required part of the IB Program. Creativity is interpreted broadly by IB and can include a wide range of arts activity and/or creative ways to design and implement service projects. Action is also broadly defined by IB and can include activities such as participation in service, individual or team sports, expeditions, and/or national and international projects. Service encompasses a wide range of community and social service and can include any activity that benefits others.

As part of their IB requirements, students are expected to be involved in CAS activities for the equivalent of 3 hours a week during the 2 years of the IB Programme. Each school has a CAS coordinator who helps students choose activities and oversees the CAS portion of the program. Students typically engage in some sort of reflection on their CAS activities to understand the benefit of participation on themselves and others. Students can choose a variety of activities to fulfill the CAS requirement.

To document the types of activities selected by the students and to determine whether there were differences in the activities selected during their junior and senior years, students were asked to respond to survey items that represented a wide range of activities in multiple domains, including the arts, education, environment, health, sports, or politics.

### CURRENT STUDENTS' JUNIOR YEAR

Juniors participated in a wide range of activities to fulfill their CAS requirements, as shown in Exhibit 17. The most popular activities for juniors in the aggregate were related to education and fundraising, with 65% of all students participating in each of these activities. About 60% participated in activities related to culture/the arts, social services, and sports. The least popular activities of those measured were working on animal welfare, political activities, and faith-based activities. Students participated in an average of five general types of activities (ranged between 0 and 11) and seven of the specific activities found on the survey (range between 0 and 47) during their junior year.

**EXHIBIT 17. CAS ACTIVITIES CONDUCTED BY CURRENT STUDENTS IN THEIR JUNIOR YEAR (N = 962)**

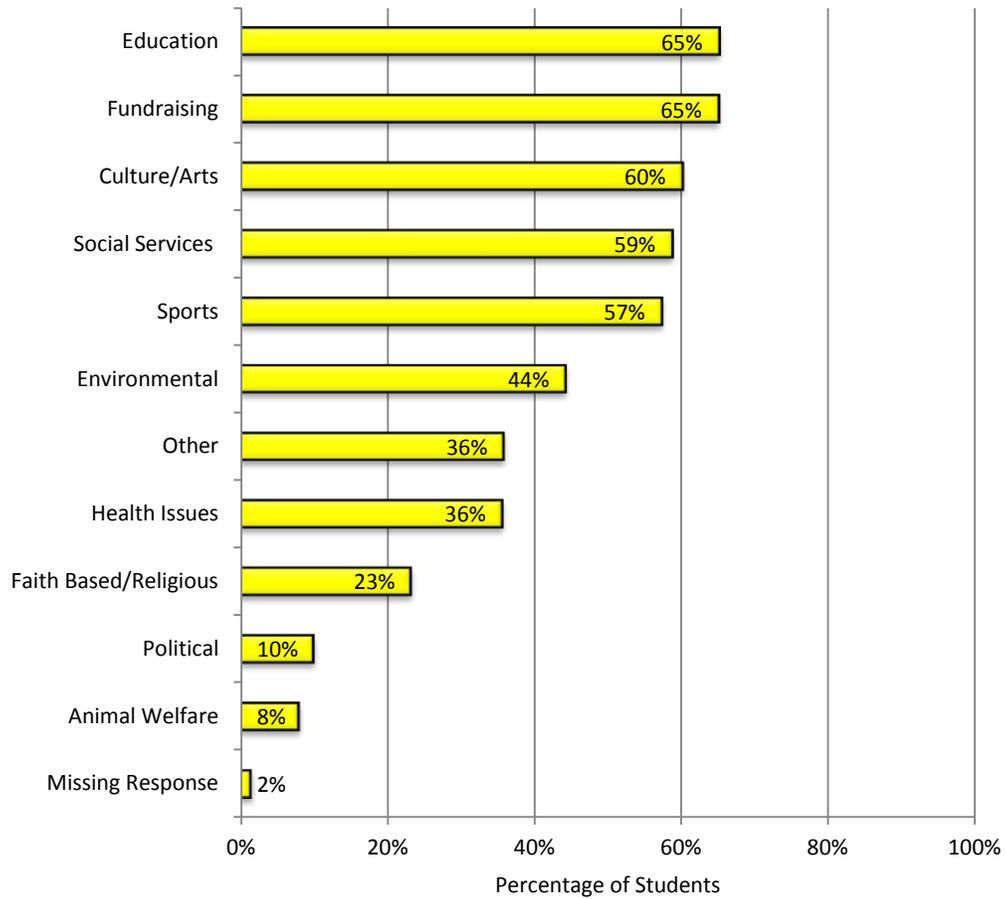
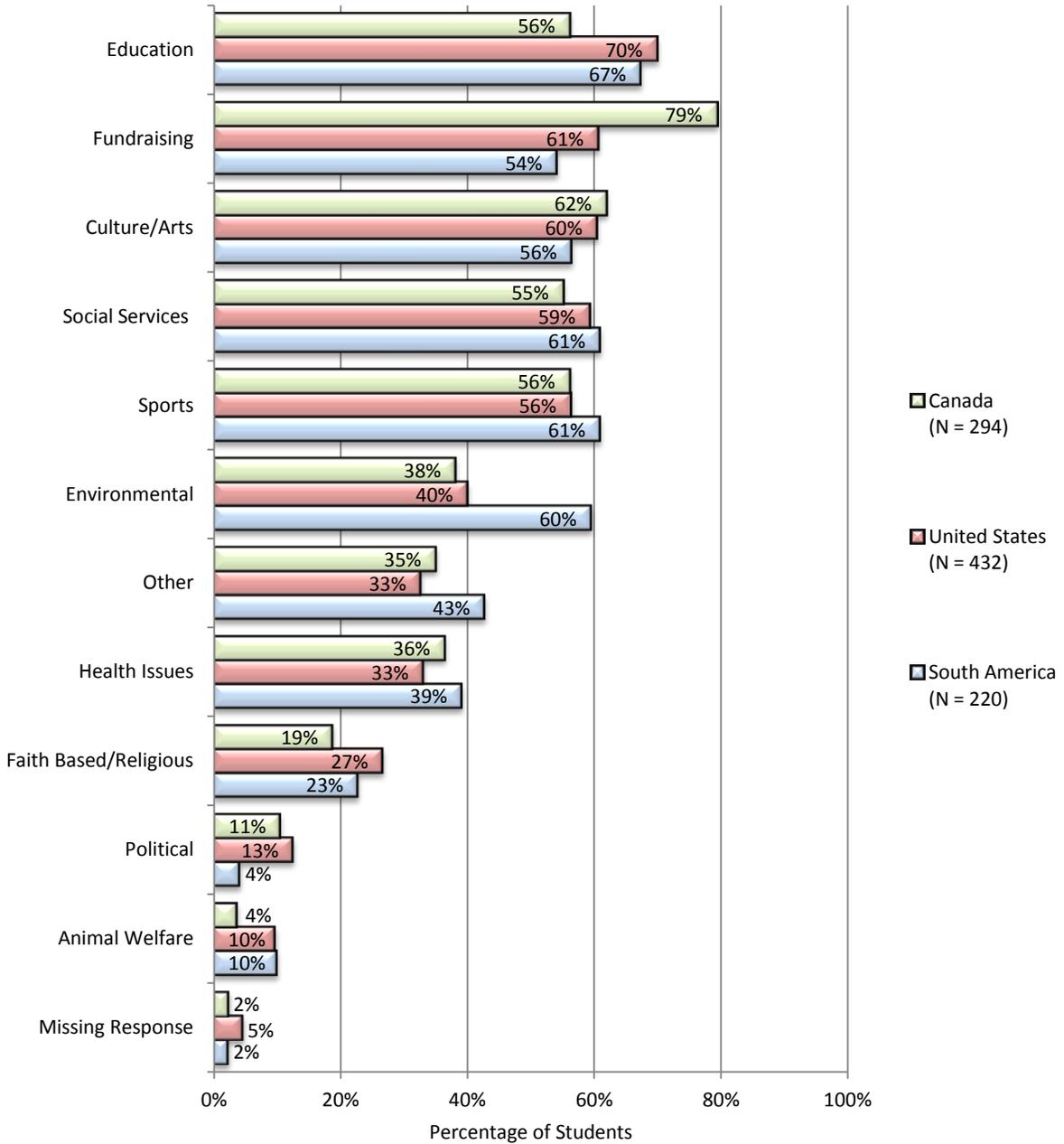


Exhibit 18 provides data on differences in juniors' CAS activities by region. Juniors from North America were most likely to engage in fundraising, culture/arts, faith-based/religious, and education while those from South America were most likely to participate in activities related to education, social services, sports, and the environment.

**EXHIBIT 18. CAS ACTIVITIES CONDUCTED BY CURRENT STUDENTS IN THEIR JUNIOR YEAR, BY REGION**

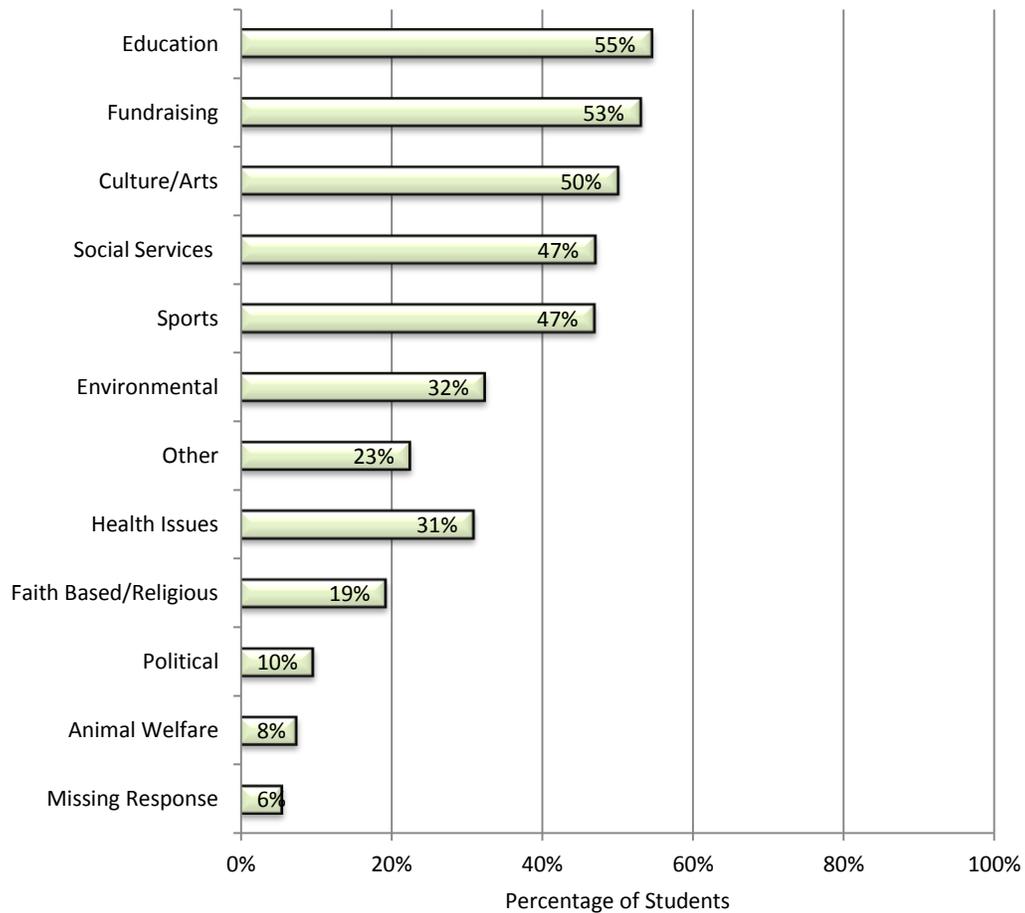


*Note.* Percentages do not sum to 100 because students could select more than one activity. Missing responses include students who did not indicate a yes response to any junior year activity but who may have indicated senior year activities and answered impact related questions.

## STUDENTS' SENIOR YEAR

As shown in Exhibit 19, about half of the seniors in the aggregate participated in activities related to education, fundraising, culture/arts, social services, and sports. Similar to findings from junior activities, students were least likely to engage in animal welfare, political activities, and faith-based activities during their senior year. Students participated in an average of four types of general activities (range between 0 and 11) and six specific activities (range between 0 and 41) found on the survey during their senior year.

**EXHIBIT 19. CAS ACTIVITIES CONDUCTED BY CURRENT STUDENTS IN THE SENIOR YEAR**



Comparison tests revealed that students engaged in fewer types of service activities during their senior year (average of four activities) than in their junior year (average of five activities).<sup>18</sup> The same was true when examining the specific types of activities students reported within

<sup>18</sup> The number of activities students engaged in during their senior year ( $M = 3.61$ ,  $SD = 2.20$ ) was statistically and significantly lower than in their junior year with a moderate effect size ( $M = 4.63$ ,  $SD = 2.07$ ),  $t(961) = 15.291$ ,  $p < .001$ ,  $d = .48$ .

categories. Students reported that they engaged in an average of seven activities within categories in their junior year and six in their senior year.<sup>19</sup>

Differences in seniors' CAS activities are displayed in Exhibit 20. Patterns of participation for seniors were similar to those for juniors. Seniors from North America remained engaged most often in fundraising, culture/arts, and education while those from South America participated most often in activities related to education and social services.

## CURRENT STUDENTS' "OTHER" SERVICE ACTIVITIES

Any student who responded "Other" on the survey was asked to identify their service-related activities. Most respondents indicated multiple activities, and these tended to fall within the previously established service activities list. However, since students identified them as "Other," they were analyzed separately.

**Junior Year.** Exhibit 21 shows that the majority of students who specified "Other" for their junior year participated in activities related to social services. Canadian students volunteered in organizations in the community to help build homes, collect food and personal care items for the homeless, and mentor/assist younger children. Those who provided service within their school typically participated in student governments, clubs, and classes. Sports-related activities included coaching, participating, and educating others.

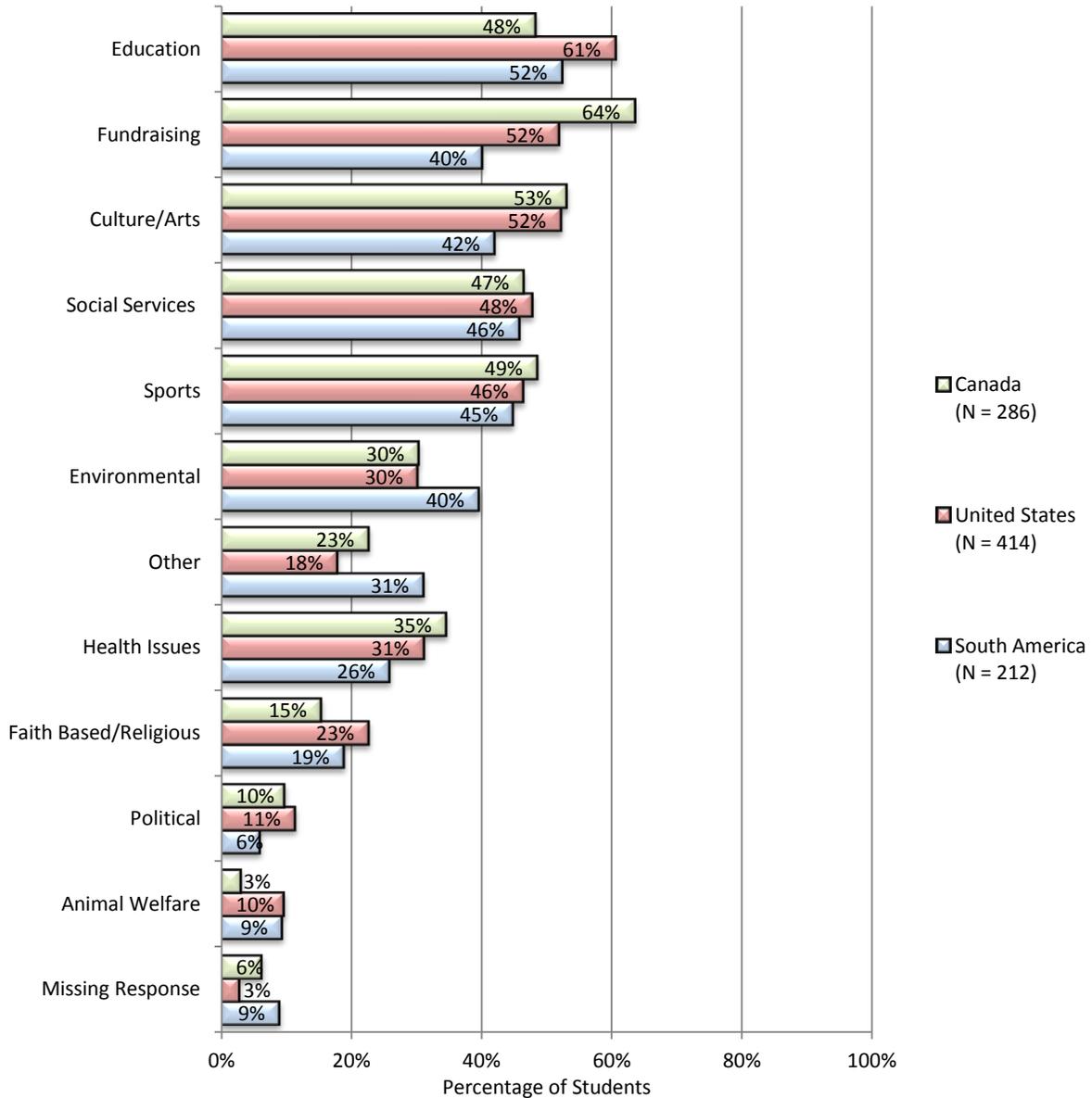
Similar to Canadian students, the majority of students in the United States who responded "Other" reported serving specific populations in need. Activities included tutoring, mentoring, and leading creative activities with young children; participating in community events and organizations; and collecting items to be distributed to those in need, including food, clothing, and toys. Sports activities included playing, coaching, and organizing games/tournaments. School involvement activities included participating in clubs and student government.

"Other" activities for South American students included building structures, collecting food and other personal care items for those in need, and working with young children. Fundraising was mentioned more frequently by South American respondents than in the other countries, with the majority of fundraising efforts aimed at supporting their program and school. South American students also mentioned promotion of local folklore and customs, exploring other countries' folklore and customs, and playing a musical instrument as their culture/arts activities.

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<sup>19</sup> The number of specific types of service activities listed on the survey that students engaged in also decreased from their junior year ( $M = 7.41, SD = 5.04$ ) to their senior year ( $M = 5.67, SD = 4.97$ ) with a small to moderate effect size,  $t(961) = 12.261, p < .001, d = .35$ .

**EXHIBIT 20. CAS ACTIVITIES CONDUCTED BY  
CURRENT STUDENTS IN THEIR SENIOR YEAR, BY REGION**



*Note.* Percentages do not sum to 100 because students could select more than one activity. Students who did not indicate a yes response to any activity were coded as missing response.

**Senior Year.** Those who responded “Other” for their senior year also tended to specify activities that fell within the previously established service activities list. Exhibit 22 shows that the majority of students who selected “Other” participated in social service.

Canadian students reported “Other” activities as being participation in student government and clubs, volunteering for school events, and tutoring others. Students in the United States tended to report volunteering at local community organizations, collecting and making items to distribute to those in need, and working with younger children. South American students reported building homes and other structures; collecting and making clothing, food, and toys for the less fortunate; and volunteering at local community organizations, with soup kitchens being the most common location.

**EXHIBIT 21. CATEGORIZATION OF RESPONSES PROVIDED AS “OTHER” FOR JUNIOR YEAR SERVICE**

Service Area	Canada (N = 60)	United States (N = 86)	South America (N = 65)
Political	2	3	5
Culture/Arts	13	5	14
Education	4	11	9
Environmental	3	5	10
Faith Based/Religious	1	4	2
Health Issues	4	4	4
Social Services	32	46	51
Sports	21	20	12
Fundraising	12	10	15
School Involvement	26	15	12

*Note.* Students could specify multiple activities.

**EXHIBIT 22. CATEGORIZATION OF RESPONSES PROVIDED AS “OTHER” FOR SENIOR YEAR SERVICE**

Service Area	Canada (N = 45)	United States (N = 46)	South America (N = 48)
Political	2	3	1
Culture/Arts	8	8	9
Education	1	4	7
Environmental	1	1	4
Faith Based/Religious	0	0	1
Health Issues	4	3	0
Social Services	8	14	33
Sports	3	8	5
Fundraising	6	9	1
School Involvement	29	9	5

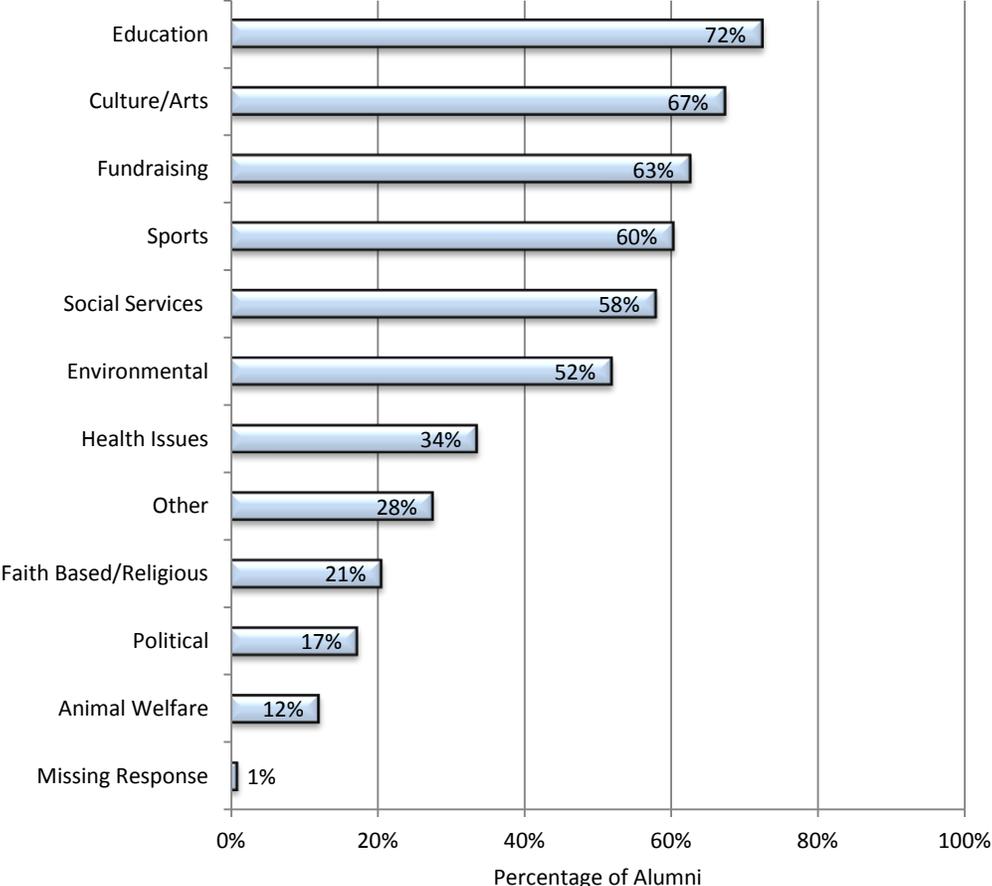
*Note.* Students could specify multiple activities.

## ALUMNI

As shown in Exhibit 23, alumni participated in an average of five types of general activities (range between 0 and 10) and eight specific activities listed under each general activity (range between 0 and 27). Alumni reported that most of their service was performed in the area of

education, culture/arts, and fundraising. Fewer activities were directed toward animal welfare, politics, and faith-based issues. Relative to their currently enrolled peers, there were more service activities in the culture/arts arena and fewer in social services.

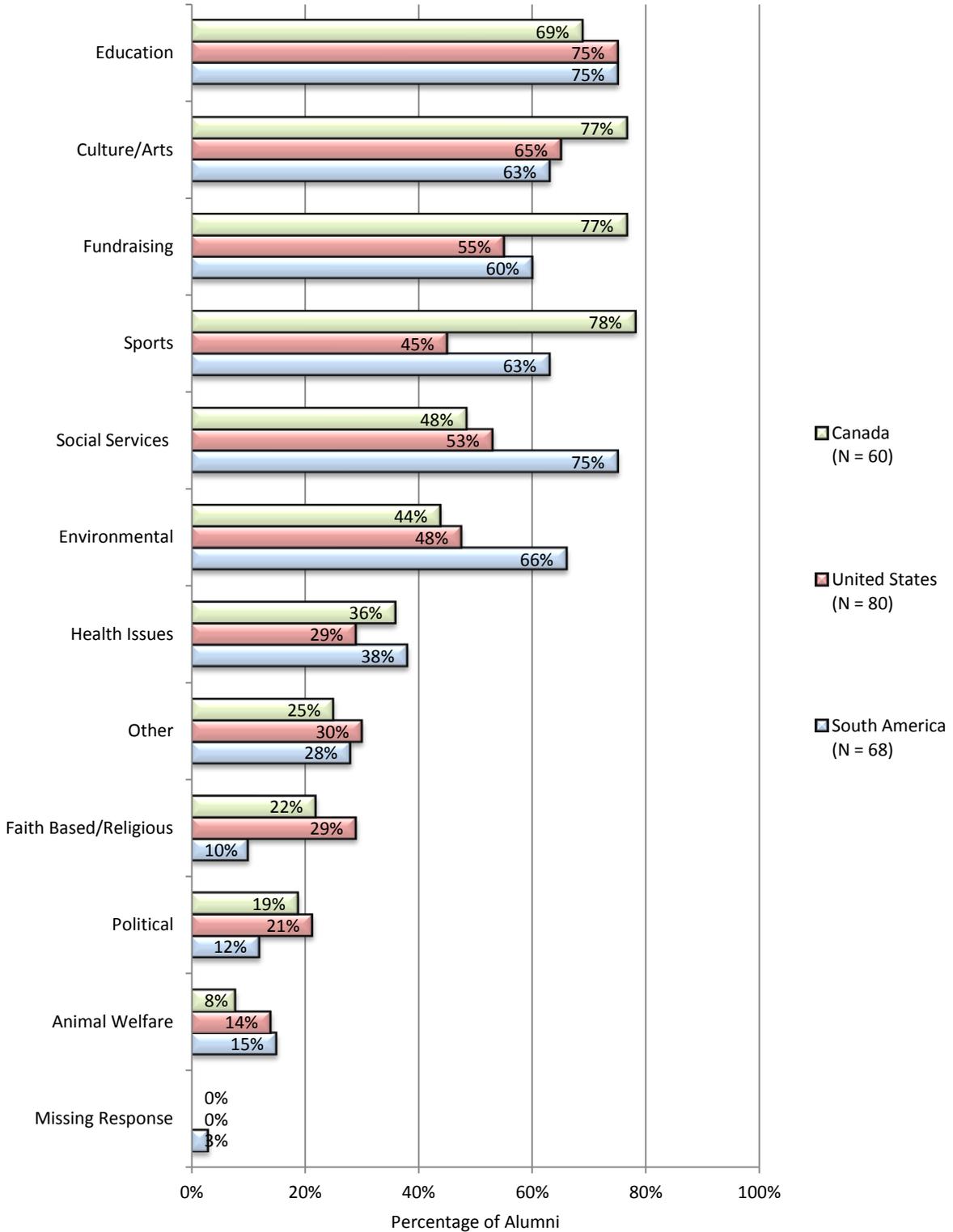
**EXHIBIT 23. CAS ACTIVITIES CONDUCTED BY ALUMNI (N = 214)**



*Note.* Percentages do not sum to 100 because alumni could select more than one activity. Alumni who did not indicate a yes response to any activity were coded as missing response.

Regional differences for alumni are demonstrated in Exhibit 24. The Exhibit shows that Canadian alumni were more likely than their United States and South American peers to engage in culture/arts, fundraising, and supports activities. South American alumni were more likely to engage in service related to social services and the environment.

**EXHIBIT 24. CAS ACTIVITIES CONDUCTED BY ALUMNI BY REGION**



*Note.* Percentages do not sum to 100 because alumni could select more than one activity. Alumni who did not indicate a yes response to any activity were coded as missing response.

## TYPES OF ACTIVITIES

### CAS ACTIVITIES RELATED TO EDUCATION

Follow-up questions asked students to identify more specific types of activities within each general domain of service. Exhibit 25 shows the types of activities in the field of education selected by juniors. The majority of students across all three regions who were involved with education-related service activities tutored students or worked with after-school programs. Tutoring and mentoring was more prevalent in North America than South America. More than half of the South American students engaged in other types of education related activities not listed in this Exhibit. These activities are described later in this section.

Levels of student participation for each activity within each region were largely similar between junior year and senior years. The most notable difference between years was for Canadian students' participation in after-school programs which decreased by nearly 10% indicating they were more likely to engage in this activity during their junior year.

**EXHIBIT 25. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO EDUCATION\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 165)		Senior Year (N = 138)		Junior Year (N = 302)		Senior Year (N = 251)		Junior Year (N = 148)		Senior Year (N = 111)		Junior Year (N = 626)		Senior Year (N = 506)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Tutoring	108	65.5	83	60.1	239	79.1	205	81.7	68	45.9	49	44.1	422	67.4	341	67.4
After-school program	79	47.9	53	38.4	182	60.3	135	53.8	76	51.4	48	43.2	344	55.0	240	47.4
Mentoring	72	43.6	61	44.2	144	47.7	128	51.0	30	20.3	26	23.4	249	39.8	217	42.9
Book drive	17	10.3	12	8.7	61	20.2	54	21.5	21	14.2	10	9.0	99	15.8	77	15.2
Other	76	46.1	51	37.0	117	38.7	79	31.5	83	56.1	56	50.5	283	45.2	190	37.5

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. \*Table includes only those who participated in education-related activities

Exhibit 26 shows the data for alumni who participated in educational service activities. They, too, were most likely to participate in tutoring, followed by mentoring and after-school programs.

**EXHIBIT 26. ALUMNI CAS ACTIVITIES RELATED TO EDUCATION\***

Service Activities	Frequency of Yes Response							
	Canada (N = 44)		United States (N = 60)		South America (N = 51)		All Alumni (N = 155)	
	n	%	n	%	n	%	n	%
Tutoring	31	70.5	49	81.7	33	64.7	113	72.9
Mentoring	28	63.6	34	56.7	18	35.3	80	61.6
After-school program	25	56.8	35	58.3	28	54.9	88	56.8
Book drive	1	2.3	8	13.3	9	17.6	18	11.6
Other	21	47.7	24	40.0	19	37.3	64	41.3

*Note.* Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in education-related activities

**ACTIVITIES RELATED TO FUNDRAISING**

Student engagement levels with fundraising activities varied by region. Findings presented in Exhibit 27 reveal that students from North America were more likely than students from South America to participate in a fundraising run/walk/ride. A larger percentage of Canadian students engaged in fundraising for global causes compared to students from the United States or South America. South American students were more likely to indicate their activity as an “Other” activity not listed on the survey. Engagement levels of students within each region remained relatively similar from junior year to senior year except for the 10% increase in Canadian students’ participation in fundraising for global cause.

**EXHIBIT 27. CURRENT STUDENTS’ CAS ACTIVITIES RELATED TO FUNDRAISING\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 233)		Senior Year (N = 182)		Junior Year (N = 262)		Senior Year (N = 215)		Junior Year (N = 119)		Senior Year (N = 85)		Junior Year (N = 625)		Senior Year (N = 492)	
	n	%	N	%	n	%	n	%	n	%	n	%	n	%	n	%
Fundraising run	156	67.0	113	62.1	184	70.2	146	67.9	34	28.6	26	30.6	379	60.6	292	59.3
Fundraising for global causes	155	66.5	139	76.4	115	43.9	90	41.9	59	49.6	45	52.9	335	53.6	277	56.3
Other	95	40.8	65	35.7	102	38.9	90	41.9	64	53.8	44	51.8	270	43.2	202	41.1

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. \* Table includes only those who participated in fundraising-related activities

Exhibit 28 reveals a similar pattern for alumni, with more students engaged in fundraising drives for local causes than fundraising for global concerns. Canadian alumni were much more involved in global issues than their peers in the United States or South America. Alumni from South America were more involved than U.S. participants.

**EXHIBIT 28. ALUMNI CAS ACTIVITIES RELATED TO FUNDRAISING\***

Service Activities	Frequency of Yes Response							
	Canada (N = 49)		United States (N = 44)		South America (N = 41)		All Alumni (N = 134)	
	n	%	n	%	n	%	n	%
Participating in fundraising run/walk/ride	33	67.3	32	72.7	21	51.2	86	64.2
Fundraising for global causes	35	71.4	20	45.5	22	53.7	77	57.5
Other	25	51.0	19	43.2	24	58.5	68	50.7

Note. Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in fundraising-related activities

**ACTIVITIES RELATED TO CULTURE/ARTS**

Exhibit 29 shows that the majority of students whose service activities related to culture/arts assisted with the performing or visual arts and other types of culture/arts activities not listed on the survey. Students across all regions were least likely to volunteer at a museum.

By region, North American students were more likely than South American students to assist with performing or visual arts. Students were generally just as likely to engage in most of the culture/arts activities in their junior year or senior year, with two exceptions: South American students were more likely to assist with performing/visual arts in their senior year and the Canadian students were less likely to engage in other types of culture/arts activities during their senior year.

**EXHIBIT 29. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO CULTURE/ARTS\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 182)		Senior Year (N = 152)		Junior Year (N = 261)		Senior Year (N = 216)		Junior Year (N = 124)		Senior Year (N = 89)		Junior Year (N = 578)		Senior Year (N = 464)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Assisting with performing/visual arts	131	72.0	112	73.7	178	68.2	149	69.0	43	34.7	40	44.9	358	61.9	305	65.7
Volunteer at a museum	17	9.3	15	9.9	24	9.2	19	8.8	2	1.6	0	0.0	44	7.6	34	7.3
Other	120	65.9	83	54.6	144	55.2	103	47.7	91	73.4	64	71.9	363	62.8	254	54.7

Note. Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. \* Table includes only those who participated in culture/arts-related activities

As shown in Exhibit 30, alumni were more involved in service related to culture/arts than currently enrolled students. The alumni were most likely to report “Other” when specifying

culture/arts. Among alumni, respondents from the United States were more likely to assist with performing/visual arts than their peers in other countries.

**EXHIBIT 30. ALUMNI CAS ACTIVITIES RELATED TO CULTURE/ARTS\***

Service Activities	Frequency of Yes Response							
	Canada (N = 49)		United States (N = 52)		South America (N = 43)		All Alumni (N = 144)	
	n	%	n	%	n	%	n	%
Assisting with performing/visual arts	27	55.1	33	63.5	20	46.5	80	55.6
Volunteer at a museum	1	2.0	4	7.7	1	2.3	6	4.2
Other	37	75.5	31	59.6	32	74.4	100	69.4

*Note.* Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in culture/arts-related activities

**ACTIVITIES RELATED TO SOCIAL SERVICES**

Exhibit 31 shows that students who participated in activities related to social services in all regions most often conducted a food or clothing drive. Students also frequently volunteered in a nursing home or worked with the homeless. Students were least likely to participate in activities relating to therapy or volunteering with a domestic violence organization. The majority of students were just as likely to participate in most activities during their junior year or senior year; however Canadian students were less likely to work with the homeless during their senior year and South American students were less likely to participate in a food or clothing drive during their senior year.

Alumni data are provided in Exhibit 32. The largest percentage of alumni participated in food or clothing drives or visited a nursing home. Few were involved in therapy or volunteered with military veterans, worked with domestic violence, or worked with immigrants/refugees.

**EXHIBIT 31. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO SOCIAL SERVICES\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 162)		Senior Year (N = 133)		Junior Year (N = 256)		Senior Year (N = 198)		Junior Year (N = 134)		Senior Year (N = 97)		Junior Year (N = 565)		Senior Year (N = 436)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Food/clothing drive	86	53.1	64	48.1	166	64.8	128	64.6	94	70.1	56	57.7	355	62.8	253	58.0
Volunteer/visit a nursing home	73	45.1	61	45.9	106	41.4	83	41.9	29	21.6	14	14.4	212	37.5	161	36.9
Work with the homeless	57	35.2	34	25.6	84	32.8	65	32.8	35	26.1	27	27.8	180	31.9	129	29.6
Building homes/construction/repair	14	8.6	11	8.3	35	13.7	25	12.6	34	25.4	26	26.8	87	15.4	65	14.9
Disaster preparation or relief	18	11.1	18	13.5	48	18.8	34	17.2	21	15.7	9	9.3	88	15.6	61	14.0
Volunteer with veteran organizations	13	8.0	17	12.8	26	10.2	22	11.1	21	15.7	12	12.4	60	10.6	53	12.2
Volunteering with refugees/immigrants	27	16.7	19	14.3	28	10.9	24	12.1	7	5.2	4	4.1	64	11.3	49	11.2
Volunteer with domestic violence organization	12	7.4	13	9.8	16	6.3	22	11.1	8	6.0	2	2.1	36	6.4	37	8.5
Therapy	11	6.8	6	4.5	21	8.2	20	10.1	8	6.0	3	3.1	40	7.1	29	6.7
Other	62	38.3	40	30.1	85	33.2	60	30.3	72	53.7	47	48.5	227	40.2	149	34.2

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. \* Table includes only those who participated in social services-related activities

**EXHIBIT 32. ALUMNI CAS ACTIVITIES RELATED TO SOCIAL SERVICES\***

Service Activities	Frequency of Yes Response							
	Canada (N = 31)		United States (N = 42)		South America (N = 51)		All Alumni (N = 124)	
	n	%	n	%	n	%	n	%
Participating in a food/clothing drive	15	48.4	29	69.0	33	64.7	77	62.1
Volunteer/visit a nursing home	15	48.4	17	40.5	17	33.3	49	39.5
Building homes/construction/repair	7	22.6	9	21.4	21	41.2	37	29.8
Work with the homeless	7	22.6	18	42.9	11	21.6	36	29.0
Disaster preparation or relief	9	29.0	5	11.9	5	9.8	19	15.3
Volunteering with refugees/immigrants	5	16.1	2	4.8	4	7.8	11	8.9
Volunteer with domestic violence organization	4	12.9	4	9.5	3	5.9	11	8.9
Therapy	0	0.0	4	9.5	4	7.8	8	6.5
Volunteer with veteran organizations	0	0.0	2	4.8	5	9.8	7	5.6
Other	14	45.2	16	38.1	32	62.7	62	50.0

*Note.* Percentages do not sum to 100 because alumni could select more than one activity. \*Table includes only those who participated in education-related activities

## ACTIVITIES RELATED TO THE ENVIRONMENT

Exhibit 33 demonstrates that students involved with environmental activities most frequently work to restore parks or participate in a cleanup project or a recycling project. About half of the students also engage in environmental education and advocacy. Students were less likely to participate in energy conservation activities. By region, South American students were most frequently involved with a recycling project and students from the United States were most frequently involved with a park restoration/cleanup project. Canadian students were likely to be involved in recycling and environmental advocacy programs. In general, engagement levels were similar within regions between junior and senior years except for South American students' participation in a park restoration or cleanup project which decreased by 12%.

**EXHIBIT 33. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO THE ENVIRONMENT\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 112)		Senior Year (N = 87)		Junior Year (N = 173)		Senior Year (N = 125)		Junior Year (N = 131)		Senior Year (N = 84)		Junior Year (N = 425)		Senior Year (N = 301)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Recycling project	57	50.9	38	43.7	73	42.2	60	48.0	104	79.4	65	77.4	241	56.7	166	55.1
Park restoration or cleanup projects	47	42.0	30	34.5	128	74.0	92	73.6	66	50.4	32	38.1	244	57.4	156	51.8
Environmental education/ advocacy	56	50.0	51	58.6	74	42.8	54	43.2	70	53.4	41	48.8	207	48.7	150	49.8
Energy conservation	33	29.5	27	31.0	37	21.4	32	25.6	34	26.0	20	23.8	108	25.4	81	26.9
Other	41	36.6	30	34.5	45	26.0	27	21.6	51	38.9	29	34.5	142	33.4	88	29.2

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America.\* Table includes only those who participated in environment-related activities

Alumni data are shown in Exhibit 34. Alumni who engaged in environment-related activities were slightly more likely to engage in cleanup projects than the current students who tackled environmental activities, but otherwise revealed patterns of participation that were similar to those of the current students. Alumni in the United States were more likely than their peers in other countries to be engaged in park restoration or clean up and less likely to recycle or engage in environmental education/advocacy or energy conservation.

**EXHIBIT 34. ALUMNI CAS ACTIVITIES RELATED TO ENVIRONMENT\***

Service Activities	Frequency of Yes Response							
	Canada (N = 28)		United States (N = 38)		South America (N = 45)		All Alumni (N = 111)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Park restoration or cleanup projects	17	60.7	28	73.7	26	57.8	71	64.0
Recycling project	17	60.7	17	44.7	33	73.3	67	60.4
Environmental education/advocacy	18	64.3	15	39.5	26	57.8	59	53.2
Energy conservation	14	50.0	12	31.6	14	31.1	40	36.0
Other	12	42.9	11	28.9	15	33.3	38	34.2

*Note.* Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in environment-related activities

**ACTIVITIES RELATED TO FAITH-BASED OR RELIGIOUS INSTITUTIONS**

As shown in Exhibit 35, the majority of students in the United States and Canada who participated in faith-based/religious activities volunteered with a faith-based organization. About half of South American students indicated another type of activity not listed on the survey. Canadian students were more likely to engage in volunteer work with a faith-based organization during their senior year. Alumni data, shown in Exhibit 36, reveals that small numbers of alumni participated in faith-based organizations.

**EXHIBIT 35. CURRENT STUDENTS' CAS ACTIVITIES RELATED FAITH-BASED/RELIGIOUS INSTITUTIONS\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 55)		Senior Year (N = 44)		Junior Year (N = 115)		Senior Year (N = 94)		Junior Year (N = 50)		Senior Year (N = 40)		Junior Year (N = 223)		Senior Year (N = 179)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Faith-based organization	47	85.5	42	95.5	107	93.0	83	88.3	26	52.0	19	47.5	183	82.1	145	81.0
Other	19	34.5	14	31.8	43	37.4	32	34.0	28	56.0	24	60.0	92	41.3	70	39.1

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America.\* Table includes only those who participated in faith-related activities

**EXHIBIT 36. ALUMNI CAS ACTIVITIES RELATED TO FAITH-BASED/RELIGIOUS\***

Service Activities	Frequency of Yes Response							
	Canada (N = 14)		United States (N = 23)		South America (N = 7)		All Alumni (N = 44)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Faith-based organization	14	100.0	23	100.0	6	85.7	43	97.7
Other	1	7.1	7	30.4	3	42.9	11	25.0

Note. Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in faith-related activities

## ACTIVITIES RELATED TO HEALTH

Students who were involved with health-related service activities most frequently collected donations for health-related causes or volunteered in a hospital or health clinic. As shown in Exhibit 37, students from Canada and the United States were somewhat more likely than South American students to engage in these two activities. Students across all three regions less frequently reported providing health education to their community. Although most of the activities had similar rates of student engagement during their junior and senior years, South American students were 13% more likely to volunteer in a hospital/health clinic during their senior year.

**EXHIBIT 37. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO HEALTH\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 107)		Senior Year (N = 99)		Junior Year (N = 144)		Senior Year (N = 129)		Junior Year (N = 86)		Senior Year (N = 55)		Junior Year (N = 342)		Senior Year (N = 287)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Collecting donations for health-related causes	68	63.6	61	61.6	74	51.4	71	55.0	36	41.9	24	43.6	181	52.9	159	55.4
Volunteering in a hospital/health clinic	50	46.7	47	47.5	80	55.6	73	56.6	28	32.6	25	45.5	160	46.8	147	51.2
Providing health education to the community	31	29.0	31	31.3	42	29.2	32	24.8	25	29.1	15	27.3	100	29.2	82	28.6
Other	39	36.4	27	27.3	45	31.3	31	24.0	34	39.5	18	32.7	121	35.4	78	27.2

Note. Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. \* Table includes only those who participated in health-related activities

Exhibit 38 shows alumni participation in health-related service activities and shows that most of these service activities addressed collecting donation for health-related causes and volunteering at a hospital or clinic. Canadians were more likely than their peers to collect donations; South Americans were more likely to provide health education to the community.

**EXHIBIT 38. ALUMNI CAS ACTIVITIES RELATED TO HEALTH\***

Service Activities	Frequency of Yes Response							
	Canada (N = 23)		United States (N = 23)		South America (N = 26)		All Alumni (N = 72)	
	n	%	n	%	n	%	n	%
Collecting donations for health-related causes	17	73.9	7	30.4	14	53.8	38	52.8
Volunteering in a hospital/health clinic	13	56.5	12	52.2	11	42.3	36	50.0
Providing health education to the community	6	26.1	5	21.7	12	46.2	23	31.9
Other	7	30.4	11	47.8	6	23.1	24	33.3

Note. Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in health-related activities

**ACTIVITIES RELATED TO SPORTS**

As Exhibit 39 and Exhibit 40 show, the majority of current students and alumni who indicated they engaged in a sports-related activity identified their service as something other than coaching.

**EXHIBIT 39. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO SPORTS\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 165)		Senior Year (N = 139)		Junior Year (N = 243)		Senior Year (N = 192)		Junior Year (N = 134)		Senior Year (N = 95)		Junior Year (N = 551)		Senior Year (N = 435)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Coaching	63	38.2	51	36.7	92	37.9	83	43.2	29	21.6	15	15.8	188	34.1	155	35.6
Other	126	76.4	101	72.7	183	75.3	149	77.6	114	85.1	82	86.3	429	77.9	340	78.2

Note. Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Table includes only those who participated in sports-related activities

**EXHIBIT 40. ALUMNI CAS ACTIVITIES RELATED TO SPORTS\***

Service Activities	Frequency of Yes Response							
	Canada (N = 50)		United States (N = 36)		South America (N = 43)		All Alumni (N = 129)	
	n	%	n	%	n	%	n	%
Coaching	17	34.0	10	27.8	11	25.6	38	29.5
Other	43	86.0	32	88.9	36	83.7	111	86.0

Note. Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in sports-related activities

## ACTIVITIES RELATED TO ANIMAL WELFARE

Exhibit 41 shows that the majority of students who participated in CAS activities related to animal welfare served as volunteers at a local animal shelter. Compared to students from Canada or South America, United States students were more likely to volunteer at a wildlife rehabilitation center. Three notable differences in student engagement levels were found. Canadian students were less likely to volunteer at a local animal shelter and no Canadian students volunteered at a zoo during their senior year. Students from the United States were more likely to engage in other activities not measured by the survey.

**EXHIBIT 41. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO ANIMAL WELFARE\***

Service Activities	Frequency of Yes Response															
	Canada		United States				South America				All Students <sup>a</sup>					
	Junior Year (N = 11)		Senior Year (N = 9)		Junior Year (N = 42)		Senior Year (N = 40)		Junior Year (N = 22)		Senior Year (N = 20)		Junior Year (N = 77)		Senior Year (N = 70)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Volunteer at a local animal shelter	5	45.5	3	33.3	26	61.9	24	60.0	14	63.6	14	70.0	47	61.0	41	58.6
Volunteer at a wildlife rehabilitation center	2	18.2	1	11.1	9	21.4	8	20.0	3	13.6	2	10.0	15	19.5	11	15.7
Volunteer at a zoo	3	27.3	0	0.0	4	9.5	7	17.5	4	18.2	2	10.0	11	14.3	9	12.9
Other	7	63.6	5	55.6	12	28.6	16	40.0	12	54.5	10	50.0	32	41.6	31	44.3

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. \* Table includes only those who participated in animal welfare-related activities

Alumni data provided in Exhibit 42 shows more volunteering at the zoo or wildlife rehabilitation center by alumni from the United States. The numbers are quite small and differences are negligible across categories.

**EXHIBIT 42. ALUMNI CAS ACTIVITIES RELATED TO ANIMAL WELFARE\***

Service Activities	Frequency of Yes Response							
	Canada (N = 5)		United States (N = 11)		South America (N = 10)		All Alumni (N = 26)	
	n	%	n	%	n	%	n	%
Volunteer at a local animal shelter	4	80.0	8	72.7	4	40.0	16	61.5
Volunteer at a zoo	1	20.0	10	90.9	3	30.0	4	15.4
Volunteer at a wildlife rehabilitation center	4	80.0	10	90.9	4	40.0	4	15.4
Other	1	20.0	5	45.5	1	10.0	7	26.9

*Note.* Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in animal welfare-related activities

## ACTIVITIES RELATED TO POLITICS

As shown in Exhibit 43, over half of the students from Canada and the United States and one third of students from South America who participated in political activities volunteered to work on behalf of political candidates or political organizations. The majority of students across all regions engaged in other non-specified types of political activities. Students across all regions were more likely to recruit or assist others to vote during their senior year than their junior year. Similar results were found for alumni, as displayed in Exhibit 44.

**EXHIBIT 43. CURRENT STUDENTS' CAS ACTIVITIES RELATED TO POLITICS\***

Service Activities	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 31)		Senior Year (N = 28)		Junior Year (N = 54)		Senior Year (N = 47)		Junior Year (N = 9)		Senior Year (N = 13)		Junior Year (N = 96)		Senior Year (N = 90)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Volunteering for candidate or political organizations	16	51.6	12	42.9	29	53.7	29	61.7	3	33.3	3	23.1	50	52.1	45	50.0
Recruiting or assisting others to vote	8	25.8	9	32.1	22	40.7	24	51.1	1	11.1	4	30.8	31	32.3	38	42.2
Other	18	58.1	20	71.4	28	51.9	21	44.7	5	55.6	7	53.8	52	54.2	50	55.6

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. \* Table includes only those who participated in political activities

**EXHIBIT 44. ALUMNI CAS ACTIVITIES RELATED TO POLITICS\***

Service Activities	Frequency of Yes Response							
	Canada (N = 12)		United States (N = 17)		South America (N = 8)		All Alumni (N = 37)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Volunteering for candidate or political organizations	6	50.0	7	41.2	1	12.5	14	37.8
Recruiting or assisting others to vote	1	8.3	6	35.3	0	0.0	7	18.9
Other	6	50.0	8	47.1	7	87.5	21	56.8

*Note.* Percentages do not sum to 100 because alumni could select more than one activity. \* Table includes only those who participated in political activities

## FINDINGS

### EXTENT TO WHICH STUDENTS INTEGRATED ALL CAS REQUIREMENTS THROUGH SERVICE ACTIVITIES

*This section addresses the extent to which students performed service activities designed to fulfill requirements for creativity, action, and service simultaneously.*

Each year, the IB Programme asks students to engage in creative activities, action-oriented activities, and service activities, which together comprise their CAS requirements. Activities could be conducted separately or in an integrated fashion. As revealed in Exhibit 45, nearly over 70% of students chose to integrate their activities during their junior year, fulfilling the creativity and activity components of the CAS requirement by conducting service activities. Even more students (nearly 80%) chose to integrate their service activities during their senior year, especially students from the United States. About 10% fewer South American students integrated activity components with their service activities during their senior year than in their junior year.

**EXHIBIT 45. EXTENT TO WHICH CURRENT STUDENTS FULFILLED CAS COMPONENTS THROUGH SERVICE ACTIVITIES**

CAS Components	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 294)		Senior Year (N = 286)		Junior Year (N = 432)		Senior Year (N = 414)		Junior Year (N = 220)		Senior Year (N = 212)		Junior Year (N = 962)		Senior Year (N = 928)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Creativity	218	74.1	236	82.5	311	72.0	354	85.5	150	68.2	140	66.0	690	71.7	742	80.0
Activity	212	72.1	214	74.8	325	75.2	336	81.2	191	86.8	163	76.9	742	77.1	727	78.3

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America.

As shown in Exhibit 46, 84% of alumni reported using their service activities to fulfill all CAS requirements. Activity and service combinations were higher for those in South America than those in the United States and Canada.

**EXHIBIT 46. EXTENT TO WHICH ALUMNI FULFILLED CAS COMPONENTS THROUGH SERVICE ACTIVITIES**

CAS Components	Frequency of Yes Response							
	Canada (N = 64)		United States (N = 17)		South America (N = 8)		All Alumni (N = 37)	
	n	%	n	%	n	%	n	%
Creativity	56	87.5	67	83.8	57	81.4	180	84.1
Activity	53	82.8	65	81.3	63	90.0	181	84.6

*Note.* Percentages do not sum to 100 because alumni could select more than one activity.

## FINDINGS

### PARTICIPATION IN ACTIVITIES RELATED TO LOCAL, NATIONAL, OR GLOBAL ISSUES

*This section delineates the extent to which students participated in service activities connected with local, national, or global issues.*

The CAS service dimension can serve as an important vehicle for stimulating civic-mindedness at all levels. To explore the level to which students tend to connect, survey respondents were asked to indicate whether their service was directed toward local, national, or global issues.

As Exhibit 47 shows, nearly 90% of all students indicated their junior year and senior year activities were targeted to the local level. In addition, about a third of students participated in national-level activities and about a fourth participated in activities that addressed global concerns. Canadian students were more likely than students from the United States or South America to participate in service activities targeted at the global level. There were no large shifts in the target levels from students' junior year to senior year activities.

**EXHIBIT 47. CURRENT STUDENTS' GLOBAL, NATIONAL, AND LOCAL ACTIVITIES**

Target Levels	Frequency of Yes Response															
	Canada				United States				South America				All Students <sup>a</sup>			
	Junior Year (N = 294)		Senior Year (N = 286)		Junior Year (N = 432)		Senior Year (N = 414)		Junior Year (N = 220)		Senior Year (N = 212)		Junior Year (N = 962)		Senior Year (N = 928)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Local Level	272	92.5	251	87.8	417	96.5	391	94.4	194	88.2	172	81.1	897	93.2	827	89.1
National Level	92	31.3	95	33.2	136	31.5	141	34.1	74	33.6	48	22.6	309	32.1	290	31.3
Global Level	132	44.9	135	47.2	98	22.7	107	25.8	24	10.9	19	9.0	259	26.9	265	28.6

*Note.* Percentages do not sum to 100 because students could select more than one activity. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America.

Exhibit 48 reveals that alumni also targeted the majority of their service on local issues. Less than half participated in issues at the national level. Canadians were more likely than their peers to participate in activities that address global concerns.

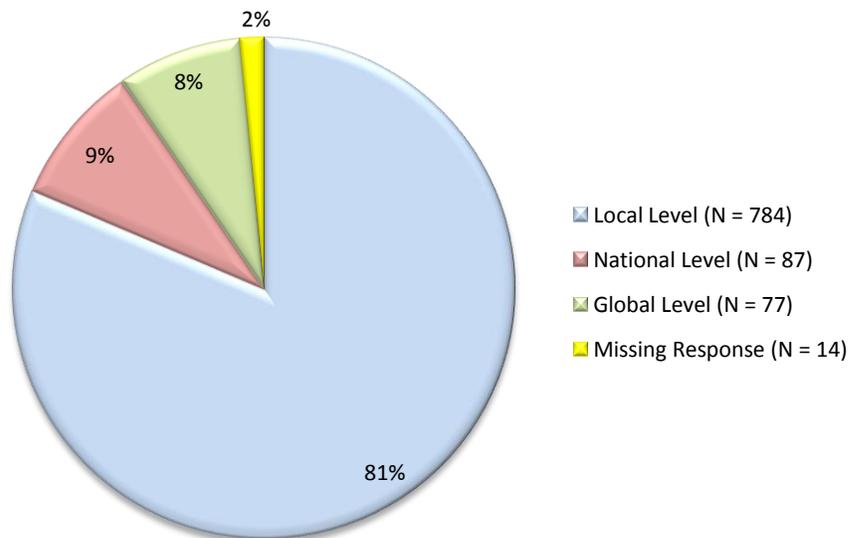
**EXHIBIT 48. ALUMNI GLOBAL, NATIONAL, AND LOCAL ACTIVITIES**

Target Levels	Frequency of Yes Response							
	Canada (N = 64)		United States (N = 80)		South America (N = 70)		All Alumni (N = 214)	
	n	%	n	%	n	%	n	%
Local Level	64	100.0	78	97.5	65	92.9	207	96.7
National Level	29	45.3	35	43.8	33	47.1	97	45.3
Global Level	35	54.7	26	32.5	11	15.7	72	33.6

Note. Percentages do not sum to 100 because alumni could select more than one activity.

Since students could participate in multiple activities that could mask findings, a question was asked to elicit whether the *primary* focus of activities was at the local, national, or global level. When asked about the primary focus of their junior year activities, 81% of students replied that the focus was local. The rest were nearly evenly split between national and global, as shown in Exhibit 49.

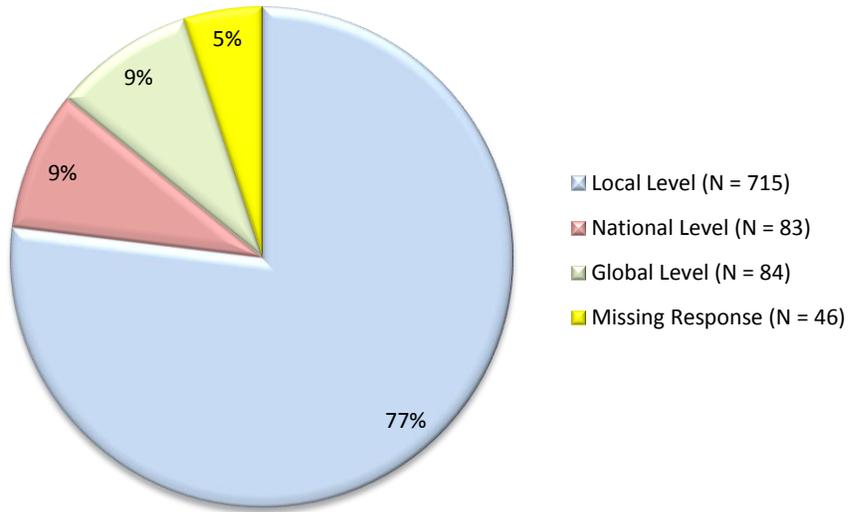
**EXHIBIT 49. LOCAL, NATIONAL, OR GLOBAL LEVELS AS THE PRIMARY FOCUS FOR CURRENT STUDENTS IN THE JUNIOR YEAR OF IB (N = 962)**



Note. All Students include the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America presented below.

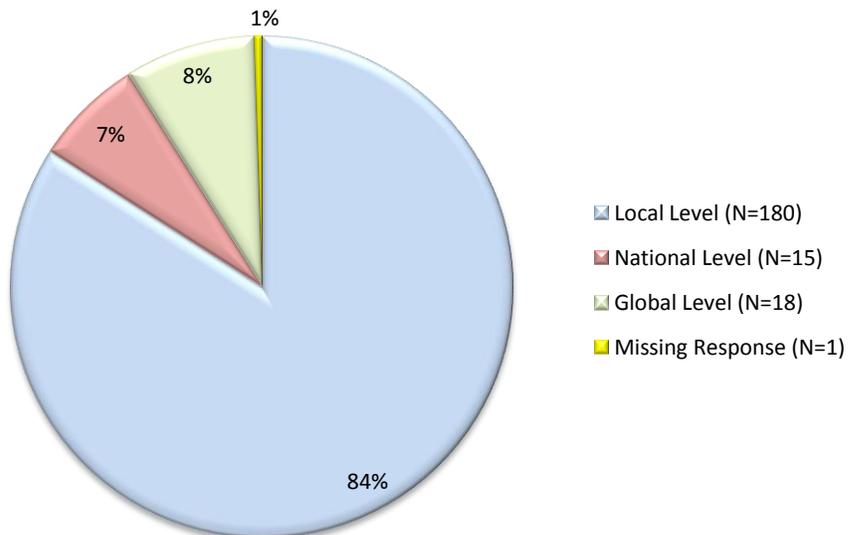
Exhibit 50 shows the same pattern for current students for their senior year and Exhibit 51 reveals similar results for alumni. The majority were primarily focused at the local level.

**EXHIBIT 50. LOCAL, NATIONAL, OR GLOBAL LEVELS AS THE PRIMARY FOCUS FOR CURRENT STUDENTS IN THE SENIOR YEAR OF IB (N = 928)**



*Note.* All Students include the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America presented below.

**EXHIBIT 51. LOCAL, NATIONAL, OR GLOBAL LEVELS AS THE PRIMARY FOCUS FOR ALUMNI (N = 214)**



Comparing regions, Exhibit 52 shows that students from the United States were more likely than other students to report their junior year and senior year activities primarily targeted the local level. Canadian students were more likely than other students to report their activities

during both years targeted the global level and South American students were more likely than other students to describe their junior and senior year activities as targeting the national level.

**EXHIBIT 52. CURRENT STUDENTS' LOCAL, NATIONAL, AND GLOBAL PRIMARY FOCUS OF ACTIVITIES BY REGION**

	Frequency of Yes Response											
	Canada				United States				South America			
	Junior Year (N = 294)		Senior Year (N = 286)		Junior Year (N = 432)		Senior Year (N = 414)		Junior Year (N = 220)		Senior Year (N = 212)	
Target Levels	N	%	N	%	N	%	N	%	N	%	N	%
Local Level	217	73.8	200	69.9	379	87.7	346	83.6	175	79.5	160	75.5
National Level	24	8.2	24	8.4	24	5.6	30	7.2	37	16.8	25	11.8
Global Level	48	16.3	48	16.8	24	5.6	29	7.0	5	2.3	6	2.8
Missing Response	5	1.7	14	4.9	5	1.1	9	2.2	3	1.4	21	9.9

Alumni data by region are displayed in Exhibit 53 shows that alumni from all sites were far more likely to identify local issues as their primary focus than issues at the national or global levels. South Americans were more likely to identify national level issues than their peers and less likely to identify global concerns.

**EXHIBIT 53. ALUMNI LOCAL, NATIONAL, AND GLOBAL PRIMARY FOCUS OF ACTIVITIES BY REGION (N = 214)**

Target Level of Service Activities	Frequency of Responses					
	Canada (N = 64)		United States (N = 80)		South America (N = 70)	
	n	%	n	%	n	%
Local Level	54	84.4	68	85.0	58	82.9
National Level	2	3.1	3	3.8	10	14.3
Global Level	8	12.5	8	10.0	2	2.9
Missing Response	0	0.0	1	1.3	0	0.0

## FINDINGS

### ALIGNMENT WITH HIGH QUALITY SERVICE-LEARNING PROGRAM DESIGNS ASSOCIATED WITH STRONG CIVIC AND ACADEMIC OUTCOMES

*This section describes the extent to which IB CAS service activities align with high-quality service-learning program design features.*

As described in the literature review, several aspects of service-learning program design are associated with high academic, civic, and social/personal impacts. The characteristics with the highest effect sizes include the extent to which students view their service as meaningful; integration of activities with academic curriculum; student voice in the selection, planning, and implementation of the service project; the types and intensity of reflection activities; and the extent to which students respected the opinions of others and especially those who were served. Each of these factors was measured on the survey. This section describes the extent to which the qualities were present in IB CAS activities.

### MEANINGFUL SERVICE

Exhibit 54 shows that students across the regions typically agreed that their service activities were meaningful. Students from Canada and from the United States were more likely than those from South America to say their service activities were meaningful.<sup>20</sup>

**EXHIBIT 54. THE EXTENT TO WHICH CURRENT STUDENTS PERCEIVED THEIR SERVICE ACTIVITIES AS MEANINGFUL**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Meaningful Service Activities Subscale</b>	<b>275</b>	<b>3.35</b>	<b>.59</b>	<b>392</b>	<b>3.36</b>	<b>.64</b>	<b>204</b>	<b>3.21</b>	<b>.74</b>	<b>885</b>	<b>3.33</b>	<b>.65</b>
<i>I feel that my service activities were meaningful.</i>	271	3.40	.67	388	3.43	.70	199	3.22	.85	871	3.38	.73
<i>The skills that I learned from my service activities were important to me.</i>	264	3.31	.68	379	3.26	.74	201	3.19	.82	857	3.26	.74
<i>My service activities were important to me.</i>	264	3.35	.69	384	3.39	.70	198	3.24	.87	859	3.35	.74

*Note.* Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

<sup>20</sup> Meaningful Service Activities subscale:  $F(2, 868) = 4.273, p < .05$ ; Canadian students ( $M = 3.35, SD = .59$ ) and South American students ( $M = 3.21, SD = .74$ ),  $p < .05, d = .21$ . Students from the United States ( $M = 3.36, SD = .64$ ) and South American students ( $M = 3.21, SD = .74$ ),  $p < .01, d = .32$ .

Alumni similarly reported that activities were meaningful, as displayed in Exhibit 55. There were fewer differences between regions for alumni, though, with South American alumni reporting that their activities were as meaningful as those which occurred in other regions.

**EXHIBIT 55. THE EXTENT TO WHICH ALUMNI PERCEIVED THEIR SERVICE ACTIVITIES AS MEANINGFUL**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Meaningful Service Subscale</b>	<b>62</b>	<b>3.47</b>	<b>.46</b>	<b>70</b>	<b>3.42</b>	<b>.57</b>	<b>66</b>	<b>3.49</b>	<b>.61</b>	<b>198</b>	<b>3.46</b>	<b>.55</b>
<i>I feel that my service activities were meaningful.</i>	62	3.52	.54	68	3.50	.59	64	3.55	.62	194	3.52	.58
<i>The skills that I learned from my service activities were important to me.</i>	61	3.44	.59	67	3.36	.71	65	3.45	.75	193	3.41	.69
<i>My service activities were important to me.</i>	59	3.42	.62	69	3.46	.61	65	3.51	.73	193	3.47	.65

Note. Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scales.

## INTEGRATION OF ACTIVITIES WITH ACADEMIC CURRICULUM

Link to curriculum has been shown to be a strong predictor of high outcomes. Unfortunately, as can be seen in Exhibit 56, current students reported that the service activities were not often linked to curriculum. Linkage was somewhat more likely to be made in the United States and Canada than in South America.

**EXHIBIT 56. CURRENT STUDENTS' REPORT OF THE LINK OF SERVICE ACTIVITIES TO ACADEMIC CURRICULUM**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<i>Our CAS coordinator made sure we linked service activities to classroom subjects.</i>	251	2.46	.89	361	2.48	.93	193	2.34	.88	818	2.45	.91

Note. Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

Exhibit 57 shows a similar lack of curricular linkage as reported by alumni. Fewer linkages were made in Canada than in the United States or South America, though differences were not statistically significant.

## EXHIBIT 57. ALUMNI REPORT OF THE LINK OF SERVICE ACTIVITIES TO ACADEMIC CURRICULUM

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<i>Our CAS coordinator made sure we linked service activities to classroom subjects.</i>	58	2.28	.81	67	2.46	.82	63	2.52	.95	188	2.43	.87

*Note.* Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

## STUDENT VOICE

To measure student voice in the selection of service activities, students responded to two items about making decisions and generating ideas for service. Students generally agreed that they had influenced the choices of service in which they participated, as shown in Exhibit 58. There were statistically significant differences found between regions, with students from Canada and the United States reporting greater student voice than students from South America.<sup>21</sup>

### EXHIBIT 58. THE EXTENT TO WHICH CURRENT STUDENTS HAD VOICE IN CHOOSING THEIR SERVICE PROJECTS

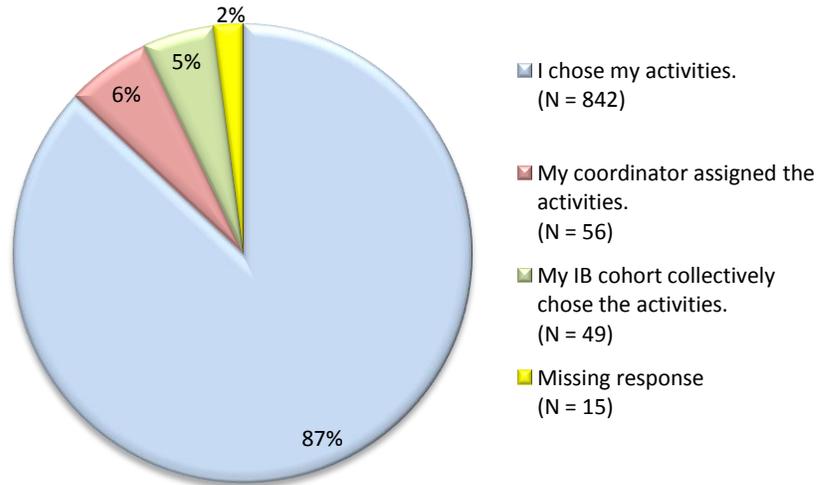
	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Student Voice Subscale</b>	<b>269</b>	<b>3.42</b>	<b>.61</b>	<b>389</b>	<b>3.39</b>	<b>.67</b>	<b>204</b>	<b>3.26</b>	<b>.67</b>	<b>875</b>	<b>3.37</b>	<b>.65</b>
<i>I helped make decisions about my service activities.</i>	264	3.44	.64	383	3.43	.70	191	3.20	.74	851	3.38	.70
<i>I helped come up with ideas for my service activities.</i>	263	3.40	.65	381	3.36	.73	199	3.32	.69	856	3.37	.780

*Note.* Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

When asked who specifically made the decision about which CAS activities would be selected during their junior year, 87% of the students responded that most of the time, they chose their own activities. Exhibit 59 shows that for a small percentage of respondents, coordinators or the IB cohort as a whole selected the activities.

<sup>21</sup> Student Voice subscale:  $F(2, 859) = 4.254, p < .05$ . Canadian students ( $M = 3.42, SD = .61$ ) and South American students ( $M = 3.26, SD = .67$ ),  $p < .05, d = .25$ . Students from the United States ( $M = 3.39, SD = .67$ ) and South American students ( $M = 3.26, SD = .67$ ),  $p < .05, d = .21$ .

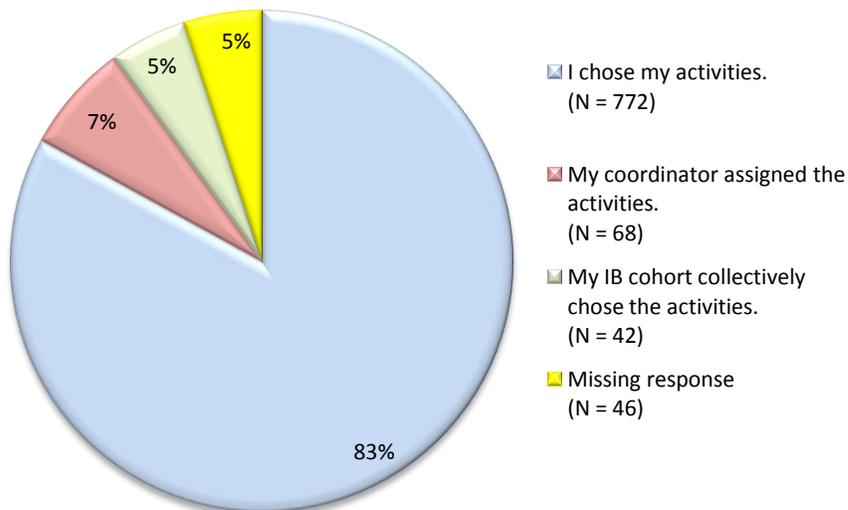
**EXHIBIT 59. LOCUS OF DECISION MAKING FOR CURRENT STUDENTS' JUNIOR YEAR CAS ACTIVITY**



*Note.* All Students include the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America presented below.

During students' senior year, the majority of all students (83%) reported they chose their own activities. Similar to junior year activities, a small number of students indicated their coordinator assigned their activities or the IB cohort collectively chose the activities, as shown in Exhibit 60.

**EXHIBIT 60. LOCUS OF DECISION MAKING FOR CURRENT STUDENTS' SENIOR YEAR CAS ACTIVITY**



*Note.* All Students include the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America presented below.

By region, currently enrolled South American students were more likely than students from North America to report their IB coordinator assigned activities to them or their IB cohort collectively chose the activities, as shown in Exhibit 61.

**EXHIBIT 61. CURRENT STUDENTS' LOCUS OF DECISION MAKING FOR ACTIVITIES BY REGION**

	Frequency of Yes Response											
	Canada				United States				South America			
	Junior Year (N = 294)		Senior Year (N = 286)		Junior Year (N = 432)		Senior Year (N = 414)		Junior Year (N = 220)		Senior Year (N = 212)	
	N	%	N	%	N	%	N	%	N	%	N	%
I chose my activities.	282	95.9	261	91.4	418	96.8	399	96.4	130	59.1	101	47.6
My coordinator assigned the activities.	1	0.4	3	1.0	5	1.2	3	0.7	48	21.8	60	28.3
My IB cohort collectively chose the activities.	5	1.7	7	2.4	6	1.3	5	1.2	37	16.8	30	14.2
Missing response	6	2.0	15	5.2	3	0.7	7	1.7	5	2.3	21	9.9

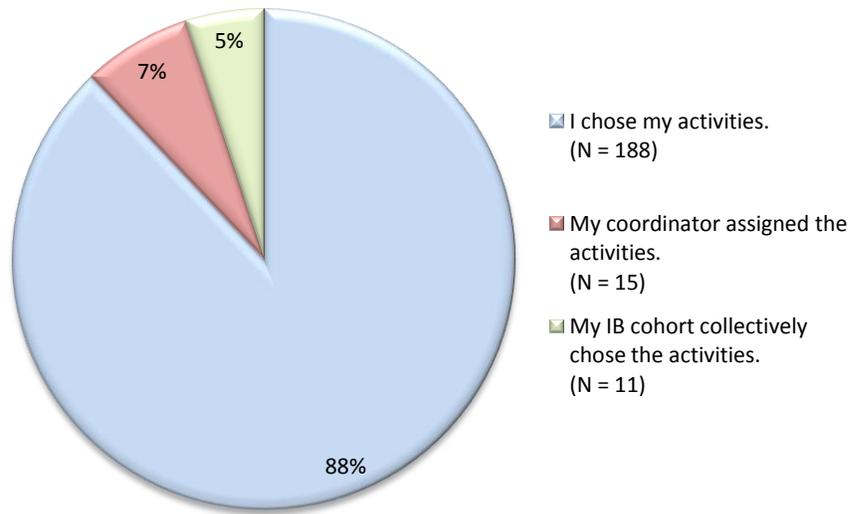
Alumni were asked the same questions about their roles in decision making. Results for alumni, shown in Exhibits 62 and 63, revealed that a large majority (88%) helped make decisions about their service activities. However, when asked to indicate who made decisions, Exhibit 64 shows differences by region, with South American students being less likely to make decisions.

**EXHIBIT 62. THE EXTENT TO WHICH ALUMNI HAD VOICE IN CHOOSING THEIR SERVICE PROJECTS**

	Canada			United States			South America			All Alumni		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
<b>Student Voice Subscale</b>	<b>59</b>	<b>3.62</b>	<b>.48</b>	<b>69</b>	<b>3.58</b>	<b>.57</b>	<b>66</b>	<b>3.39</b>	<b>.73</b>	<b>194</b>	<b>3.53</b>	<b>.61</b>
<i>I helped make decisions about my service activities.</i>	59	3.64	.48	67	3.58	.61	65	3.35	.80	191	3.52	.66
<i>I helped come up with ideas for my service activities.</i>	59	3.59	.59	69	3.59	.58	65	3.43	.77	193	3.54	.65

Note. Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scales.

**EXHIBIT 63. LOCUS OF DECISION MAKING FOR CAS ACTIVITY SELECTION FOR ALUMNI (N = 214)**



**EXHIBIT 64. LOCUS OF DECISION MAKING FOR ACTIVITIES FOR ALUMNI BY REGION (N = 214)**

	Frequency of Responses					
	Canada (N = 64)		United States (N = 80)		South America (N = 70)	
	n	%	n	%	n	%
I chose my activities.	64	100.0	76	95.0	48	68.6
My coordinator assigned the activities.	0	0.0	1	1.3	14	20.0
My IB cohort collectively chose the activities.	0	0.0	3	3.8	8	11.4

## REFLECTION

Reflection is a key component of ensuring that service activities have an impact on students' civic and personal/social development. In particular, good reflection activities help students see the impact of their efforts on themselves, the community, and their relationship to the community. The intent of service activities is to show students how they can make a difference in the world and to prompt them to consider their responsibilities as a citizen.

To assess the extent to which reflection occurred in their programs, students responded to a set of items that queried how frequently students were asked to engage in written or verbal reflection prior to activities, during activities, and after activities. Students were also asked to identify the frequency with which they reflected on the impact of their service.

The analysis also examined the depth of the reflection activities. Low depth was defined as providing a description of activities or engaging in individual reflection. High depth was defined

as reflecting on the impact of service on the community; on oneself; on the ways in which service affected one's views of local, national, or global issues. The extent to which reflections were written, verbal, and collaborative was also explored. Results for current students are presented in Exhibit 65. Alumni findings are shown in Exhibit 66.

**Frequency.** Current students reported that most often they had occasional opportunities to reflect on their service. Fewer reflected before the service activity and most reflected after the activity. Statistically significant differences were found between regions in students' reflection activities before beginning service activities<sup>22</sup> and during service activities.<sup>23</sup> South American students reported a higher frequency of reflection during these phases of service than their North American peers.

Alumni patterns of frequency mirrored that of current students. The extent to which alumni reflected on service experiences before beginning activities was significantly higher for South American alumni than for Canadian alumni.<sup>24</sup>

**Depth of Reflection.** Current students tended to rate low-depth and high-depth reflection strategies as occurring at about the same frequency. Most students said they were asked to describe their experiences frequently and engaged in individual reflection either occasionally or frequently. They less often participated in high-depth reflection activities.

When they did participate in high-depth activities, students most often were asked to think about their impact on the community and on themselves. They were least likely to reflect on the ways in which service impacted their views on local, national, or global issues. Few engaged in verbal reflection and even fewer reflected on their experiences with their peers or classmates.

There were regional differences in the quality of reflection. South American students were significantly more likely to engage in high-depth reflection activities than students from the United States.<sup>25</sup> Alumni reported the same patterns. South American alumni were statistically likely to report more frequently reflecting about their service activities individually in comparison to alumni from the United States.<sup>26</sup>

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<sup>22</sup> Reflection before beginning any service activities:  $F(2, 872) = 36.107, p < .001$ . Ratings from South American students ( $M = 2.17, SD = .74$ ) were higher than ratings from Canadian students ( $M = 1.65, SD = .66$ ) and United States Students ( $M = 1.73, SD = .73$ ) with moderate effect sizes,  $p < .001$  and  $d = .75$ , and  $p < .001$  and  $d = .60$ , respectively.

<sup>23</sup> Reflection during service activities:  $F(2, 872) = 5.775, p < .01$ . Ratings from South American students ( $M = 2.32, SD = .72$ ) were higher than ratings from Canadian students ( $M = 2.11, SD = .68$ ) and United States Students ( $M = 2.15, SD = .73$ ) with small effect sizes,  $p < .01$  and  $p < .05$ , respectively, and  $d = .30$  and  $d = .23$ , respectively.

<sup>24</sup> Reflection before beginning any service activities:  $F(2, 195) = 13.697, p < .001$ . Ratings from South American alumni ( $M = 2.20, SD = .75$ ) were higher than ratings from Canadian alumni ( $M = 1.61, SD = .69$ ) with a moderate effect sizes,  $p < .001, d = .75$ .

<sup>25</sup> High Depth of Reflection:  $F(2, 876) = 3.971, p < .05$ . Ratings from South American students ( $M = 2.18, SD = .48$ ) were higher than ratings from United States students ( $M = 2.07, SD = .51$ ) with a large effect size,  $p < .05, d = .87$ .

<sup>26</sup> Reflecting on activities individually:  $F(2, 194) = 3.357, p < .05$ . Ratings from South American alumni ( $M = 2.52, SD = .69$ ) were higher than ratings from Canadian alumni ( $M = 2.19, SD = .83$ ) with a moderate effect sizes,  $p < .05, d = .75$ .

**EXHIBIT 65. THE EXTENT TO WHICH CURRENT STUDENTS ENGAGED IN REFLECTION ACTIVITIES**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Frequency of Reflection Items</b>												
<i>I was asked to reflect on my service experience before beginning any service activities.</i>	274	1.65	.66	396	1.73	.73	205	2.17	.74	888	1.80	.74
<i>I was asked to reflect on my service experience during my service activities.</i>	275	2.11	.68	395	2.15	.73	205	2.32	.72	888	2.17	.72
<i>I was asked to reflect on my service experience after the service activities were completed.</i>	277	2.56	.62	395	2.49	.60	204	2.56	.65	889	2.53	.62
<b>Low Depth of Reflection Items</b>												
<i>I was asked to provide a description of what I did during my service activities.</i>	275	2.46	.62	396	2.49	.63	203	2.48	.65	887	2.48	.63
<i>I was asked to reflect about my service activities individually.</i>	277	2.29	.65	391	2.25	.71	203	2.31	.72	884	2.27	.70
<b>High Depth of Reflection Subscale</b>	<b>277</b>	<b>2.13</b>	<b>.45</b>	<b>397</b>	<b>2.07</b>	<b>.51</b>	<b>205</b>	<b>2.18</b>	<b>.48</b>	<b>892</b>	<b>2.11</b>	<b>.49</b>
<i>I was asked to reflect on how my service experience may have impacted those I served or the community I served.</i>	277	2.32	.64	396	2.31	.65	205	2.40	.66	891	2.33	.65
<i>I was asked to reflect on how my service experience impacted me personally.</i>	277	2.45	.60	395	2.38	.65	205	2.42	.69	890	2.41	.65
<i>I was asked to reflect on how my service experience affected my views of local issues.</i>	276	2.07	.70	395	2.05	.70	205	2.07	.75	889	2.07	.71
<i>I was asked to reflect on how my service experience affected my views of national issues.</i>	277	1.87	.70	397	1.86	.70	204	1.89	.74	891	1.87	.71
<i>I was asked to reflect on how my service experience affected my views of global issues.</i>	277	2.00	.72	396	1.88	.70	201	1.77	.73	887	1.89	.72
<i>I engaged in written reflection about my service activities.</i>	277	2.49	.59	392	2.43	.62	204	2.45	.69	886	2.45	.63
<i>I engaged in verbal reflection about my service activities.</i>	276	1.93	.71	394	1.79	.76	204	2.24	.71	887	1.95	.75
<i>There were opportunities for me to reflect on my service activities with my peers/classmates.</i>	276	1.89	.66	393	1.84	.72	204	2.22	.67	886	1.94	.71

*Note.* Students rated items on a 3-point Likert type scale where 1 = Never, 2 = Occasionally, and 3 = Frequently. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

**EXHIBIT 66. THE EXTENT TO WHICH ALUMNI ENGAGED IN REFLECTION ACTIVITIES**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Frequency of Reflection Items</b>												
<i>I was asked to reflect on my service experience before beginning any service activities.</i>	62	1.61	.69	70	1.67	.68	66	2.20	.75	198	1.83	.75
<i>I was asked to reflect on my service experience during my service activities.</i>	62	2.05	.69	70	2.20	.75	66	2.35	.67	198	2.20	.71
<i>I was asked to reflect on my service experience after the service activities were completed.</i>	62	2.60	.56	70	2.69	.60	66	2.71	.58	198	2.67	.58
<b>Low Depth of Reflection Items</b>												
<i>I was asked to provide a description of what I did during my service activities.</i>	62	2.52	.57	70	2.70	.52	65	2.71	.61	197	2.64	.57
<i>I was asked to reflect about my service activities individually.</i>	62	2.31	.69	69	2.19	.83	66	2.52	.69	197	2.34	.75
<b>High Depth of Reflection Subscale</b>	<b>62</b>	<b>2.06</b>	<b>.42</b>	<b>70</b>	<b>2.17</b>	<b>.47</b>	<b>66</b>	<b>2.26</b>	<b>.53</b>	<b>198</b>	<b>2.17</b>	<b>.48</b>
<i>I was asked to reflect on how my service experience may have impacted those I served or the community I served.</i>	62	2.27	.63	70	2.54	.61	66	2.45	.66	198	2.43	.64
<i>I was asked to reflect on how my service experience impacted me personally.</i>	62	2.40	.64	70	2.57	.63	66	2.62	.58	198	2.54	.62
<i>I was asked to reflect on how my service experience affected my views of local issues.</i>	61	2.13	.62	69	2.12	.72	65	2.17	.82	195	2.14	.72
<i>I was asked to reflect on how my service experience affected my views of national issues.</i>	61	1.79	.66	70	1.90	.73	66	1.95	.81	197	1.88	.74
<i>I was asked to reflect on how my service experience affected my views of global issues.</i>	62	1.82	.71	70	2.01	.73	66	1.91	.82	198	1.92	.76
<i>I engaged in written reflection about my service activities.</i>	61	2.49	.65	70	2.54	.63	66	2.67	.66	197	2.57	.65
<i>I engaged in verbal reflection about my service activities.</i>	62	1.92	.71	70	1.93	.71	66	2.15	.81	198	2.00	.75
<i>There were opportunities for me to reflect on my service activities with my peers/classmates.</i>	62	1.66	.63	70	1.76	.65	66	2.20	.77	198	1.87	.72

Note. Alumni rated items on a 3-point Likert type scale where 1 = Never, 2 = Occasionally, and 3 = Frequently. Bolded text indicates composite scale.

## RESPECT FOR OTHERS' OPINIONS

The extent to which students respected others' opinions has also been shown to have an effect on outcomes, though the effect is typically lower for this program design characteristic than for the others previously presented. As shown in Exhibit 67, students reported that they generally were expected to respect others' opinions. There were slight differences between regions, with Canadian students reporting this feature more often than their peers. South American students reported this feature the least often. The differences were not statistically significant.

**EXHIBIT 67. CURRENT STUDENTS' EXPECTATION OF RESPECT FOR OTHERS' OPINIONS**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<i>During my service activities, we were expected to show respect for other people's opinions.</i>	263	3.48	.62	372	3.41	.69	194	3.36	.65	843	3.43	.66

*Note.* Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America.

Alumni also reported that students were expected to show respect for other people's opinions. Their averages were somewhat higher than those of the current students, and differences between regions were flipped from the current students, with South American alumni reporting the highest average and Canadian alumni reporting the lowest. However, no regional differences were statistically significant. Results are presented in Exhibit 68.

**EXHIBIT 68. ALUMNI EXPECTATION OF RESPECT FOR OTHERS' OPINIONS**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<i>During my service activities, we were expected to show respect for other people's opinions.</i>	58	3.48	.54	66	3.58	.53	64	3.67	.62	188	3.58	.57

*Note.* Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree.

## FINDINGS

### IMPACTS OF PARTICIPATION IN CAS ACTIVITIES ON STUDENTS

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*This section documents impacts of participation in the CAS service activities in personal, social, and civic domains.*

Research shows that participation in service activities often influences students' personal and social development, civic development and engagement, and ethic of service. This section describes the extent to which IB students experienced these impacts.

#### PERSONAL DEVELOPMENT: SELF-EFFICACY

The literature shows that many students find their sense of self-efficacy, that is, their view of themselves as potentially able to make a difference in the world, is affected by participation in service. For this study, self-efficacy was measured by a subscale of items that examined students' self-reflections on their beliefs and attitudes, confidence, improvement of skills, development of a new goal or passion, or the sense of becoming well-rounded. The latter was included particularly because the Phase I study of IB civic-mindedness revealed that becoming well-rounded was one of the impacts mentioned most often by both students and CAS coordinators.

Exhibit 69 shows that participation in CAS had a moderate impact on self-efficacy across the sample. There were statistically significant differences by region, with students from Canada and the United States reporting a higher level of impact on self-efficacy compared to students from South America.<sup>27</sup>

As shown in Exhibit 70, alumni reported somewhat higher impacts in this area than the current students, particularly in their estimations of learning new skills and becoming more well-rounded students. There were no statistically significant differences between regions for alumni.

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<sup>27</sup> Self-Efficacy:  $F(2, 838) = 7.282, p < .001$ . Ratings from Canadian students ( $M = 3.12, SD = .59$ ) were statistically and significantly higher than ratings from South American students ( $M = 2.89, SD = .68$ ) with moderate effect size,  $p < .001, d = .37$ . Ratings from students from the United States ( $M = 3.05, SD = .64$ ) were statistically and significantly higher than ratings from South American students ( $M = 2.89, SD = .68$ ) with a small effect size,  $p < .05, d = .24$ .

**EXHIBIT 69. CURRENT STUDENT IMPACTS: SELF-EFFICACY**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Self-Efficacy Subscale</b>	<b>268</b>	<b>3.12</b>	<b>.59</b>	<b>373</b>	<b>3.05</b>	<b>.64</b>	<b>200</b>	<b>2.89</b>	<b>.68</b>	<b>854</b>	<b>3.03</b>	<b>.64</b>
Thinking of all your service activities over from your junior year to now, please indicate your level of agreement or disagreement with the following statements.												
<i>I re-examined my beliefs and attitudes about myself.</i>	251	2.98	.80	361	2.85	.83	190	2.75	.85	815	2.87	.83
<i>I did things I never thought I could do.</i>	258	3.02	.84	368	2.91	.84	198	3.05	.85	837	2.98	.85
<i>I am more confident.</i>	257	3.16	.76	360	3.06	.81	190	2.94	.90	819	3.07	.82
<i>I improved on a skill I already possessed.</i>	261	3.24	.69	366	3.17	.73	188	3.04	.87	827	3.16	.76
<i>I learned a new skill.</i>	261	3.27	.69	367	3.17	.74	193	2.83	.90	834	3.12	.78
<i>I discovered a new goal and/or passion in life.</i>	247	3.00	.86	355	2.99	.87	181	2.59	.98	795	2.90	.91
<i>I am a more “well rounded” person.</i>	255	3.16	.76	351	3.18	.76	187	2.98	.86	805	3.13	.79

Note. Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

**EXHIBIT 70. ALUMNI IMPACTS: SELF-EFFICACY**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Self-Efficacy Subscale</b>	<b>56</b>	<b>3.20</b>	<b>.52</b>	<b>66</b>	<b>3.02</b>	<b>.61</b>	<b>60</b>	<b>3.07</b>	<b>.65</b>	<b>182</b>	<b>3.09</b>	<b>.60</b>
<i>I re-examined my beliefs and attitudes about myself.</i>	53	2.91	.82	61	2.82	.85	56	3.13	.81	170	2.95	.83
<i>I did things I never thought I could do.</i>	55	2.95	.85	64	2.78	.85	59	3.08	.95	178	2.93	.89
<i>I am more confident.</i>	56	3.32	.72	62	3.11	.81	56	3.02	.88	174	3.15	.81
<i>I improved on a skill I already possessed.</i>	55	3.35	.58	63	3.24	.69	57	3.21	.73	175	3.26	.67
<i>I learned a new skill.</i>	54	3.43	.54	62	3.19	.67	58	3.22	.75	174	3.28	.67
<i>I discovered a new goal and/or passion in life.</i>	52	3.04	.95	62	2.89	.87	56	2.75	.96	170	2.89	.93
<i>I am a more “well rounded” person.</i>	55	3.42	.66	63	3.24	.71	54	3.13	.87	172	3.26	.75

Note. Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scales.

## PERSONAL DEVELOPMENT: LEADERSHIP SKILLS

Students were asked to report the extent to which the service activities influenced a number of different leadership skills. Exhibit 71 displays student ratings obtained from English language surveys and shows that students overall perceived the CAS requirement as having a moderate impact. Largest influences were on working as part of a team and taking on different roles and responsibilities. Smallest impacts were on writing about one’s ideas and talking about ideas in front of other people. There was slight variation between ratings across regions, with Canadian students having a slightly higher mean rating than students from the United States or South America.

**EXHIBIT 71. CURRENT STUDENT IMPACTS: LEADERSHIP SKILLS (ENGLISH SCALE)**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Leadership Subscale</b>	<b>268</b>	<b>2.94</b>	<b>.83</b>	<b>367</b>	<b>2.85</b>	<b>.84</b>	<b>44</b>	<b>2.83</b>	<b>.72</b>	<b>690</b>	<b>2.89</b>	<b>.83</b>
<i>Talking about my ideas in front of other people.</i>	264	2.83	1.06	360	2.61	1.07	44	2.77	.96	678	2.72	1.06
<i>Writing about my ideas.</i>	266	2.59	1.08	365	2.63	1.07	44	2.43	1.04	686	2.61	1.07
<i>Working as part of a team.</i>	266	3.18	.92	364	2.97	1.00	43	3.09	.97	684	3.07	.97
<i>Finding ways to solve problems.</i>	266	3.00	.96	365	2.95	.98	44	2.98	.93	685	2.97	.97
<i>Figuring out how to make a good decision.</i>	264	2.95	1.00	363	2.87	1.00	42	2.98	.87	680	2.91	.99
<i>Coming up with new ideas.</i>	265	2.92	.99	365	2.85	.95	42	2.81	.86	683	2.88	.96
<i>Being the leader of a group.</i>	261	3.03	1.01	367	2.98	1.04	43	2.74	.93	682	2.99	1.02
<i>Listening to other people’s ideas even if they are different from mine.</i>	262	2.90	1.06	363	2.89	1.02	43	2.95	.82	679	2.91	1.02
<i>Asking others to explain their ideas or points of view.</i>	261	2.89	1.01	362	2.76	1.00	43	2.67	.87	676	2.81	1.00
<i>Compromising with other people to reach a common goal.</i>	264	2.99	.96	364	2.80	1.01	43	2.91	.87	682	2.89	.99
<i>Taking on different roles and responsibilities.</i>	263	3.14	.95	366	3.00	.98	43	2.91	.90	683	3.05	.96
<i>Leading a group toward a common goal.</i>	261	2.87	1.00	364	2.85	1.04	43	2.72	.93	679	2.85	1.02

*Note.* Students rated items on a 4-point Likert scale where 1 = No Influence, 2 = Mild Influence, 3 = Moderate Influence, and 4 = Strong Influence. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

The Spanish version of the survey had a different response set and asked students to rate their level of agreement with items from 1 which indicated “strongly disagree” to 4 which indicated “strongly agree”. No students from Canada completed the Spanish version of the survey and

fewer than 10 students from the United States completed the survey in Spanish. Therefore, the mean rating from only South American students is presented in Exhibit 72, which shows that South American students agreed that the CAS requirement had a positive impact on their leadership skills. Students reported moderate levels of influence. The four areas where influence was rated highest were finding ways to solve problems, figuring out how to make a good decision, compromising with others to reach a common goal, and taking on different roles and responsibilities. The least amount of influence was on working as part of a team.

## EXHIBIT 72. CURRENT STUDENT IMPACTS: LEADERSHIP SKILLS (SPANISH SCALE)

	South America		
	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Leadership Subscale</b>	<b>157</b>	<b>3.11</b>	<b>.60</b>
<i>Talking about my ideas in front of other people.</i>	153	2.94	.82
<i>Writing about my ideas.</i>	152	2.88	.89
<i>Working as part of a team.</i>	155	3.36	.72
<i>Finding ways to solve problems.</i>	154	3.27	.75
<i>Figuring out how to make a good decision.</i>	150	3.01	.81
<i>Coming up with new ideas.</i>	153	3.14	.74
<i>Being the leader of a group.</i>	147	3.01	.86
<i>Listening to other people's ideas even if they are different from mine.</i>	152	3.24	.75
<i>Asking others to explain their ideas or points of view.</i>	150	3.04	.83
<i>Compromising with other people to reach a common goal.</i>	152	3.23	.76
<i>Taking on different roles and responsibilities.</i>	157	3.20	.71
<i>Leading a group toward a common goal.</i>	150	2.95	.84

Note. Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scales.

Compared to currently enrolled students, alumni were more likely to report that they acquired leadership skills, though the influence of the program on them was also “moderate.” As shown in Exhibit 73, similar to currently enrolled students, alumni rated influence as being highest on working as part of a team and on taking on different roles and responsibilities. Alumni indicated a stronger influence on finding ways to solve problems. There were no statistically significant differences between alumni from different regions.

### ACADEMIC DEVELOPMENT: RESEARCH SKILLS

When planned well, many service projects provide students with an opportunity to research an issue before providing service so that they can see the extent to which a particular community is in need of service. Exhibit 74 displays student ratings from the English language survey of the extent to which they acquired research skills from service. Findings reveal that students overall perceived the CAS requirement as having a mild to moderate impact on their acquisition of research skills. There was slight variation between ratings across regions, with Canadian students having a slightly higher mean rating than students from the United States or South America. Regional differences were not statistically significant.

The Spanish version asked students to rate their level of agreement with items from 1 which indicated “strongly disagree” to 4 which indicated “strongly agree”.

**EXHIBIT 73. ALUMNI IMPACTS: LEADERSHIP SKILLS**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Leadership Subscale</b>	<b>56</b>	<b>2.97</b>	<b>.70</b>	<b>64</b>	<b>2.90</b>	<b>.81</b>	<b>60</b>	<b>3.18</b>	<b>.71</b>	<b>180</b>	<b>3.02</b>	<b>.75</b>
<i>Talking about my ideas in front of other people.</i>	56	2.75	1.05	63	2.71	1.04	60	2.95	.98	179	2.80	1.02
<i>Writing about my ideas.</i>	56	2.66	.98	62	2.69	1.05	59	2.93	1.10	177	2.76	1.05
<i>Working as part of a team.</i>	54	3.13	.99	64	3.08	.98	60	3.37	.78	178	3.19	.93
<i>Finding ways to solve problems.</i>	55	3.11	.98	63	3.06	1.00	60	3.30	.81	178	3.16	.93
<i>Figuring out how to make a good decision.</i>	55	2.98	.95	63	2.90	1.03	58	3.12	.92	176	3.00	.97
<i>Coming up with new ideas.</i>	55	3.04	.82	63	2.87	.99	59	3.24	.90	177	3.05	.92
<i>Being the leader of a group.</i>	55	2.96	.93	61	2.85	1.05	60	3.28	.87	176	3.03	.97
<i>Listening to other people's ideas even if they are different from mine.</i>	53	2.89	.87	64	2.89	.95	60	3.28	.90	177	3.02	.92
<i>Asking others to explain their ideas or points of view.</i>	54	2.93	.80	64	2.77	1.02	59	3.08	.97	177	2.92	.94
<i>Compromising with other people to reach a common goal.</i>	54	2.93	1.01	63	2.94	.91	58	3.31	.80	175	3.06	.92
<i>Taking on different roles and responsibilities.</i>	54	3.19	.70	64	3.11	.91	59	3.25	.82	177	3.18	.82
<i>Leading a group toward a common goal.</i>	55	2.89	.94	62	2.92	1.00	59	3.15	.89	176	2.99	.94

Note. Alumni rated items on a 4-point Likert scale where 1 = No Influence, 2 = Mild Influence, 3 = Moderate Influence, and 4 = Strong Influence. Bolded text indicates composite scales.

**EXHIBIT 74. CURRENT STUDENT IMPACTS: RESEARCH SKILLS (ENGLISH SCALE)**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Researching an Issue Subscale</b>	<b>267</b>	<b>2.60</b>	<b>1.02</b>	<b>366</b>	<b>2.53</b>	<b>1.04</b>	<b>43</b>	<b>2.52</b>	<b>.92</b>	<b>687</b>	<b>2.56</b>	<b>1.02</b>
<i>Researching an idea or issue.</i>	263	2.69	1.10	364	2.60	1.10	43	2.63	1.00	680	2.64	1.09
<i>Summarizing information that I have researched.</i>	264	2.59	1.10	364	2.49	1.09	42	2.48	1.04	681	2.53	1.09
<i>Using technology to gather information on an idea or issue.</i>	263	2.51	1.11	364	2.49	1.11	43	2.42	1.05	681	2.50	1.10

Note. Students rated items on a 4-point Likert scale where 1 = No Influence, 2 = Mild Influence, 3 = Moderate Influence, and 4 = Strong Influence. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

The results in Exhibit 75 show a mild to moderate degree of influence on their acquisition of research skills. Only South American students were respondents to this survey.

**EXHIBIT 75. CURRENT STUDENT IMPACTS: RESEARCH SKILLS (SPANISH SCALE)**

	South America		
	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Researching an Issue Subscale</b>	<b>155</b>	<b>2.75</b>	<b>.79</b>
<i>Researching an idea or issue.</i>	148	2.78	.85
<i>Summarizing information that I have researched.</i>	148	2.70	.91
<i>Using technology to gather information on an idea or issue.</i>	148	2.67	.88

Note. Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scales.

Exhibit 76 shows results for alumni. Once again, a mild to moderate influence of participation in service on research skills was reported. The overall mild influence is likely due to the fact that the service projects were not consistently related to academic curriculum.

**EXHIBIT 76. ALUMNI IMPACTS: RESEARCH SKILLS**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Researching an Issue Subscale</b>	<b>55</b>	<b>2.60</b>	<b>.92</b>	<b>64</b>	<b>2.73</b>	<b>.96</b>	<b>60</b>	<b>2.75</b>	<b>.97</b>	<b>179</b>	<b>2.70</b>	<b>.95</b>
<i>Researching an idea or issue.</i>	55	2.73	1.01	64	2.78	1.00	59	2.86	1.03	178	2.79	1.01
<i>Summarizing information that I have researched.</i>	55	2.53	.96	64	2.77	1.00	58	2.67	1.07	177	2.66	1.01
<i>Using technology to gather information on an idea or issue.</i>	55	2.55	1.05	62	2.61	1.06	60	2.77	1.05	177	2.64	1.05

Note. Alumni rated items on a 4-point Likert scale where 1 = No Influence, 2 = Mild Influence, 3 = Moderate Influence, and 4 = Strong Influence. Bolded text indicates composite scales.

**CIVIC DEVELOPMENT**

The impact of participating in service on students’ civic development was measured in three ways. First, the influence on civic attitudes (civic-mindedness) was investigated using a series of items that asked whether students had greater exposure to new ideas and ways of viewing the world and learning more about the “real” world and the extent to which they changed beliefs and attitudes and/or thought about issues, community needs, or impacts on society differently. The second type of civic development that was measured focused on the acquisition of specific civic skills related to service provision. Students were asked to indicate whether they learned how to develop a plan to address community needs, convince others to help, organize and run a meeting, express their views in front of others, and/or develop specific skills needed to accomplish the service or organize the community. Finally, respondents rated the extent to which they believed they made an actual tangible impact based on their efforts and whether students their age can make a positive difference in the world.

## CIVIC ATTITUDES

Exhibit 77 provides the findings from measures of civic attitudes for current students. Respondents reported a small impact in this area, larger than the impact on leadership and smaller than self-efficacy. Impacts were larger for items measuring exposure to new ideas and learning about the real world and smaller for changing students' thinking. There were no statistically significant differences between students in different regions.

**EXHIBIT 77. CURRENT STUDENT IMPACTS: CIVIC ATTITUDES**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Civic Attitudes Subscale</b>	<b>269</b>	<b>3.05</b>	<b>.61</b>	<b>373</b>	<b>3.00</b>	<b>.67</b>	<b>201</b>	<b>3.01</b>	<b>.66</b>	<b>856</b>	<b>3.02</b>	<b>.65</b>
<i>I was exposed to new ideas and ways of seeing the world.</i>	262	3.23	.70	368	3.13	.77	197	3.23	.77	840	3.19	.75
<i>I learned about the "real" world.</i>	256	3.05	.79	364	3.03	.81	196	3.21	.81	829	3.08	.81
<i>I changed some of my beliefs and attitudes.</i>	257	2.88	.83	359	2.80	.84	190	2.67	.88	818	2.80	.85
<i>I think about the needs of my community differently.</i>	261	3.04	.77	367	3.04	.78	193	3.02	.85	834	3.04	.79
<i>I think about issues related to the activity I worked on differently.</i>	256	3.02	.74	365	3.01	.77	191	2.92	.85	825	2.99	.78
<i>I think about my impact on society differently.</i>	254	3.02	.75	365	2.98	.80	190	2.99	.83	821	3.00	.79

Note. Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scales.

As shown in Exhibit 78, alumni had similar but somewhat higher responses to the extent to which they perceived an influence from participation on civic attitudes. They rated program influence on exposure to new ideas and learning about the real world highest but also indicated several additional impacts. There were no statistically significant differences across regions.

**EXHIBIT 78. ALUMNI IMPACTS: CIVIC ATTITUDES**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Civic Attitudes Subscale</b>	<b>56</b>	<b>3.11</b>	<b>.56</b>	<b>66</b>	<b>3.01</b>	<b>.68</b>	<b>60</b>	<b>3.18</b>	<b>.63</b>	<b>182</b>	<b>3.09</b>	<b>.63</b>
<i>I was exposed to new ideas and ways of seeing the world.</i>	54	3.26	.71	65	3.20	.73	59	3.37	.74	178	3.28	.73
<i>I learned about the “real” world.</i>	55	3.13	.86	62	3.02	.84	60	3.38	.72	177	3.18	.82
<i>I changed some of my beliefs and attitudes.</i>	55	2.93	.72	63	2.71	.87	57	2.91	.87	175	2.85	.83
<i>I think about the needs of my community differently.</i>	53	3.09	.66	62	3.16	.83	59	3.08	.75	174	3.11	.75
<i>I think about issues related to the activity I worked on differently.</i>	56	3.14	.65	63	3.16	.72	57	3.14	.81	176	3.15	.73
<i>I think about my impact on society differently.</i>	56	3.16	.71	63	3.00	.72	56	3.16	.76	175	3.10	.73

Note. Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scales.

**CIVIC SKILLS**

For this study, civic skills were defined as the development of skills related to meeting a community need, such as developing a plan, assembling a team, organizing and managing meetings, expressing a point of view to others, and developing the skills needed to address the specific need, such as learning the best way to tutor or to successfully operate a recycling campaign. To gauge whether students had acquired these civic skills, respondents were asked how well they would be able to perform a variety of tasks if they discovered a community need that they wanted to address. Exhibit 79 shows that currently enrolled students in the aggregate and within each region reported they would be able to perform the civic tasks well, more than moderately well but not to the level of “very well.” Responses show highest ratings in the areas of confidence in students’ abilities to express their points of view in front of others and to develop a specific skill needed to accomplish the service work. Students were less likely to report an impact on their ability to convince others to help or develop a plan to address a need. There were no statistically significant differences in student ratings of Civic Development Skills between regions.

**EXHIBIT 79. CURRENT STUDENT IMPACTS: CIVIC SKILLS**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Civic Development Skills</b>	<b>259</b>	<b>3.05</b>	<b>.68</b>	<b>369</b>	<b>3.08</b>	<b>.68</b>	<b>198</b>	<b>3.05</b>	<b>.66</b>	<b>838</b>	<b>3.07</b>	<b>.67</b>
<i>Develop a plan to address the need.</i>	253	2.98	.85	365	3.04	.83	193	3.00	.85	823	3.01	.84
<i>Convince others to help.</i>	255	2.93	.86	365	2.97	.86	196	3.08	.83	828	2.99	.85
<i>Organize and run a meeting.</i>	254	3.07	.92	363	3.09	.86	194	3.03	.92	823	3.07	.89
<i>Express your views in front of a group of people.</i>	256	3.16	.88	362	3.17	.83	193	3.11	.85	822	3.15	.85
<i>Develop a specific skill needed to accomplish the work (e.g., learn how to use tools or work with the elderly).</i>	258	3.16	.78	364	3.18	.79	194	3.09	.87	828	3.15	.80
<i>Develop a specific skill needed for community organizing.</i>	252	3.03	.83	360	3.08	.82	188	3.01	.87	811	3.04	.84

Note. Students rated items on a 4-point Likert scale where 1 = Not Very Well, 2 = Moderately Well, 3 = Well, and 4 = Very Well.  
<sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scale.

Results for alumni were somewhat higher than those for currently enrolled students, as displayed in Exhibit 80. The pattern of responses, however, was similar to that of current students, with the greatest impact being seen on developing specific skills needed to help a specific population. Alumni were more likely to report acquiring skills in community organizing and less likely to report being able to convince others to help. There were no significant differences between regions.

**EXHIBIT 80. ALUMNI IMPACTS: CIVIC SKILLS**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Civic Development Skills</b>	<b>52</b>	<b>3.14</b>	<b>.54</b>	<b>58</b>	<b>3.13</b>	<b>.73</b>	<b>58</b>	<b>3.22</b>	<b>.63</b>	<b>168</b>	<b>3.17</b>	<b>.64</b>
<i>Develop a plan to address the need.</i>	52	3.08	.68	58	3.05	.83	58	3.17	.90	168	3.10	.81
<i>Convince others to help.</i>	52	2.69	.81	58	2.81	.96	57	2.93	.92	167	2.81	.90
<i>Organize and run a meeting.</i>	52	3.15	.89	58	3.12	.98	58	3.12	.92	168	3.13	.93
<i>Express your views in front of a group of people.</i>	52	3.31	.67	58	3.26	.98	57	3.40	.75	167	3.32	.82
<i>Develop a specific skill needed to accomplish the work (e.g., learn how to use tools or work with the elderly).</i>	52	3.44	.73	56	3.39	.76	57	3.44	.73	165	3.42	.73
<i>Develop a specific skill needed for community organizing.</i>	52	3.19	.74	56	3.16	.83	55	3.24	.88	163	3.20	.82

Note. Alumni rated items on a 4-point Likert scale where 1 = Not Very Well, 2 = Moderately Well, 3 = Well, and 4 = Very Well. Bolded text indicates composite scale.

## CIVIC EFFICACY AND TANGIBLE IMPACTS

The literature review showed that many young people make a difference in tangible ways when they provided service, and often the visible impact they make influences their sense of civic efficacy. IB students and alumni responded to a series of items to determine whether they felt they made an impact on the local, national, or global level and whether that impact was visible. They also indicated whether they believed that students their age can do things to make a positive difference in the world.

Exhibit 81 shows that currently enrolled students believed they made a tangible difference at the local level, but not at the national or global level, likely because their efforts were relatively modest and because their activities were mostly aimed at the local level. Students more strongly agreed that students their age can do things to make a positive difference in the world. In the aggregate, currently enrolled students agreed that they made an impact on the community that was not easily seen. There were no statistically significant differences in student ratings of Perceived Tangible Impacts between regions.

**EXHIBIT 81. CURRENT STUDENTS' PERCEIVED TANGIBLE IMPACTS AND CIVIC EFFICACY**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Perceived Tangible Impacts</b>	<b>260</b>	<b>2.91</b>	<b>.54</b>	<b>372</b>	<b>2.88</b>	<b>.55</b>	<b>196</b>	<b>2.80</b>	<b>.54</b>	<b>841</b>	<b>2.87</b>	<b>.54</b>
<i>I made a visible positive impact at the local level.</i>	241	3.06	.68	360	3.19	.71	185	3.02	.72	798	3.11	.71
<i>I made a visible positive impact at the national level.</i>	227	2.45	.82	342	2.51	.84	172	2.44	.85	752	2.47	.83
<i>I made a visible positive impact at the global level.</i>	225	2.55	.94	340	2.39	.92	170	2.18	.86	747	2.39	.92
<i>Students my age can do things to make a positive difference in the world.</i>	255	3.31	.66	363	3.33	.64	190	3.33	.67	821	3.33	.65
<i>I made an impact on the community, but it was not easily seen.</i>	238	2.96	.73	342	2.89	.78	174	2.84	.76	766	2.90	.76

*Note.* Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scale.

As seen in Exhibit 82, alumni responded very similarly to currently enrolled students. They also were more likely to report an impact on the local level and likely to feel civically efficacious, but were less likely to agree that they had made a tangible impact on the national or global level.

**EXHIBIT 82. ALUMNI’S PERCEIVED TANGIBLE IMPACTS AND CIVIC EFFICACY**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Perceived Tangible Impacts</b>	<b>54</b>	<b>2.85</b>	<b>.52</b>	<b>57</b>	<b>2.85</b>	<b>.66</b>	<b>58</b>	<b>2.90</b>	<b>.69</b>	<b>169</b>	<b>2.87</b>	<b>.63</b>
<i>I made a visible positive impact at the local level.</i>	52	3.10	.60	56	3.23	.69	56	3.14	.75	164	3.16	.68
<i>I made a visible positive impact at the national level.</i>	45	2.31	.73	47	2.17	.82	52	2.50	.87	144	2.33	.82
<i>I made a visible positive impact at the global level.</i>	47	2.38	.80	46	2.04	.79	48	2.06	.98	141	2.16	.87
<i>Students my age can do things to make a positive difference in the world.</i>	53	3.32	.55	56	3.46	.66	57	3.58	.73	166	3.46	.66
<i>I made an impact on the community, but it was not easily seen.</i>	48	3.08	.79	55	3.09	.78	54	2.91	.92	157	3.03	.83

Note. Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scale.

**ETHIC OF SERVICE**

One common impact of participating in community service and/or service-learning is the development of an ethic of service. An ethic of service can be expressed both in attitudes and behaviors.

**Attitudes.** As shown in Exhibit 83, most currently enrolled IB students expressed only a moderate ethic of service and sense of social responsibility. Students reported that they try to help when they see others in need, but are less likely to find it easy to put aside self-interest in favor of a greater good. Although students from the United States had slightly higher ratings on these items than Canadian or South American students, comparison tests revealed there were no statistically significant differences between regions.

Alumni responses indicated a greater development of an ethic of service than was reported by currently enrolled students. Exhibit 84 shows that alumni had greater agreement with all items. Analysis of alumni responses showed no statistically significant differences between regions.

**EXHIBIT 83. CURRENT STUDENT IMPACTS: ETHIC OF SERVICE (ATTITUDES)**

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Ethic of Service (Attitudes) Subscale</b>	<b>270</b>	<b>3.06</b>	<b>.53</b>	<b>379</b>	<b>3.13</b>	<b>.55</b>	<b>200</b>	<b>3.03</b>	<b>.57</b>	<b>862</b>	<b>3.08</b>	<b>.55</b>
<i>It is my responsibilities to help improve the community.</i>	270	3.00	.63	378	3.12	.63	199	3.05	.72	860	3.07	.66
<i>Helping others is something for which I am personally responsible.</i>	270	3.04	.67	377	3.09	.67	199	2.96	.73	859	3.04	.69
<i>It is easy for me to put aside my self-interest in favor of a greater good.</i>	268	2.95	.66	377	3.03	.66	198	2.92	.76	856	2.97	.69
<i>Being concerned about regional or local issues is an important responsibility for everybody.</i>	270	3.10	.68	377	3.14	.68	199	3.12	.69	859	3.12	.69
<i>Being actively involved in community issues is everyone's responsibility, including mine.</i>	267	3.08	.70	377	3.13	.67	199	2.99	.77	856	3.08	.71
<i>I try to help when I see others in need.</i>	269	3.20	.64	376	3.28	.64	199	3.13	.69	857	3.22	.66

Note. Students rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scale.

**EXHIBIT 84. ALUMNI IMPACTS: ETHIC OF SERVICE (ATTITUDES)**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Ethic of Service (Attitudes) Subscale</b>	<b>54</b>	<b>3.24</b>	<b>.42</b>	<b>61</b>	<b>3.32</b>	<b>.51</b>	<b>58</b>	<b>3.17</b>	<b>.52</b>	<b>173</b>	<b>3.24</b>	<b>.49</b>
<i>It is my responsibilities to help improve the community.</i>	54	3.17	.58	61	3.33	.65	58	3.19	.63	173	3.23	.62
<i>Helping others is something for which I am personally responsible.</i>	54	3.17	.64	61	3.36	.55	58	3.12	.75	173	3.22	.65
<i>It is easy for me to put aside my self-interest in favor of a greater good.</i>	54	2.96	.51	61	3.16	.69	57	2.93	.70	172	3.02	.65
<i>Being concerned about regional or local issues is an important responsibility for everybody.</i>	54	3.39	.60	61	3.31	.67	58	3.29	.73	173	3.33	.67
<i>Being actively involved in community issues is everyone's responsibility, including mine.</i>	54	3.33	.70	61	3.31	.70	58	3.22	.73	173	3.29	.71
<i>I try to help when I see others in need.</i>	54	3.43	.54	60	3.43	.53	58	3.26	.64	172	3.37	.57

Note. Alumni rated items on a 4-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly Agree. Bolded text indicates composite scale.

**Behaviors.** When asked about a series of behaviors associated with the development of an ethic of service, responses displayed in Exhibit 85 show that students were likely to continue

with service activities beyond high school, but less likely to encourage others to do so or work with a group to solve a community problem. They were even less likely to pursue a career related to their service activities. Ratings provided by students from the United States were slightly higher than ratings from Canadian or South American students, but differences were not statistically significant.

Exhibit 86 shows that alumni had similar responses to currently enrolled students with regard to their civic behaviors, though they were less likely than current students to say that they would continue to participate in service activities and were more likely to say they would work with a group to solve a community problem. There were no statistically significant differences across regions.

#### EXHIBIT 85. CURRENT STUDENT IMPACTS: ETHIC OF SERVICE (BEHAVIORS)

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Ethic of Service (Behaviors) Scale</b>	<b>271</b>	<b>2.79</b>	<b>.78</b>	<b>376</b>	<b>2.92</b>	<b>.76</b>	<b>199</b>	<b>2.81</b>	<b>.75</b>	<b>859</b>	<b>2.86</b>	<b>.77</b>
<i>Continue to participate in service-related activities.</i>	271	3.05	.86	375	3.14	.83	199	2.97	.92	858	3.08	.86
<i>Encourage others around you to participate in service activities.</i>	269	2.88	.91	376	2.89	.89	198	2.88	.91	856	2.89	.90
<i>Work with a group to solve a problem in your community.</i>	269	2.85	.91	374	2.99	.86	199	2.95	.82	854	2.94	.87
<i>Pursue a career related to your service activities.</i>	271	2.38	1.04	373	2.66	1.08	198	2.41	1.06	855	2.51	1.07

Note. Students rated items on a 4-point Likert scale where 1 = Not at All Likely, 2 = Somewhat Likely, 3 = Likely, and 4 = Very Likely. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scale.

#### EXHIBIT 86. ALUMNI IMPACTS: CURRENT FREQUENCY OF ETHIC OF SERVICE BEHAVIORS

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Ethic of Service (Behaviors) Scale</b>	<b>52</b>	<b>2.92</b>	<b>.69</b>	<b>62</b>	<b>2.92</b>	<b>.75</b>	<b>56</b>	<b>2.73</b>	<b>.83</b>	<b>170</b>	<b>2.86</b>	<b>.76</b>
<i>Continue to participate in service-related activities.</i>	52	3.12	.78	62	2.98	.82	56	2.70	.91	170	2.93	.85
<i>Encourage others around you to participate in service activities.</i>	52	2.94	.87	62	2.79	.85	56	2.86	.90	170	2.86	.87
<i>Work with a group to solve a problem in your community.</i>	53	2.69	.88	59	3.00	.87	55	2.62	1.03	166	2.78	.94

Note. Alumni rated items on a 4-point Likert scale where 1 = Never, 2 = Rarely, 3 = Occasionally, and 4 = Frequently. Bolded text indicates composite scale.

Exhibit 87 shows that alumni had a more optimistic view of their likelihood of engaging in civic behaviors in the future, with alumni reporting a statistically significant increase over time on all

items. There were no significant differences between responses of alumni from the three regions.

**EXHIBIT 87. ALUMNI IMPACTS: FUTURE ETHIC OF SERVICE BEHAVIORS**

	Canada			United States			South America			All Alumni		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Future Ethic of Service Behaviors</b>	<b>54</b>	<b>3.22</b>	<b>.64</b>	<b>62</b>	<b>3.01</b>	<b>.86</b>	<b>56</b>	<b>3.09</b>	<b>.84</b>	<b>172</b>	<b>3.10</b>	<b>.79</b>
<i>Continue to participate in service-related activities.</i>	54	3.37	.68	62	3.06	.89	56	3.02	.98	172	3.15	.87
<i>Encourage others around you to participate in service activities.</i>	54	3.24	.78	62	2.92	.95	55	3.13	.88	171	3.09	.88
<i>Work with a group to solve a problem in your community.</i>	53	3.02	.77	59	3.08	.90	56	3.14	.88	168	3.08	.85

Note. Alumni rated items on a 4-point Likert scale where 1 = Not at All Likely, 2 = Somewhat Likely, 3 = Likely, and 4 = Very Likely. Bolded text indicates composite scale.

**OVERALL IMPACTS**

A series of items were included on the survey that asked students to rate the extent to which their service participation had an impact on their personal development, social development, civic development, and community development, which formed the Overall Impacts scale. Ratings for the scale presented in Exhibit 88 reveal that students perceived their participation in service activities as having an overall moderate impact on them. Highest impact was reported for leadership skill development and ethic of service. Lowest was for identifying solutions to community problems. Student ratings varied little across regions with no statistically significant differences found on the Overall Impacts scale.

Alumni responding to the same questions reported slightly higher impacts than current students, as shown in Exhibit 89. Highest levels of agreement were reported for willingness to engage in volunteerism in the future (ethic of service) while lowest was for solving community problems. Comparison tests revealed that South American alumni had statistically significantly higher ratings of Overall Impacts in comparison to alumni from the United States.<sup>28</sup>

<sup>28</sup> Overall Impacts:  $F(2, 167) = 4.255, p < .05$ . The average rating of South American alumni ( $M = 3.02, SD = .76$ ) was significantly higher than the average rating from alumni from the United States ( $M = 2.63, SD = .88$ ) with a very large effect size,  $p < .05, d = 1.17$ .

### EXHIBIT 88. CURRENT STUDENT OVERALL IMPACTS

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Overall Impacts Scale</b>	<b>270</b>	<b>2.78</b>	<b>.78</b>	<b>376</b>	<b>2.81</b>	<b>.83</b>	<b>199</b>	2.81	.73	<b>858</b>	<b>2.81</b>	<b>.79</b>
<i>Personal development such as developing more confidence in yourself.</i>	270	2.85	.93	375	2.82	.95	197	2.64	.91	855	2.79	.93
<i>Social development such as learning new leadership skills.</i>	269	2.99	.87	375	2.93	.96	199	2.77	.95	856	2.91	.93
<i>Civic development such as identifying solutions to community problems.</i>	270	2.63	.95	371	2.70	.94	199	2.82	.86	853	2.71	.92
<i>Civic development such as the willingness to engage in volunteerism in the future.</i>	270	2.83	.90	374	2.86	.92	197	2.94	.95	853	2.87	.92
<i>Community development such as meeting specific needs.</i>	268	2.62	.91	374	2.76	.92	199	2.87	.84	854	2.75	.90

Note. Students rated items on a 4-point Likert scale where 1 = No Impact, 2 = A Small Impact, 3 = A Moderate Impact, and 4 = A Large Impact. <sup>a</sup> The All Students column includes the 16 students who did not indicate their country or territory, and is therefore larger than the sum of Canada, United States, and South America. Bolded text indicates composite scale.

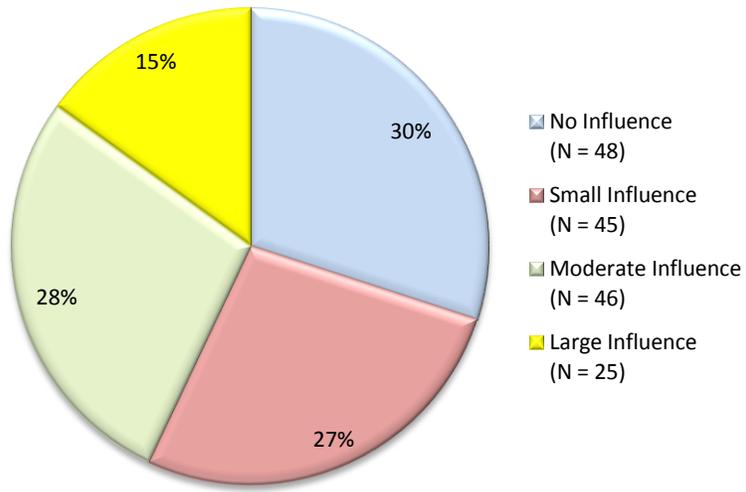
### EXHIBIT 89. ALUMNI IMPACTS: OVERALL IMPACTS

	Canada			United States			South America			All Students <sup>a</sup>		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Overall Impacts Scale</b>	<b>53</b>	<b>2.95</b>	<b>.62</b>	<b>61</b>	<b>2.63</b>	<b>.88</b>	<b>56</b>	3.02	.77	<b>170</b>	<b>2.86</b>	<b>.79</b>
<i>Personal development such as developing more confidence in yourself.</i>	53	3.23	.75	61	2.56	.96	56	2.98	.90	170	2.91	.92
<i>Social development such as learning new leadership skills.</i>	53	3.02	.77	61	2.70	1.01	55	3.07	.94	169	2.92	.93
<i>Civic development such as identifying solutions to community problems.</i>	53	2.70	.85	61	2.56	.96	56	2.88	.97	170	2.71	.93
<i>Civic development such as the willingness to engage in volunteerism in the future.</i>	53	3.02	.82	61	2.72	1.05	56	3.16	.89	170	2.96	.94
<i>Community development such as meeting specific needs.</i>	52	2.75	.68	59	2.61	.97	55	3.02	.85	166	2.79	.86

Note. Alumni rated items on a 4-point Likert scale where 1 = No Impact, 2 = A Small Impact, 3 = A Moderate Impact, and 4 = A Large Impact. Bolded text indicates composite scale.

The alumni were also asked to rate the extent to which their participating in service activities influenced their career choice. About equal percentages of respondents reported there was no influence, a small influence or a moderate influence. About 15% said there was a large influence. Exhibit 90 displays the results.

**EXHIBIT 90. EXTENT TO WHICH PARTICIPATION IN  
CAS ACTIVITIES INFLUENCED CAREER CHOICE**



## FINDINGS

### FAMILY PERCEPTIONS OF IMPACTS

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*This section provides a discussion of family members' perceptions of the impact of participation in service on their children both before and after service provision.*

### FAMILY PERCEPTIONS OF IMPACTS

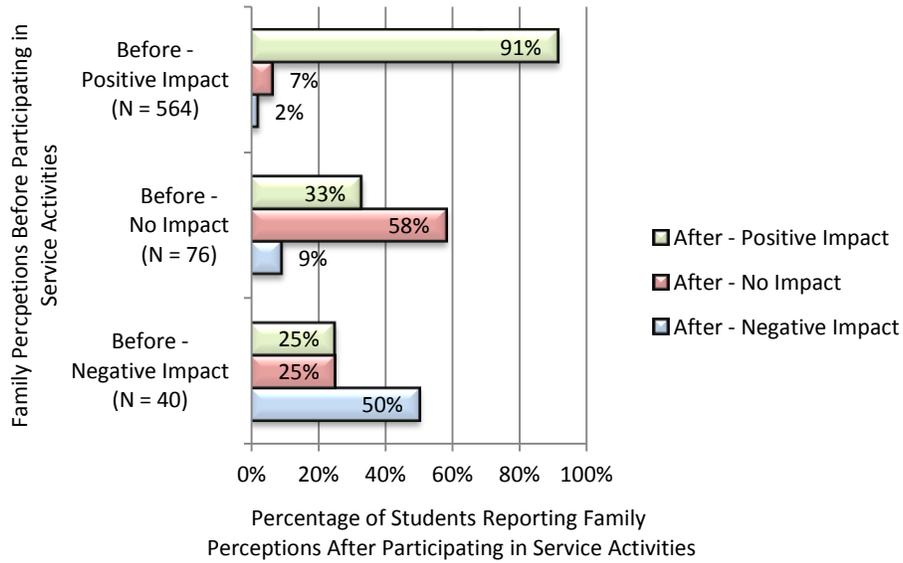
Because IB is so academically rigorous, some students reported in the Phase I study that their families object to their involvement in service, saying that involvement would detract from academic performance. Others believed their families were in favor of the service because it would make the students “well-rounded” and less singularly absorbed in academics.

To determine the extent to which these varying family perceptions were held and whether they changed over time, the survey asked students to indicate family perceptions before and after their involvement in service activities. Before service, about 83% of parents anticipated that the requirement would have a positive impact; 11% thought it would have no impact; and 6% thought it would have a negative impact. As shown in Exhibit 91, the majority of current students' family member perceptions stayed the same, with 91% of those who thought the service would have a positive impact before the service feeling the same way after the service, 58% thought there would be no impact retaining their opinions, and 50% of those who believed there would be a negative impact showing no change in their opinions.

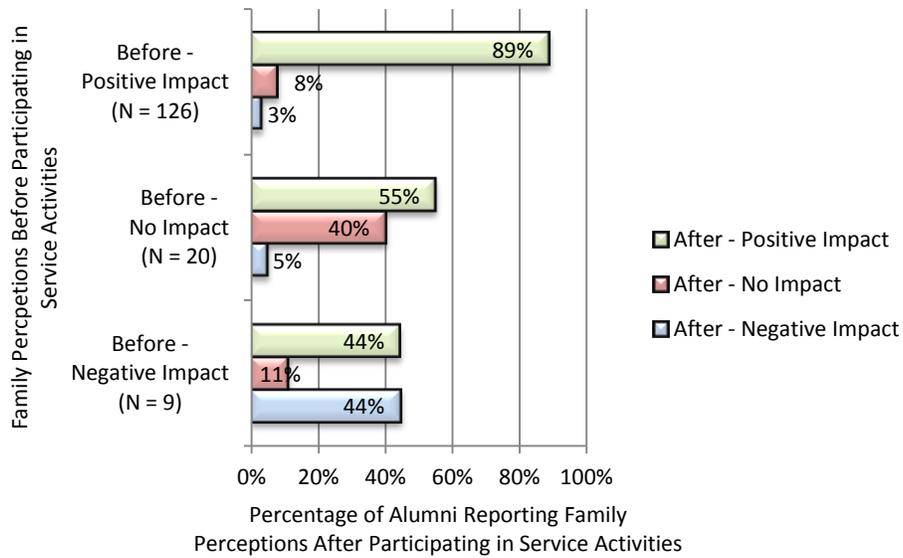
When perceptions changed, they usually became more positive. For example, 33% who thought there would be no impact on students came to believe there was a positive impact after service was provided. Half of those who thought there would be a negative impact before service changed to say there was either a positive impact (25%) or no impact (25%). About 2% of those who thought there would be a positive impact changed their opinions and thought there was a negative impact and about 9% who thought there would be no impact changed to think there was a negative impact.

Similar results were found for alumni respondents. Exhibit 92 reveals that most family members of alumni retained their feelings. About 55% of those who thought there would be no impact changed their minds to perceive a positive impact and 44% who thought there would be a negative impact also altered their perceptions to believing there was a positive impact. About 3% of those who started with positive feelings and 5% who thought there would be no impact reported changing their minds to reflect a more negative impact.

**EXHIBIT 91. CHANGE IN CURRENT STUDENTS' FAMILY PERCEPTIONS OF IMPACT OF SERVICE ON STUDENT ACADEMIC PERFORMANCE**



**EXHIBIT 92. CHANGE IN ALUMNI FAMILY PERCEPTIONS OF IMPACT OF SERVICE ON STUDENT ACADEMIC PERFORMANCE**



## FINDING

### FACTORS THAT INFLUENCED IMPACTS OF PARTICIPATION IN SERVICE

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*This section provides the results of an analysis of the influence of various demographic characteristics, school characteristics, and program design characteristics on outcomes that students reported as a result of their service experiences. Effect sizes for the moderating variables (characteristics) are provided.*

The research literature suggests that impacts from engaging in service-learning are often influenced by individual student characteristics such as gender and prior service provision; influence of peers; types of schools that students attend (public v. private); student motivation to participate, specific program design features, and two types of individual perceptions: tangible results and social responsibility/ethic of service. To determine the extent to which these factors influenced impacts for IB students, a series of additional analyses was conducted to examine the influence of specific student, school, and program characteristics. For attitude and behavior measures, analysis was conducted using a median split and “high” v. “low” responses were compared.

### DIFFERENCES IN IMPACT BY STUDENT AND FAMILY CHARACTERISTICS

**Gender.** As summarized in the literature review, many studies that investigate the impacts of participation in service show that there is a differential impact by gender with females experiencing higher impacts than males. The same finding is true of this study. Findings were statistically significant. Exhibit 93 shows that gender was associated with impacts in multiple areas including self-efficacy, development of leadership skills, development of more positive civic attitudes and skills, and development of an ethic of service both in terms of attitudes and specific behaviors. A significant difference was also found by gender on overall impacts. Effect sizes were in the low to moderate range.

**EXHIBIT 93. INFLUENCE OF GENDER ON IMPACT**

Moderator	Impact Moderated	$df^{29}$	$F$	$p$	Cohen's $d$
Gender (females higher on all)	Self-Efficacy	1, 958	12.469	.000***	0.24
	Leadership	1, 958	8.863	.003**	0.19
	Civic Development (Attitudes)	1, 958	20.134	.000***	0.30
	Civic Development (Skills)	1, 958	11.463	.001***	0.21
	Ethic of Service (Attitudes)	1, 958	11.376	.001***	0.21
	Ethic of Service (Behaviors) - Students	1, 849	33.387	.000***	0.40
	Ethic of Service (Current Behaviors) – Alumni	1, 166	5.830	.017*	0.37

<sup>29</sup> Degrees of freedom ( $df$ ) indicates the number of responses used in the final calculation of a statistic. This number is usually just slightly smaller than the overall sample size.

Moderator	Impact Moderated	<i>df</i> <sup>29</sup>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
	Overall Impacts	1, 958	17.116	.000***	0.28

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Religiosity.** Involvement in a religious organization has also been found to influence the extent to which students report an impact from their participation in service. Exhibit 94 shows this to be true for IB students: the more involved students were in a religious organization, the higher the perceived impact in a variety of areas. Influence was highest on the development of leadership and civic skills, ethic of service, and perception of tangible impacts. Effect sizes are small.

#### EXHIBIT 94. INFLUENCE OF INVOLVEMENT IN A RELIGIOUS ORGANIZATION ON IMPACT

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
My involvement in a religious organization.  (positive moderator)	Leadership	1, 961	5.004	.026*	0.15
	Researching an Issue	1, 961	11.198	.001***	0.24
	Civic Development (Skills)	1, 961	8.102	.005**	0.20
	Perceived Tangible Impacts	1, 961	26.945	.000***	0.38
	Ethic of Service (Attitudes)	1, 961	6.993	.008**	0.19
	Ethic of Service (Behaviors) - Students	1, 851	16.282	.000***	0.30
	Overall Impacts	1, 961	4.167	.041*	0.15

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Prior Service Experience.** Students who had prior service experiences were more likely to report a range of impacts, as shown in Exhibit 95. Levels of significance were highest for civic development, ethic of service, perceived tangible impacts, and overall impacts. Effect sizes ranged from small to moderate.

#### EXHIBIT 95. INFLUENCE OF PRIOR SERVICE EXPERIENCE ON IMPACT

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Prior Service Experience  (positive moderator)	Self-Efficacy	1, 968	20.238	.000**	0.29
	Leadership	1, 968	5.051	.025*	0.14
	Civic Development (Attitudes)	1, 968	8.575	.003**	0.19
	Civic Development (Skills)	1, 968	21.475	.000***	0.31
	Researching an Issue	1, 968	4.532	.034*	0.13
	Perceived Tangible Impacts	1, 968	25.746	.000***	0.33
	Ethic of Service (Attitudes)	1, 968	24.572	.000***	0.32
	Ethic of Service (Behaviors) - Students	1, 857	58.092	.000***	0.50
	Overall Impacts	1, 968	20.514	.000***	0.29

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Family's Influence.** The students' family was found to have an influence on impact in three ways: If families previously provided service in the area in which the student served, students

were more likely to report impacts in a variety of domains. If the family recommended specific activities, impacts were stronger. If the family was itself very active in service, students also reported statistically significant higher impacts in nearly all domains. Results are presented in Exhibits 96, 97, and 98. Effect sizes for family influence were highest for family activism where effect sizes were in the moderate range. Effect sizes were in the small range for the influence of family's previous service and recommendations.

#### EXHIBIT 96. INFLUENCE OF FAMILY'S PREVIOUS SERVICE ON IMPACTS

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
My family's previous Participation in the service activities. (positive moderator)	Leadership	1, 963	7.688	.006**	0.18
	Researching an Issue	1, 963	13.121	.000***	0.24
	Civic Development (Skills)	1, 963	13.674	.000***	0.24
	Perceived Tangible Impacts	1, 963	15.223	.000***	0.26
	Ethic of Service (Attitudes)	1, 963	6.076	.014*	0.17
	Ethic of Service (Behaviors) - Students	1, 853	15.773	.000***	0.28
	Overall Impacts	1, 963	10.948	.001***	0.22

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

#### EXHIBIT 97. INFLUENCE OF FAMILY'S ACTIVISM ON IMPACTS

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Family Activism (positive moderator)	Self-Efficacy	1, 818	21.379	.000***	0.31
	Leadership	1, 818	21.302	.000***	0.32
	Civic Development (Attitudes)	1, 818	14.893	.000***	0.27
	Civic Development (Skills)	1, 818	25.623	.000***	0.35
	Researching an Issue	1, 818	29.691	.000***	0.38
	Perceived Tangible Impacts	1, 818	53.901	.000***	0.52
	Ethic of Service (Attitudes)	1, 818	13.156	.000***	0.26
	Ethic of Service (Behaviors) - Students	1, 713	39.564	.000***	0.46
	Overall Impacts	1, 818	31.271	.000***	0.39

\*\*\*  $p < .001$ .

#### EXHIBIT 98. INFLUENCE OF FAMILY'S RECOMMENDATIONS ON IMPACTS

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
My family's recommendation of service activities. (positive moderator)	Self-Efficacy	1, 964	9.841	.002**	0.21
	Leadership	1, 964	23.087	.000***	0.31
	Researching an Issue	1, 964	26.417	.000***	0.34
	Civic Development (Attitudes)	1, 964	10.448	.001***	0.22
	Civic Development (Skills)	1, 964	4.226	.040*	0.14
	Perceived Tangible Impacts	1, 964	16.222	.000***	0.25
	Ethic of Service (Attitudes)	1, 964	6.655	.010**	0.17
	Ethic of Service (Behaviors) - Students	1, 854	21.083	.000***	0.32

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
	Overall Impacts	1, 964	25.446	.000***	0.32

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

## INFLUENCE OF PEERS

When students reported that they were influenced by their peers, they were significantly more likely to experience impacts on all of the areas of impact that were measured. Strongest influence was on tangible impacts, leadership development, self-efficacy, and civic attitudes. Effect sizes were small to moderate, as displayed in Exhibit 99.

**EXHIBIT 99. INFLUENCE OF PEERS ON IMPACT**

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
(positive moderator)	Self-Efficacy	1, 966	28.271	.000***	0.36
	Leadership	1, 966	33.340	.000***	0.37
	Researching an Issue	1, 966	14.143	.000***	0.25
	Civic Development (Attitudes)	1, 966	32.579	.000***	0.36
	Civic Development (Skills)	1, 966	19.342	.000***	0.29
	Perceived Tangible Impacts	1, 966	33.780	.000***	0.38
	Ethic of Service (Attitudes)	1, 966	11.526	.001***	0.22
	Ethic of Service (Behaviors) - Students	1, 855	20.413	.000***	0.32
	Overall Impacts	1, 966	28.785	.000***	0.35

\*\*\*  $p < .001$ .

## INFLUENCE OF SCHOOL TYPE

School type was found to have moderate impacts but in inconsistent ways. As shown in Exhibit 100, students in public schools were more likely to experience impacts in self-efficacy while those in private schools were more likely to report impacts on the development of leadership skills. This finding may be influenced by region since most of the private schools were located in South America. Effect sizes were small.

**EXHIBIT 100. INFLUENCE OF TYPE OF SCHOOL ON IMPACTS**

Type of School	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Public (higher)	Self-Efficacy	1, 965	4.868	.028*	0.16
Private (higher)	Leadership	1, 965	4.757	.029*	0.14

\*  $p < .05$ .

## INFLUENCE OF REGION

Research suggests that there may be differences in the types of impacts that students experience based on the region of the world where they reside. Exhibit 101 reveals that there were only two statistically significant differences between Canada, the United States, and South American countries in terms of the impacts experienced by IB students. Canadian students experienced greater self-efficacy impacts than South American students. The effect size was

low moderate. South American students experienced higher impacts in the acquisition of leadership skills than students from the United States. The effect size was small.

#### EXHIBIT 101. REGION AS MODERATOR

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Region (Canada higher than South America)	Self-Efficacy	1, 955	7.276	.001***	0.35
(South American higher than United States)	Leadership	1, 955	5.934	.003**	0.19

\*\*  $p < .01$ , \*\*\*  $p < .001$ .

#### INFLUENCE OF TYPES OF MOTIVATION

The influence of practical versus affective motivation to serve is demonstrated in Exhibits 102 and 103. Both types of motivation were associated with impacts, though the impact of affective motivation was much higher and influenced all areas being measured, with effect sizes in the moderate to large range. This means that those motivated to serve because they wanted to make a difference were more likely to experience impacts than those who had more practical reasons for service, such as building a resume. Influences of affective motivation were highest for the development of an ethic of service and for civic development.

Practical reasons also influenced impact, but to a lesser extent. Effect sizes for practical motivation were in the moderate range and influenced nine impact areas.

#### EXHIBIT 102. INFLUENCE AFFECTIVE MOTIVATION ON IMPACTS

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Affective Motivation  (positive moderator)	Self-Efficacy	1, 966	147.542	.000***	0.78
	Leadership	1, 966	117.867	.000***	0.69
	Researching an Issue	1, 966	50.928	.000***	0.45
	Civic Development (Attitudes)	1, 966	170.162	.000***	0.84
	Civic Development (Skills)	1, 966	117.303	.000***	0.69
	Perceived Tangible Impacts	1, 966	90.557	.000***	0.63
	Ethic of Service (Attitudes)	1, 966	118.635	.000***	0.69
	Ethic of Service (Behaviors) - Students	1, 855	210.049	.000***	0.99
	Ethic of Service (Current Behaviors) - Alumni	1, 168	25.409	.000***	0.77
	Ethic of Service (Future Behaviors) - Alumni	1, 170	19.086	.000***	0.68
	Overall Impacts	1, 966	209.279	.000***	0.94

\*\*\*  $p < .001$ .

**EXHIBIT 103. INFLUENCE OF PRACTICAL MOTIVATION ON IMPACTS**

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Practical Motivation  (positive moderator)	Self-Efficacy	1, 966	44.512	.000***	0.42
	Leadership	1, 966	32.012	.000***	0.37
	Researching an Issue	1, 966	19.573	.000***	0.29
	Civic Development (Attitudes)	1, 966	29.026	.000***	0.35
	Civic Development (Skills)	1, 966	25.510	.000***	0.34
	Perceived Tangible Impacts	1, 966	30.389	.000***	0.35
	Ethic of Service (Attitudes)	1, 966	17.939	.000***	0.28
	Ethic of Service (Behaviors) - Students	1, 855	37.252	.000***	0.41
	Overall Impacts	1, 966	39.504	.000***	0.40

\*\*\* *p* < .001.

**INFLUENCE OF PROGRAM DESIGN: SERVICE-LEARNING QUALITY VARIABLES**

Service-learning researchers have repeatedly found that participation in service-learning programs with characteristics associated with “high quality” have much higher effects on personal, academic, and civic development than participation in low-quality service. High quality is defined as the provision of meaningful service opportunities, link to academic curriculum, student voice, frequency and depth of reflection, respect for others’ opinions, and being able to see tangible impacts from one’s efforts. These program design characteristics were tested with this sample and all were found to have statistically significant effects on impacts.

**MEANINGFUL SERVICE**

The degree to which perceived meaningfulness impacted student outcomes is detailed in Exhibit 104. The Exhibit shows very strong influence of the perception that activities were meaningful on every impact area measured, with effect sizes considered to be large to very large on measures of personal and social development, civic development, ethic of service, and overall impacts.

**EXHIBIT 104. THE INFLUENCE OF MEANINGFULNESS OF SERVICE ON IMPACTS**

Moderator	Impact Moderated	df	F	p	Cohen's d
Meaningful Service  (positive moderator)	Self-Efficacy	1, 839	308.110	.000***	1.21
	Leadership	1, 839	185.095	.000***	0.94
	Researching an Issue	1, 839	73.276	.000***	0.59
	Civic Development (Attitudes)	1, 839	306.132	.000***	1.22
	Civic Development (Skills)	1, 839	132.026	.000***	0.80
	Perceived Tangible Impacts	1, 839	122.218	.000***	0.78
	Ethic of Service (Attitudes)	1, 839	152.835	.000***	0.85
	Ethic of Service (Behaviors) - Students	1, 742	211.221	.000***	1.07
	Ethic of Service (Current Behaviors) – Alumni	1, 145	33.881	.000***	1.02
	Ethic of Service (Future Behaviors) – Alumni	1, 146	41.026	.000***	1.12
	Overall Impacts	1, 839	257.272	.000***	1.12

\*\*\*  $p < .001$ .

**LINK TO CURRICULUM**

Link to curriculum occurs when CAS coordinators ensure that service activities are somehow linked to classroom learning. Analysis of link to curriculum in the IB Programme showed that linkage had a positive influence on outcomes and a moderate effect size on the students. Exhibit 105 reveals that the highest effect was on researching an issue and perception of tangible impacts. Lowest effects were on the establishment of an ethic of service.

**EXHIBIT 105. INFLUENCE OF LINK TO CURRICULUM ON IMPACTS**

Moderator	Impact Moderated	df	F	p	Cohen's d	
Our CAS coordinator made sure we linked service to classroom Subjects.  (positive moderator)	Self-Efficacy	1, 966	48.486	.000***	0.44	
	Leadership	1, 966	51.672	.000***	0.42	
	Researching an Issue	1, 966	86.455	.000***	0.60	
	Civic Development (Attitudes)	1, 966	47.848	.000***	0.45	
	Civic Development (Skills)	1, 966	25.438	.000***	0.34	
	Perceived Tangible Impacts	1, 966	77.610	.000***	0.58	
	Ethic of Service (Attitudes)	1, 966	10.797	.001***	0.21	
	Ethic of Service (Behaviors) – Students	1, 854	23.289	.000***	0.33	
		Overall Impacts	1, 966	49.618	.000***	0.46

\*\*\*  $p < .001$ .

## STUDENT VOICE

The extent to which students were provided a voice and choice in their activities also had a moderately high influence on all impacts that were measured. Student voice impacted self-efficacy and ethic of service the most but also had a relatively high influence on civic development, as displayed in Exhibit 106.

**EXHIBIT 106. INFLUENCE OF STUDENT VOICE ON OUTCOMES**

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Student Voice  (positive moderator)	Self-Efficacy	1, 956	148.086	.000***	0.79
	Leadership	1, 956	82.075	.000***	0.58
	Researching an Issue	1, 956	47.110	.000***	0.45
	Civic Development (Attitudes)	1, 956	112.844	.000***	0.67
	Civic Development (Skills)	1, 956	109.993	.000***	0.69
	Perceived Tangible Impacts	1, 956	64.158	.000***	0.52
	Ethic of Service (Attitudes)	1, 956	66.472	.000***	0.53
	Ethic of Service (Behaviors) – Students	1, 840	113.974	.000***	0.74
	Ethic of Service (Current Behaviors) – Alumni	1, 165	16.914	.000***	0.65
	Ethic of Service (Future Behaviors) – Alumni	1, 166	15.649	.000***	0.61
Overall Impacts	1, 956	127.808	.000***	0.73	

\*\*\*  $p < .001$ .

## REFLECTION

The frequency and depth of reflection experienced by IB students was found to have a small to moderate impact on outcomes. Exhibits 107, 108, and 109 show the influence of being asked to engage in reflection before, during, and after service. All of these reflections had a positive influence on outcomes, with effect sizes in the low to moderate ranges. Effects were highest for the reflection activities that occurred during service, followed by those that occurred prior to service. Civic development was equally impacted through reflection at each stage. Ethic of service was highest when reflection occurred after service. Leadership was impacted the most when reflection occurred before and during service.

**EXHIBIT 107. INFLUENCE OF REFLECTION BEFORE SERVICE ACTIVITIES ON IMPACTS**

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
I was asked to reflect on my service experiences before beginning any service activities.  (positive moderator)	Leadership	1, 963	26.164	.000***	0.42
	Researching an Issue	1, 963	18.255	.000***	0.35
	Civic Development (Attitudes)	1, 963	11.965	.001***	0.28
	Civic Development (Skills)	1, 963	17.278	.000***	0.33
	Perceived Tangible Impacts	1, 963	13.147	.000***	0.29
	Ethic of Service (Behaviors) – Students	1, 852	13.372	.000***	0.32
	Overall Impacts	1, 963	25.653	.000***	0.41

\*\*\* *p* < .001.

**EXHIBIT 108. INFLUENCE OF REFLECTION DURING SERVICE ACTIVITIES ON IMPACTS**

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
I was asked to reflect on my service experiences during my service activities.  (positive moderator)	Self-Efficacy	1, 965	25.368	.000***	0.34
	Leadership	1, 965	39.901	.000***	0.43
	Researching an Issue	1, 965	19.734	.000***	0.29
	Civic Development (Attitudes)	1, 965	32.577	.000***	0.38
	Civic Development (Skills)	1, 965	29.823	.000***	0.37
	Perceived Tangible Impacts	1, 965	13.439	.000***	0.24
	Ethic of Service (Attitudes)	1, 965	3.891	.049*	0.13
	Ethic of Service (Behaviors) – Students	1, 852	25.056	.000***	0.36
Overall Impacts	1, 965	47.313	.000***	0.46	

\* *p* < .05, \*\*\* *p* < .001.

**EXHIBIT 109. INFLUENCE OF REFLECTION AFTER SERVICE ACTIVITIES ON IMPACTS**

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
I was asked to reflect on my service experiences after the service activities were completed.  (positive moderator)	Self-Efficacy	1, 964	24.092	.000***	0.32
	Leadership	1, 964	21.081	.000***	0.31
	Researching an Issue	1, 964	7.898	.005**	0.19
	Civic Development (Attitudes)	1, 964	19.727	.000***	0.28
	Civic Development (Skills)	1, 964	22.713	.000***	0.32
	Perceived Tangible Impacts	1, 964	9.287	.002**	0.20
	Ethic of Service (Attitudes)	1, 964	14.231	.000***	0.25
	Ethic of Service (Behaviors) – Students	1, 853	29.439	.000***	0.39
	Overall Impacts	1, 964	31.031	.000***	0.36

\*\* *p* < .01, \*\*\* *p* < .001.

Exhibit 110 shows that writing about one's experience in summary form, which is considered a low-depth experience, had a low to moderate effect size on several areas of student impact.

**EXHIBIT 110. INFLUENCE OF WRITTEN REFLECTION (SUMMARY) ON IMPACTS**

Moderator	Impact Moderated	df	F	p	Cohen's d
I was asked to provide a description of what I did during my service activities.  (positive moderator)	Self-Efficacy	1, 962	33.018	.000***	0.37
	Leadership	1, 962	20.686	.000***	0.30
	Researching an Issue	1, 962	12.534	.000***	0.23
	Civic Development (Attitudes)	1, 962	30.978	.000***	0.36
	Civic Development (Skills)	1, 962	19.204	.000***	0.29
	Perceived Tangible Impacts	1, 962	8.567	.004**	0.18
	Ethic of Service (Attitudes)	1, 962	12.825	.000***	0.24
	Ethic of Service (Behaviors) – Students	1, 852	37.573	.000***	0.43
	Overall Impacts	1, 962	35.836	.000***	0.39

\*\*  $p < .01$ , \*\*\*  $p < .001$ .

Students' individual reflections, also considered relatively low-depth, also had a low to moderate impact in most areas, as shown in Exhibit 111.

**EXHIBIT 111. INFLUENCE OF REFLECTING INDIVIDUALLY ON IMPACT**

Moderator	Impact Moderated	df	F	p	Cohen's d
I was asked to reflect about my service activities individually.  (positive moderator)	Self-Efficacy	1, 958	53.729	.000***	0.48
	Leadership	1, 958	33.231	.000***	0.38
	Researching an Issue	1, 958	21.576	.000***	0.30
	Civic Development (Attitudes)	1, 958	55.843	.000***	0.49
	Civic Development (Skills)	1, 958	24.446	.000***	0.32
	Perceived Tangible Impacts	1, 958	22.686	.000***	0.31
	Ethic of Service (Attitudes)	1, 958	11.974	.001***	0.23
	Ethic of Service (Behaviors) – Students	1, 848	30.157	.000***	0.38
	Ethic of Service (Current Behaviors) – Alumni	1, 167	4.680	.032*	0.33
	Ethic of Service (Future Behaviors) – Alumni	1, 169	4.465	.036*	0.32
	Overall Impacts	1, 958	62.761	.000***	0.51

\*  $p < .05$ , \*\*\*  $p < .001$ .

Exhibit 112 demonstrates that reflection activities that had high depth had stronger effect sizes than those with low depth. Reflection with more depth included prompts that asked students to reflect on the ways in which service helped them develop personally and affected their views on local, national, or global issues. Effect sizes for high depth reflection activities were in the moderately high range.

**EXHIBIT 112. INFLUENCE OF HIGH-DEPTH REFLECTION ACTIVITIES ON IMPACTS**

Moderator	Impact Moderated	df	F	p	Cohen's d
High Depth of Reflection  (positive moderator)	Self-Efficacy	1, 967	69.868	.000***	0.54
	Leadership	1, 967	80.167	.000***	0.57
	Researching an Issue	1, 967	57.119	.000***	0.49
	Civic Development (Attitudes)	1, 967	71.612	.000***	0.55
	Civic Development (Skills)	1, 967	65.963	.000***	0.53
	Ethic of Service (Attitudes)	1, 967	46.176	.000***	0.30
	Ethic of Service (Behaviors) – Students	1, 856	77.089	.000***	0.60
	Overall Impacts	1, 967	24.268	.000***	0.68

\*\*\*  $p < .001$ .

***RESPECT FOR OTHERS' OPINIONS***

Respect for diversity has been shown in the research to have an impact on the outcomes of service, particularly when students have been taught to respect the opinions of those being served. As revealed in Exhibit 113, this variable also had a statistically significant relationship with a variety of outcomes, with effect sizes in the moderately high range.

**EXHIBIT 113. IMPACT OF RESPECT FOR OTHERS' OPINIONS ON IMPACTS**

Moderator	Impact Moderated	df	F	p	Cohen's d
Respect for Diversity - During my service activities, we were expected to show respect for other people's opinions.  (positive moderator)	Self-Efficacy	1, 964	110.352	.000***	0.63
	Leadership	1, 964	71.636	.000***	0.54
	Researching an Issue	1, 964	29.908	.000***	0.36
	Civic Development (Attitudes)	1, 964	102.163	.000***	0.65
	Civic Development (Skills)	1, 964	42.145	.000***	0.42
	Perceived Tangible Impacts	1, 964	41.135	.000***	0.42
	Ethic of Service (Attitudes)	1, 964	62.504	.000***	0.50
	Ethic of Service (Behaviors) – Students	1, 852	43.851	.000***	0.46
	Ethic of Service (Current Behaviors) – Alumni	1, 167	13.588	.000***	0.60
	Ethic of Service (Future Behaviors) – Alumni	1, 169	18.932	.000***	0.68
Overall Impacts	1, 964	91.725	.000***	0.62	

\*\*\*  $p < .001$ .

***STUDENTS' PERCEPTIONS OF TANGIBLE IMPACTS OF SERVICE***

Finally, students have been found to report stronger impacts from their service experiences if they perceive tangible impacts. The extent to which students perceived visible results from their work was explored with IB students and, as shown in Exhibit 114, IB students also were

more likely to report a variety of outcomes related to personal, social, and civic development when they could see tangible results of their efforts. Effect sizes for this variable were in the moderate to large range.

**EXHIBIT 114. THE INFLUENCE OF PERCEIVED TANGIBLE IMPACTS ON STUDENT OUTCOMES**

Moderator	Impact Moderated	<i>df</i>	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
Perceived Tangible Impacts (positive moderator)	Self-Efficacy	1, 968	120.214	.000***	0.69
	Leadership	1, 968	83.099	.000***	0.60
	Researching an Issue	1, 968	81.395	.000***	0.58
	Civic Development (Attitudes)	1, 968	119.991	.000***	0.69
	Civic Development (Skills)	1, 968	69.264	.000***	0.53
	Ethic of Service (Attitudes)	1, 968	63.943	.000***	0.52
	Ethic of Service (Behaviors) – Students	1, 834	69.298	.000***	0.48
	Ethic of Service (Current Behaviors) – Alumni	1, 163	16.622	.000***	0.63
	Ethic of Service (Future Behaviors) – Alumni	1, 164	14.097	.000***	0.58
	Overall Impacts	1, 968	148.322	.000***	0.77

\*\*\*  $p < .001$ .

## CONCLUSIONS AND RECOMMENDATIONS

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*This section provides a summary of the findings from the study, a discussion of results, and a set of recommendations for improving the impact of service participation for IB students.*

### CONCLUSIONS

Findings from the Phase II study suggest the following conclusions:

#### MOTIVATION TO SERVE

- 1. Students currently enrolled in the IB Programme and alumni were motivated to serve most often by affective rather than practical reasons, though both types served as motivators.**

Most popular affective reasons to serve included interest in a particular issue, desire to capitalize on a specific talent or strength, desire to have a tangible impact at the local, national, or global level, and the wish to serve a specific population respectively. Most popular practical reasons for participating in service were meeting multiple CAS activity requirements at the same time; engaging in an activity in which students were already involved; improving their resumes; and convenience. Connectedness to schoolwork was somewhat less of a factor. Students from all regions reported that practical reasons became more important in their senior year. Effect sizes were small<sup>1</sup>.

- 2. Peers had a small positive influence on the choice of service activities.**

Peers tended to have the most influence on students in their junior years. The influence of peers declined significantly between junior and senior years for students from South America. Effect sizes were small.

- 3. Families had a small positive influence on the choice of activities for students in the United States.**

Family's previous participation in service and family recommendation of activities had a small positive influence on students' service activities. The extent of influence of the family's recommendation significantly decreased between junior and senior year for students from the United States, though the effect size was small. Students whose families had a history of activism were more likely to become involved in service activities for affective reasons. Families with a history of activism had more influence on students than families without a history of activism. Effect sizes were small.

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<sup>1</sup> Effect sizes refer to the magnitude of change. Effect sizes at about .2 (Cohen's d) are considered small; about .5 are considered medium or moderate; and .8 are considered large.

#### 4. Students' involvement in a religious organization had a slight positive influence on student motivation to serve.

The influence of connection to religious organizations was statistically significantly<sup>2</sup> higher in the United States than Canada or South America. In addition, alumni from Canada and South America indicated that their involvement in a religious organization had a stronger influence on them during their senior year than their junior year. Effect sizes were small.

#### 5. Most students reported that they participated in a particular type of service because they were interested in the topic.

Motivation, though, varied by region. Students and alumni from Canada and the United States were mostly influenced by their interest in a certain issue. South American students were mostly influenced by their desire to work with friends. Effect sizes were small.

### PARTICIPATION IN CAS ACTIVITIES

#### 1. IB students participated in a wide variety of types of service to fulfill their CAS requirements.

The most popular service activities for students in the aggregate were related to education and fundraising, with 65% of all juniors and 50% of all seniors participating in each of these activities. About 60% of juniors and 48% of seniors participated in activities related to culture/the arts, social services, and sports. The least popular activities of those measured were working on animal welfare, political activities, and faith-based activities. Juniors participated in an average of five different types of activities, while seniors participated in four different types of activities. Students from North America were most likely to engage in fundraising, culture/arts, faith-based/religious, and education respectively while those from South America were most likely to participate in activities related to education, social services, sports, and the environment respectively.

Alumni reported that most of their service was performed in the area of education, culture/arts, and fundraising. Fewer activities were directed toward animal welfare, politics, and faith-based issues. Relative to their currently enrolled peers, there were more service activities in the culture/arts arena and fewer in social services. Alumni participated in an average of five types of service per year.

- Most frequent activities performed in the *education* domain were tutoring and working in after-school programs.

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<sup>2</sup> Statistical significance is at a minimum,  $p=.05$ , meaning that there is at least 95% probability that the relationship did not happen by chance.

- In the area of *fundraising*, North American students were more likely than South American students to participate in a fundraising run/walk/ride. A larger percentage of Canadian students engaged in fundraising for global causes compared to students from the United States or South America.
- The majority of students whose service activities related to *culture/arts* assisted with the performing or visual arts. North American students were more likely than South American students to assist with performing or visual arts.
- Students who participated in activities related to *social services* in all regions most often conducted a food or clothing drive. Students also frequently volunteered in a nursing home or worked with the homeless.
- Students involved with *environmental activities* most frequently worked to restore parks or participate in a cleanup project or a recycling project. About half of the students also engaged in environmental education and advocacy. Students were less likely to participate in energy conservation activities. By region, South American students were most frequently involved with a recycling project and students from the United States were most frequently involved with a park restoration/cleanup project. Canadian students were likely to be involved in recycling and environmental advocacy programs.
- The majority of students in the United States and Canada who participated in *faith-based/religious activities* volunteered with a faith-based organization. About half of South American students indicated another type of activity not listed on the survey. Canadian students were more likely to engage in volunteer work with a faith-based organization during their senior year.
- Students who were involved with *health-related service activities* most frequently collected donations for health-related causes or volunteered in a hospital or health clinic. Students from Canada and the United States were somewhat more likely than South American students to engage in these two activities.
- The majority of current students and alumni who indicated they engaged in a *sports-related activity* identified their service as something other than coaching, most often simply participating in the athletic activity.
- Students who participated in CAS activities related to *animal welfare* were most likely to serve as volunteers at a local animal shelter.
- Over half of the students from Canada and the United States and one third of students from South America who participated in *political activities* volunteered to work on behalf of political candidates or political organizations. Students across all regions were

more likely to recruit or assist others to vote during their senior year than their junior year.

## **2. Most students fulfill their creativity, action, and service requirements through service activities.**

Over 70% of currently enrolled students chose to integrate their activities during their junior year, fulfilling the creativity and activity components of the CAS requirement by conducting service activities. Nearly 80% do so during their senior year, especially students from the United States. Over 84% of alumni also reported integrating their activities. About 10% fewer currently enrolled South American students integrated activity components with their service activities during their senior year. The opposite was true for alumni, where a greater percentage of South American alumni reported integrating the activity and service components of their CAS requirements.

## **3. Students target their services to the local level far more often than to the national or global level.**

Nearly 90% of all students indicated their junior year and senior year activities were targeted to the local level. About a third of students also participated in national-level activities and about a fourth participated in activities that addressed global concerns. Canadian students were more likely than students from the United States or South America to participate in service activities targeted at the global level. More than 80% of currently enrolled students and alumni said their primary focus was local.

## **QUALITY OF PROGRAM DESIGN**

### **1. Students across the regions typically agreed that their service activities were meaningful.**

Currently enrolled students from Canada and from the United States were more likely than those from South America to say their service activities were meaningful. There were no regional differences and no differences between currently enrolled students and alumni.

### **2. Service activities were not linked to curriculum.**

Overall, curriculum linkage was “occasional,” if it took place at all. Linkage was somewhat more likely to be made in the United States and Canada than in South America for currently enrolled students but the same was not true for alumni.

### **3. The majority of students had a voice and choice in selecting the service in which they participated.**

Both currently enrolled students and alumni from Canada and the United States reported greater student voice than students from South America where coordinators more often selected the service activities.

#### **4. Reflection activities were occasional, most often occurring after service was provided.**

Current students reported that most often they had occasional opportunities to reflect on their service. Most reflected after the service activity. South American students reported a higher frequency of reflection before and during service than their North American peers. Alumni patterns of frequency mirrored that of current students and the extent to which alumni reflected on service experiences before beginning activities was significantly higher for South American alumni than for Canadian alumni.

#### **5. Students participated more often in low-depth than high-depth reflection activities.**

Students were most often asked simply to describe their experiences, a reflection practice considered to be low-depth according to the research literature cited in the review. When they did participate in high-depth activities, students most often were asked to think about their impact on the community and on themselves. They were least likely to reflect on the ways in which service impacted their views on local, national, or global issues. Few engaged in verbal reflection and even fewer reflected on their experiences with their peers or classmates. There were regional differences in the quality of reflection. South American students were significantly more likely to engage in high-depth reflection activities than students from the United States.

#### **6. Most students were expected to respect others' opinions.**

No statistically significant differences were found between regions for this expectation.

### **IMPACTS**

#### **1. Participation in CAS had a moderate impact on student self-efficacy across the sample.**

There were statistically significant differences by region, with students from Canada and the United States reporting a higher level of impact on self-efficacy compared to students from South America. Alumni reported somewhat higher impacts in this area than the currently enrolled students, particularly in their estimations of learning new skills and becoming more well-rounded students. There were no statistically significant differences between regions for alumni.

#### **2. Students reported that participation in service had an overall modest impact on their acquisition of leadership skills.**

Students acquired a number of skills related to participation in service, reporting that they could perform these skills “well” but not “very well.” Participation had the largest influence on working as part of a team and taking on different roles and responsibilities. Smallest impacts were on writing about one’s ideas and talking about ideas in front of other people.

**Students overall perceived the CAS requirement as having a mild to moderate impact on their acquisition of research skills.**

No differences between regions or between juniors, seniors, and alumni were found.

### **3. Students reported a small impact of participation in service on their civic attitudes.**

Alumni reports of impacts were slightly larger than reports from currently enrolled students. Impacts were larger for items measuring exposure to new ideas and learning about the real world and smaller for changing students' thinking. There were no statistically significant differences between students in different regions.

### **4. Students reported that they could perform a range of civic skills well.**

Currently enrolled students and alumni in the aggregate indicated they would be able to perform well on a variety of civic tasks, more than "moderately well" but not to the level of "very well." Responses show greater confidence in students' abilities to express their points of view in front of others and develop a specific skill needed to accomplish the service work. Students were less likely to report an impact on their ability to convince others to help or develop a plan to address a need. There were no statistically significant differences between regions.

### **5. Most currently enrolled IB students expressed a "moderate" ethic of service and sense of social responsibility, and reported they would occasionally continue to help others.**

Students reported that they try to help when they see others in need, but are less likely to find it easy to put aside self-interest in favor of a greater good. Alumni were more likely to have acquired an ethic of service and sense of social responsibility than currently enrolled students. There were no statistically significant differences between regions. Most students were likely to continue with service activities beyond high school on an occasional basis, but less likely to encourage others to do so or work with a group to solve a community problem. They were even less likely to pursue a career related to their service activities. Alumni had similar responses to currently enrolled students with regard to their civic behaviors, though they were less likely than current students to say that they would continue to participate in service activities and were more likely to say they would work with a group to solve a community problem.

### **6. Students perceived their participation in service activities as having an overall moderate impact on them.**

When asked to rate overall impacts and compare the degree of impact in various areas, students reported that the overall impact was moderate and the highest impacts were in the domains of leadership skill development and ethic of service. Lowest ratings were given to

increasing their ability to identify solutions to community problems. Student ratings varied little across regions. Alumni responding to the same questions reported slightly higher impacts than current students. South American alumni had statistically significantly higher ratings of overall impacts in comparison to alumni from the United States.

## **7. Family perceptions of impact tended to remain stable or become more positive over time.**

Before service began, 83% of families thought there would be a positive impact, 11% no impact, and 6% negative impact. The majority of current students' family member perceptions stayed the same after service. When perceptions changed, they usually became more positive.

## **FACTORS THAT INFLUENCED OR MODERATED IMPACTS**

### **1. Females reported higher impacts than males.**

Female students expressed higher levels of acquisition of leadership skills, acquired more positive civic attitudes and skills, and developed an ethic of service both in terms of attitudes and specific behaviors more often than males. A significant difference was also found by gender on overall impacts. Effect sizes were in the low to moderate range.

### **2. Students involved in religious organizations reported higher impacts than those who were not involved.**

The more involved students were in a religious organization, the higher the perceived impact in a variety of areas. Influence was highest on the development of leadership and civic skills, ethic of service, and perception of tangible impacts. Effect sizes are small.

### **3. Students with prior experience in provision of service reported higher impacts than those with no or lower levels of experience in providing service.**

Students who had prior service experiences were more likely to report a range of impacts, particularly impacts related to civic development, ethic of service, perceived tangible impacts, and overall impacts. Effect sizes ranged from small to moderate.

### **4. Families had an influence on outcomes.**

If families previously provided service in the area in which the student served, students were more likely to report impacts in a variety of domains. If the family recommended specific activities, impacts were stronger. If the family was itself very active in service, students also reported statistically significant higher impacts in nearly all domains. Effect sizes for family influence were highest for family activism where effect sizes were in the moderate range. Effect sizes were in the small range for the influence of family's previous service and recommendations.

## 5. Peers had a positive influence on student outcomes.

When students reported that they were influenced by their peers, they were more likely to experience impacts on all of the areas of impact that were measured. Strongest influence was on tangible impacts, leadership development, self-efficacy, and civic attitudes. Effect sizes were small to moderate.

## 6. School type (public v. private) was found to have moderate impacts but in inconsistent ways.

Students in public schools were more likely to experience impacts in self-efficacy while those in private schools were more likely to report impacts on the development of leadership skills. This finding may be influenced by region since most of the private schools were located in South America. Effect sizes were small.

## 7. There were only a few significant variations in impact by region.

Canadian students experienced greater self-efficacy impacts than South American students. The effect size was low moderate. South American students experienced higher impacts in the acquisition of leadership skills than students from the United States. The effect size was small.

## 8. Students motivated by affective reasons had higher outcomes than those motivated by practical reasons.

Those students motivated to serve because they wanted to make a difference were more likely to experience impacts in multiple areas than those who had more practical reasons for service, such as building a resume. The effect size for affective motivation was very large, particularly in the students' estimations of overall impacts, development of an ethic of service and acquisition of positive civic attitudes. Practical reasons also influenced impacts, though, but to a much lesser degree.

## 9. Quality mattered. High quality service-learning program design features strongly influenced all outcomes.

- **The extent to which students participated in *meaningful service* strongly impacted every outcome area**, with effect sizes considered to be large to very large on measures of personal and social development, civic development, ethic of service, and overall impacts.
- ***Link to curriculum* was related to higher impacts in all areas.** The highest effect was on researching an issue and perception of tangible impacts. Effect sizes were in the moderate range.

- **The extent to which students were provided a *voice and choice* in their activities also had a moderate to large influence on all impacts that were measured.** Student voice impacted self-efficacy and ethic of service the most but also had a relatively high influence on civic development.
- **The *timing and frequency of reflection* experienced by IB students was found to have a small to moderate impact on outcomes.** Reflecting before, during, and after service had a positive influence on outcomes, with effect sizes in the low to moderate ranges. Effects were highest for the reflection activities that occurred during service, followed by those that occurred prior to service. Civic development was about equally impacted through reflection at each stage. Ethic of service was highest when reflection occurred after service. Leadership was impacted the most when reflection occurred before and during service.
- ***Reflection* overall had a low to moderately high effect on outcomes, depending on the depth of the reflection activities.** Writing about one's experience in summary form, which is considered a low-depth experience (Billig, 2008), had a low to moderate effect size on several areas of student impact. Students' individual reflections, also considered relatively low-depth, also had a low to moderate impact in most areas. Reflection activities that had high-depth had stronger effect sizes than those with low-depth. Reflection with more depth included prompts that asked students to reflect on the ways in which service helped them develop personally and affected their views on local, national, or global issues. Effect sizes for high-depth reflection activities were in the moderately high range.
- ***Respect for diversity, expressed as valuing others' opinions*, had a statistically significant relationship with a variety of outcomes.** Effect sizes were in the moderately high range.
- **IB students also were more likely to report a variety of outcomes related to personal, social, and civic development when they could see *tangible results of their efforts*.** Effect sizes for this variable were in the moderate to large range.

## COMPARISON OF IB PROGRAMME TO OTHER STUDIES OF SERVICE-LEARNING

IB students had similar motivations to participate in service activities as students from non-IB Programmes as indicated in the general service-learning literature. IB students, like others, were most likely to be motivated by affective reasons but also motivated for practical reasons. They, like others in non-IB Programmes, were likely to be influenced by peers and family history of prior service and activism.

IB students also tended to engage in the same types of service activities as others, and expressed the same types of preferences as other students engaged in service. They most

frequently participated in education-related service and fundraising, much like other students. IB students sometimes reported activities that had no relationship to service, such as participation in sports. Those types of activities are not considered service in other settings and are only fulfillment of activity requirements in IB, though they were reported as service activities by the students.

The quality of service-learning in the Diploma Programme tends to be equivalent to other programs across the United States. Much of the service-learning offered by IB Diploma Programme schools is of mixed quality. IB Diploma Programmes tend to provide students with meaningful experiences, voice and choices in selecting service activities, and encouraging respect for others' opinions. However, there is too little linkage to curriculum, and the reflection activities tend to be less frequent than recommended and have less depth than they should.

Overall, IB students expressed a large variety of impacts from their participation in the service portion of the CAS requirements. Compared to the impacts experienced by other high schools students, IB student surveys showed a higher level of impact overall, but not in all areas measured. For example, compared to national studies of middle school students who engaged in STEM-oriented service-learning activities (Fredericks, 2012) and high school students from Philadelphia (Billig, Jesse & Brodersen, 2008; Kahne & Sporte, 2008), they typically experienced lower levels of impact in the areas of self-efficacy and acquisition of leadership skills. However, the samples were not equivalent. The sample for the national study focused on students from high poverty schools with many low-performing students. Thus the baseline for the STEM-oriented studies may have been much lower than the baseline for IB students. IB students likely had high efficacy and high leadership skills prior to the provision of service.

Similarly, IB students expressed a smaller increase in civic engagement and civic skills than found in other studies, such as Billig, Jesse & Brodersen (2008). This may be because the CAS program is not intentional about linking service to social issues and does not include prompts to help students make these connections during reflection activities. In addition, many of the service activities in which students engage are not "civic" in nature in the sense that the majority of activities involve education (tutoring/mentoring) and other activities focused on individual improvement for the service recipient rather than improving society. Even those that were civic in nature often did not involve any direct contact with those being served, such as when students engaged in fundraising but never interacted with those for whom the funds were being raised. The lesser civic impact may also have been affected by the lack of implementation of the final two components of the service-learning "arc," where demonstration/celebration of the impact of service on self and others take place.

Students were also less likely to develop an ethic of service than high school students from other studies (e.g., Fredericks, 2012; Billig, Northup & Jaramillo, 2012; Billig, Jesse & Brodersen, 2008). This may have been because they already had a high ethic of service or may have been due to having been "required" to perform service. Mandatory service has been found to have weak links to promotion of an ethic of service (Sparks, 2013).

The same moderators of outcomes were in place for IB Diploma Programme students as those identified as moderators in other students. The more meaningful the service was perceived to be, the higher the impact of participation. Similarly, stronger linkage to curriculum, more student voice and choice in activities, more emphasis on respect for others' opinions, and higher-quality reflection activities were related to higher impacts in nearly all of the outcome areas measured. The effect sizes for these moderators were in the high moderate to large range and were higher in this study than in most other studies, where the effect sizes tend to be in the moderate to low range (e.g., Billig, Northup & Jaramillo, 2012; Billig, Jesse & Brodersen, 2008). However, the effect sizes for these moderators were equivalent to those found in one other study: the evaluation of STEMester of Service, a national program for middle school students.

## RECOMMENDATIONS

### 1. IB Programmes should do more to help students see the affective value of the provision of service.

Students should be motivated to serve in deeper ways. They should examine the extent to which they can and have the responsibility to make a difference in other people's lives. This can be accomplished through adroit adult facilitation and deeper investigation into authentic community needs.

### 2. Service portions of the CAS activities should look more like service-learning than community service.

Currently IB students do not incorporate all of the components of service-learning. Students will gain more if they *investigate* a genuine community need, jointly *plan* and design activities specifically to address the need, implement *actions* tied to addressing needs, engage in deep and cognitively challenging *reflection* activities before, during, and after service, measure the extent to which they made a difference, and *demonstrate* their learning and impact to others. This design has greater duration and intensity than the community service opportunities currently being offered by IB, but should result in much higher impacts (Billig, 2009b).

### 3. Service activities should be linked better with what students are learning in their other classrooms.

Service tends to have a greater impact when it is linked to curriculum and students can see how to apply what they are learning in their academic curriculum (Billig, 2009b).

### 4. To increase the development of civic-mindedness, CAS coordinators should develop a stronger set of reflection and/or investigation activities.

Many of the current reflection activities in which IB students engage do not address civic issues. Students in this study are not often asked to reflect on the impact of service on the community; on oneself; or on the ways in which service affected one's views of local, national, or global issues. They often do not discuss the service activities in the CAS class, but rather simply write a description of their activities in their journals. Adults should facilitate in-class reflections of the impact of service, and particularly intentionally link activities to community needs and the extent to which activities actually impact needs. Greater attention should be paid to root causes of community needs, and more discussion should take place for students to see the ways in which national and global issues are being played out in the local community. Students should be encouraged to investigate options for addressing needs, spending some time in looking at policies and practices associated with the need. For example, if students choose to address childhood obesity, they should investigate why children are obese, including examination of the food choices available to children, the influence of culture and income, and the strategies that appear to be making a difference. This type of approach helps to develop more civic-mindedness (Billig, 2001; Billig, 2009b; Furco & Root, 2010).

#### **5. CAS coordinators should separate the requirements for creativity and action from service.**

Students currently integrate their efforts by trying to meet the creativity, action, and service requirements through the same activities. However, many of the service activities being implemented are not in fact creative and some are not active. Participation in sports is a great way to meet the action requirement but is not service or creativity. Fundraising by participating in a single "fun run" is action, but not a meaningful type of service or a creative effort. CAS coordinators need to be more vigilant in separating the types of activities allowed to be counted as "service." At a minimum, students should be able to demonstrate the ways in which their activities met a community need in a meaningful way.

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