

TAKING PART

**TAKING PART: AN EXAMINATION OF THE CHANGES AND BENEFITS
ASSOCIATED WITH PARTICIPATION IN COMMUNITY SERVICE-LEARNING**

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Abstract

Volunteering and *service-learning* (a pedagogical practice that combines volunteering with university-level courses) are associated with positive academic, psychological, and prosocial development in university students. Taking part in service-learning and volunteering is generally assumed to contribute to student development (Chapter 1), although little is known about students' characteristics on entry into service-learning, specifically in comparison to volunteering or non-volunteering students. Characteristics of students who participate in service-learning or volunteering are shaped by institutional factors (Chapter 2) and are in turn related to developmental outcomes (Chapter 3). The unique motives for university student volunteering, particularly self-oriented motives such as career and understanding have likewise received little attention (Chapter 4). This thesis is structured in five chapters. Chapter 1 is an overview of key theoretical and practical issues in volunteering and service-learning research, including volunteering and service-learning in Canada and at the University of Ottawa. Chapter 2 is a study of 266 university students enrolled in developmental psychology courses offering elective service-learning. A model of institutional structuring of volunteering and service-learning was developed to examine students' characteristics at entry into service. The study identified a novel subset of service-learners (service-learners with no prior volunteering engagement) that have yet to be examined in the literature. Chapter 3 is a longitudinal study, using the same sample as Chapter 2, testing developmental change using multi-level linear modelling (students nested in courses) to examine academic, psychological, and prosocial change over one semester, however, few changes were found. Chapter 4 examined volunteering motivations and prosocial tendencies among 270 undergraduate students, with the goal of testing the impact of motivations on wellbeing. Supporting past research, the study demonstrated that other-oriented volunteer

motives are associated with well-being, however, some self-oriented volunteer motives (career and understanding motives) were positively associated with well-being contrary to expectations and previous research. Chapter 5 integrates the overall findings from each chapter in a general discussion, exploring: novel contributions of this thesis to the research literature, theoretical and practical issues raised in this dissertation, the connection between results and issues raised in the research literature, and limitations of the results with suggestions for future directions.

Preface

This thesis examines community service in university students, examining both formal *volunteering* and a pedagogical hybrid of volunteering and university education called *service-learning*; concepts that will be described in more detail in the General Introduction in Chapter 1. Research for this thesis was collected between October 2018 and March 2020¹ from two distinct research studies. The first study, forming the data for Chapters 2 and 3, was conducted in a series of psychology courses that featured service-learning. The data were collected in collaboration and consultation with the Community Service-Learning Program (CSLP; the name for this program changed midway through data collection and was formerly called the Michaëlle Jean Centre for Global Community Engagement) at the University of Ottawa. The CSLP runs the service-learning program on campus, in addition to many other volunteering opportunities, is recounted below. A second study, examining the motivations for volunteering, and making up Chapter 4, will be described further below.

My thesis research began under the widespread assumption in the field that service-learning is an enhanced form of volunteering, implying that service-learning should in general produce enhanced impacts on students, and my primary focus was to examine the characteristics and short-term impacts of student participation in service-learning on students' academic, psychological, and prosocial characteristics over a single semester, with pre- and post-testing and compared to volunteer and non-volunteer students. The seeds of that project, though greatly

¹ The timeframe over which I conducted this research is additionally relevant because, as will be noted below, two major events occurred during that time. One arising earlier with the project and with no direct impact on data collection, but relevance to the larger framework presented here, was the election of a conservative provincial government in Ontario in 2018, whose priorities for university education as tied to work experience have subsequently influenced the service-learning program at the University of Ottawa. The second was the COVID-19 pandemic, which directly impacted a planned study that was part of this project through the disruption of volunteering opportunities.

changed through the research process, is described below as the basis for Chapter 2 (focused on the characteristics of students who engage in service-learning compared to those who volunteer or do not volunteer) and Chapter 3 (focused on change over a semester).

Through the data collection and analysis described in this thesis, my view of service-learning became more complex. Students in service-learning appeared to fall into two broader categories, only one of which is described in the literature. The first category is composed of students who were already volunteering, who then enrolled in service-learning. This category fits well with the existing literature (i.e., where service-learning is an enhancement of volunteering), wherein students who are already more academically engaged, more purposeful, and more prosocial push their academic, psychological, and prosocial growth further through service-learning. The natural comparison group for this service-learning group is university students who volunteer but do not engage in service-learning. My work, however, identified a second category or service-learner, one that, to my knowledge, is not described in the literature. The second category is composed of students who are not engaged in volunteering and take up volunteering through service-learning. The comparison for this group is the non-volunteering university student, a group that has likewise received relatively little interest in the field of service-learning.

To make sense of the two groups of service-learners, also in relation to student volunteers and non-volunteers, I began to consider the ways in which the institution influences who and how students begin volunteering. The service-learning program at the University of Ottawa, where the data for this thesis was collected, is optional for professors to adopt and for students to participate in, a fact that allows for the possibility of the four groups of students described above. I describe the particulars of the University of Ottawa's service-learning program in Chapter 1. Chapter 2 presents a model of institutional structuring of service-learning that contextualizes the

role of the institution more generally. That model is then tied to some methodological issues identified in the field, including self-selection (i.e., how students with specific characteristics may be drawn to service-learning or volunteer opportunities) and research methodology (use of volunteering comparison groups). I propose in that Chapter that the self-selection narrative identified in some research is complicated by the presence of service-learners who are not otherwise volunteering. The examination of change over a semester and in the four groups of students was integrated into a *Multi-Level Model* (MLM) presented as a brief report in Chapter 3. The discovery that students are drawn into service-learning from a non-volunteer background is a novel finding in the literature which speaks to the importance of situating service-learning and volunteering within institutional factors that influence participation. The work on institutions is relevant in the context of a change of Ontario's provincial government (which directly regulates education). The government, elected in 2018, enacted policies that tied funding to post-secondary institutions to evidence of job training and skills development of students. The CSLP has consequently altered the way the service-learning program is managed and promoted. That issue is returned to in Chapter 5, the General Discussion.

A second study was planned to examine the groups of students more carefully and in the broader university context. Data collection for that study began in 2019 and recruited volunteering and non-volunteering students. Owing to the relative rarity of service-learners across the University, additional targeted recruitment was planned for that study, and posters specifically recruiting service-learners were approved by the University poster service and even put up outside the office that manages service-learning on campus, in mid-March 2020. The arrival of the COVID-19 pandemic put a halt on student volunteering and data collection for that project. The resulting study, though altered from its original intent, examines student motivations

for volunteering as measured through the widely used Volunteering Functions Inventory, and in relation to students' well-being.

Plan of the Current Work

The introduction (Chapter 1) will present a brief overview of theories of volunteering behaviour, theoretical roots of service-learning, and the role of service-learning at the University of Ottawa. I then present information outlining rates of volunteering and patterns of volunteer behaviour among young adults/university students. This will provide necessary contextual information accounting for issues in the service-learning research (discussed below), including comparisons with standard volunteering research and outcomes. Following which, I present information on the role of prosocial and moral development on community service, including the impacts of service-learning and volunteering behaviours. Finally, I discuss the overlooked role of the institution on results and impacts of service among students, which also forms the basis for Chapter 2 (and is discussed in detail there).

Chapter 2 of my thesis examines student characteristics at entry into service, comparing volunteers, service-learners, and non-volunteers. Chapter 2 is a cross-sectional design intended to highlight two groups of service-learners (one highly engaged and the other seemingly more novice at volunteering), a finding that is novel within the field. I also examined the role of the institution and a framework guiding researchers to consider/account for institutional structure of their service-programs. This framework was developed in conjunction with Dr. Hammond, building on others' calls for greater awareness of self-selecting factors, as well as more rigorous methods to better understand the impact of service (see Hart et al., 2014; Hébert & Hauf, 2015; Yorio & Ye, 2012).

Chapter 3 of my thesis builds on Chapter 2 and is a longitudinal study design that attempts to examine the impact of service-learning and volunteering (i.e., testing the linear effect over time of type and degree of service) on academic, psychological, and prosocial outcomes. The analysis in Chapter 3 is based on the conceptual model proposed in Chapter 2 and draws from the same sample of participants. Multi-level linear modelling was used due to nested groups in our sample (students nested in courses), providing a robust examination of academic, psychological, and prosocial change over the academic semester among students and between volunteering groups. This type of analysis and the inclusion of comparison groups/validated assessment measures is unique among service-learning research and uncommon among volunteering research. The results of Chapter 3 were unique in that few changes were found over time, inconsistent with previous research. This is discussed in detail in Chapter 3.

Chapter 4 is a cross-sectional study that was initially intended to be a longitudinal study. The motivations to volunteer among undergraduate students and the impact of these motivations on well-being. The data from Chapter 4 provide unique results testing the association between self- and other-oriented prosocial attitudes, motivations to volunteer (self- and other-oriented as well), and the relationship between these constructs and well-being. This is the first study to look at self-oriented conceptualizations of prosocial orientation in the context of functional theories of volunteering behaviour (discussed in detail below). The original goal of Chapter 4 was to provide a comparison, like in Chapter 2/3, of volunteers, non-volunteers, and service-learners. Unfortunately, the onset of COVID-19 and public health measures prevented the collection of data among service-learners.

Authorship Note

This dissertation comprises of a General Introduction (Chapter 1), three chapters (2 of which, Chapters 2 and 4, are manuscripts under review at peer-reviewed journals), and a General Discussion (Chapter 5). I am the sole author on Chapter 1, 3, and 5. Authorship for the two manuscripts is noted below.

Chapter 2: Hill, R. & Hammond, S. I. (2021). Service-learning as entry into or enhancement of university volunteering? Student characteristics at an elective service-learning institution.

I was the primary author of the manuscript, contributing to the theoretical model, and conducting the data collection and analyses. Dr. Hammond collaborated on developing the theoretical model, with research on schools as institutions initially collected for a chapter on prosocial behaviour in schools, currently in press at Cambridge University Press (Hammond, Hill, & Edwards, in press). That chapter, however, is wholly distinct from the present work.

Chapter 4: Hill, R. & Hammond, S.I. (2021). Looking beyond altruism to careers and understanding: University students' self- and other-oriented volunteer motivations in relation to wellbeing.

I was the primary author of Chapter 4, doing the majority of writing, and all of the data collection and analysis. Dr. Hammond contributed to writing.

Overall, the topic of my dissertation, service-learning, and volunteering experiences among undergraduate students, was developed by me and Dr. Hammond. Together with the help and advice of Dr. Patrick Hill, we developed the research design, methodology, and selected measures/outcomes of interest. My thesis committee provided feedback on the research design,

hypotheses, and variables of interest. The data for my dissertation was collected over a period of 4 years, representing two main methods of recruitment. For data for Chapter 2 and 3 were collected from participants enrolled in developmental psychology classes (described in detail in Chapter 2 and 3), while Chapter 4 data was collected from participants recruited through the University of Ottawa's online survey system (ISPR). Ethics submissions, participant recruitment, data collection, data cleaning, and statistical analysis were all conducted primarily by me.

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Chapter 1
General Introduction

Going to university or college is a major milestone for many young adults. It is a period that can be fundamental in shaping who they will become in life, making this a critical period developmentally in terms of academic, career, and personal development. Many students gain their first experience with independence (e.g., moving out of their parent's house, finding part-time work, and more personal responsibility), and challenge beliefs and previously held ideas - even adopting new beliefs to replace the old (Arnett, 2000, 2016). *Volunteering* or serving their community provides university and college students formative experiences that can carry with them into adulthood in the form of increased helping through civic engagement (Duke et al., 2009) and volunteering as adults (Bowman et al., 2010). Volunteering is broadly defined (and will be discussed in additional detail below) as a sustained or planned prosocial action intended to benefit others without compensation (Hustinx et al., 2010). Volunteering is a key component of a pedagogical practice called *service-learning*, where volunteering is enhanced through ties to university courses and reflection (Butin, 2010). This thesis examines the service-learning and volunteering behaviour of university students, with the former as the principal focus of study, and understood as a subtype of more general volunteering and community service, and the latter providing context for understanding the benefits and impacts of service-learning.

An Overview of Service-Learning

Service-learning programs in post-secondary institutions, sometimes referred to as community service-learning, aim to promote community engagement through volunteer experiences and provides a bridge between post-secondary institutions and their community (Cox & McAdams, 2012; Jones & Abes, 2004). Broadly speaking, service-learning programs are typically characterized by a combination of classroom instruction, community service or volunteering, and reflection related to one's experience in the community as means of fostering

greater civic commitment (Lies et al., 2012; van Goethem et al., 2014). Service-learning provides students the chance to apply skills and knowledge from class in the community, with institutional and classroom support, while also providing benefits to the broader community (Brandenberger, 1998). Service-learning is widely believed to be an effective practice; however, some researchers have raised critical issues with service-learning research, specifically lack of agreed-upon theoretical framework, issues with research methodology, and issues related to self-selection (Hart et al., 2014; Hébert & Hauf, 2015; Yorio & Ye, 2012). Researchers adopting a critical stance often examine service-learning in the context of the broader volunteering literature, which will be discussed further below, whereas a great deal of service-learning research operates more in isolation. Institutional actors (e.g., professors; administrators) tend to view service-learning as an enhancement of volunteering and course material, however if the components of service-learning are broken down, the service-learning experience does not necessarily provide a novel experience compared to other forms of volunteering while enrolled in course work and given that students may engage in reflection through course work and spontaneously. The values in the field of service-learning portray service-learning as a pedagogical strategy that shapes students academically and civically over and above course work alone, but risks doing so without consideration of the impact of volunteering at the university level (i.e., in the absence of service-learning).

The implementation of service-learning programs represents a shift in the role of universities and colleges away from strictly classroom learning towards a more community-oriented view of student development. Service-learning is described as a “High Impact Educational Practice”, meaning that service-learning programs promote learning and student retention compared to just course attendance alone (Bureau et al., 2014; Kilgo et al., 2015).

Service-learning programs are generally characterized by many universities as an opportunity to build career and extracurricular experience to entice students to participate. These programs also aim to instill greater civic engagement through volunteering, a motivation to continue volunteering, and, importantly, to foster or instill prosocial attitudes in students (Janoski et al., 1998).

There are several reasons driving the implementation of service-learning type programs and one is connected to rates of community service more generally, which appear to be declining in the general population (Janoski et al., 1998; Putnam, 2000). Secondary and post-secondary institutions have taken up the mantle of fostering community service behaviours (which include volunteering or service-learning), although this largely starts in high school. However, in some jurisdictions, the role of educational institutions begins even earlier. In Ontario, Canada's most populous province also has Canada's sole mandatory volunteering program, which was introduced in the high school curriculum to increase community service participation (Wray-Lake et al., 2017). As a result, the most numerous group of volunteers in Ontario is high school students (Yang, 2017). The effect of this program means that rates of volunteering increase from the start of high school and peak at age 18 as students complete their volunteering requirements to graduate. Volunteering decreases post-graduation, in large part due to a lack of programming or opportunity to volunteer (Wray-Lake et al., 2017). Volunteering does remain elevated among university students compared to non-student peers in large part due to institutional culture, student motivations (e.g., career advancement), and available opportunities to volunteer (Smith et al., 2010). As mentioned, the post-secondary period is a key developmental stage, where experiences engaging in community service (whether through volunteering or service-learning) can foster greater community engagement, increased community service, and prosocial attitudes

(Haski-Leventhal et al., 2010) maintained well into adulthood (Bowman et al., 2010). Service-learning programs, therefore, are an important means institutions utilize to attempt to foster greater prosocial commitments through volunteering.

Opportunities to participate in service-learning offered by an institution provides a path for students to begin or increase their participation in volunteering through access to volunteer experiences (either institutionally or in their community). Institutions influence student experiences through culture and opportunities, meaning they are crucial to understanding program effects (e.g., Hart et al., 2014; Meyer et al., 2019). This is particularly relevant regarding how social structures interplay with students' agency (e.g., students at an institution with a long history of service-learning have different possibilities than students at an institution with no history of service-learning; see Sokol et al., 2015). Furthermore, policies instituted at the university (e.g., mandatory volunteering) and within courses by instructors (e.g., student reflections) influence the effectiveness of volunteering or service-learning programs at fostering change among students (Yorio & Ye, 2012). These issues stem from, in part, the fact that service-learning is undertheorized within service-learning research in contrast to volunteering theories. This issue and these questions are discussed in the introduction below and in Chapter 2 (which also proposes a conceptualization of different institutional structures impacting student service trajectories).

Volunteering can be viewed through a variety of psychological and sociological frameworks, meaning that the act of volunteering can, at the same time, be viewed as a form of *prosocial behaviour*, *civic engagement*, *networking*, and *career development*. Volunteering thereby is a multifaceted construct and action that holds benefits to society, including to the individual who volunteers. These benefits could also extend to psychological states such as a

sense of purpose and wellbeing. Volunteering is not necessarily purely altruistic act, and many volunteers endorse multiple motives that are self or other-oriented (explored in greater depth in Chapter 4). Students who volunteer in general experience several benefits ranging the academic (e.g., GPA), psychological (e.g., wellbeing, empathy), and vocational (e.g., career opportunities/experience). Nevertheless, there is little information on the characteristics of students who participate in service-learning, including whether service-learners differ from volunteers and non-volunteers, primarily based on their previous volunteering experience, or established prosocial attitudes between volunteering groups. Furthermore, few studies have compared changes over an academic semester among service-learners compared to volunteers and non-volunteers. Finally, there is little research testing the relationship between prosocial characteristics and motivations to volunteer, and the impact of this relationship on volunteering status and wellbeing.

Promoting Civic Engagement and Volunteering Behaviours

Post-secondary institutions play a formative role in the lives of young adults by encouraging students to participate in their community through volunteering (Bringle & Hatcher, 2000) with the goal of promoting prosocial volunteering behaviour through community service (i.e., volunteering or service-learning). Policies and programs, as mentioned, were created in response to declining rates of volunteering (discussed in detail below), therefore, it is necessary to understand the frequency and rates of volunteering behaviour among Canadians and students. This will help better contextual why these programs exist, in addition to our findings about who volunteers and their motivations.

Rates of Volunteering. In 2013, 44% of Canadians reported some form of volunteer work according to Statistics Canada data. Young Canadians were most likely to volunteer compared to

older age groups (15 – 19: 66% volunteered in 2013). The number of young Canadians who volunteer may be influenced by the increasing number of provinces that require a specific number of volunteer hours to graduate high school. Middle-aged Canadians (aged 35 – 44: 54% volunteered in 2013) were the second most likely to volunteer according to StatsCan data. This was attributed to the prevalence of parents volunteering in their child’s school (Turcotte, 2015). Furthermore, there are differences between age-groups on the number of hours volunteered. Older Canadians (e.g., aged 45+) are less likely to volunteer, but typically commit more hours when they do (223 hours; Vezina & Crompton, 2012). The nature of volunteering among high school students and young adults differs compared to older volunteers. Students engage in more episodic, short-term volunteering, and individual motivations are “contextual”, such as being asked by a peer, rather than a reflection of their identity as a volunteer (Marks & Jones, 2004). Similarly, young adults volunteer more frequently, but episodically - donating fewer hours (on average 109 hours) compared to older adults (Vezina & Crompton, 2012).

In Ontario, the rates of volunteering are highest among high school students (Yang, 2017) – consistent with data collected by StatsCan. Reported volunteering rates then decrease following graduation from high school and plateau in adulthood. This change in the amount of volunteering at age 18 is largely attributed to mandatory high school volunteering and the opportunities to participate in school-based helping (e.g., volunteering with food drives, assemblies, or helping classmates; Wray-Lake et al., 2017).

The decreasing trend of volunteering behaviours is not universal in Canada, meaning that some groups are showing increased rates of volunteering. Research findings suggest that level of education, namely completing post-secondary education, is associated with increased volunteering compared to the past. Volunteering rates also increase as reported household

income increases. Similarly, employed Canadians are more likely to volunteer compared to unemployed Canadians (50% vs. 34% respectively; Vezina & Crompton, 2012). Furthermore, young adults in school differ in terms of rates of volunteering. For example, the volunteering rate for Australian university students (aged 18-24) was 43.4% compared to 20.1% among same-aged non-students based on census data (Smith et al., 2010). Similarly, career focused college students were more likely to engage in episodic volunteer work rather than consistent or regular volunteering (Handy et al., 2010), indicating that career motivations are another route to increase volunteerism. This data suggests a shift away from more traditional forms of community service, linked by participation in local institutions (e.g., churches, community groups), to volunteering that is driven through school attendance, career advancement, and increased opportunities through work or school. This highlights the prosocial, motivational, and institutional factors that appear to influence who volunteers and why – including the shifting nature of these factors.

Volunteering and Service Promotion. For many years the family acted as the primary initial educator for civic, moral, and prosocial actions, bolstered by local churches or religious organizations, volunteer groups, and other community associations (e.g., Rotary Club). These institutions and associations played the dominant role shaping prosocial attitudes and civic engagement of adolescents as they matured (Janoski et al., 1998). Over the past 50 years, however, fewer people overall are participating in these groups, leading to a reduction in the number of people volunteering or committing to community service (Janoski et al., 1998; Wilson, 2000). As these historically significant groups diminished in their influence as shapers of prosocial behaviours, high schools, and universities increasingly formalized civic and prosocial training into their curriculum. Secondary and post-secondary institutions created programs and initiatives designed to foster greater civic engagement, long-term prosocial

actions, with the aim of reducing declining rates of community involvement in students (Henderson et al., 2007). These programs are largely intended to boost community engagement among students, through actions like volunteering, political participation (i.e., voting), fundraising, and advocacy for the marginalized.

Conceptualization of the Volunteer Experience: Theories of Volunteering and Service-learning

Volunteering. *Volunteerism* (the action or behaviour of volunteering) is studied across several fields and disciplines², meaning there has been little consensus on a firm definition of volunteering (Musick & Wilson, 2007). Furthermore, there are few theories to explain volunteering; instead, most research is focused on describing the function of volunteering. Definitions of volunteering are generally consistent in a few ways, despite lacking a comprehensive theory or widely agreed upon definition. For example, Cnaan et al., (1996) performed content analysis of over 200 definitions of volunteering and found that all included some element of time, labour, and expertise which are donated and are provided without compensation. Furthermore, Musick & Wilson (2007) proposed three ways to identify volunteering behaviour to reconcile inconsistencies between researchers: that 1) the behaviour is

² The field of economics provides a variety of theories to explain volunteering behaviour, since volunteering constitutes a form of work and many organizations rely on volunteering to operate (Briggs et al., 2010). Volunteering from an economics framework can be conceptualized in the following ways: 1) as a means of investment, where the volunteer receives training or skills in exchange for volunteering (*investment model*). 2) As a means to social benefits of boosts to internal well-being related to volunteering (called the *consumption model*). 3) As a form of a collective action problem (*the public goods model*; Archetti, 2009).. The diversity of views also highlights some of the challenges of studying volunteerism (act of volunteering) because each field approaches the question from their own perspective (this thesis included). The economic framework described provides useful context for the data presented in Chapter 4. underlies certain motivations (e.g., career, social) to volunteer examined in Chapter 4. The consumption model fits closely with volunteering motivations driven by a desire alleviate guilt or provide a boost to one's ego (e.g., enhancement [described below]; Archetti, 2009; Clary et al., 1998) or to gain status and image (e.g., public prosocial action; Carlo & Randall, 2002). While the investment model aligns closely with career motivations and, as will be described in Chapter 4, appears to be a unique form of self-oriented motivation, one that provides a positive boost to the volunteer (Stukas et al., 2014).

not for financial gain, 2) the behaviour is performed by choice, 3) volunteering benefits a third party and the volunteer (2007). The criteria put forth by Musick & Wilson (2007) are consistent with our conceptualization of volunteering as a prosocial action intended to help others without compensation.

Volunteering programs are generally intended to foster and promote prosocial behaviour with the goal of establishing long-term volunteering behaviours. These programs are generally guided by two perspectives. The first is the *Normative* perspective (Haski-Leventhal et al., 2010; Janoski et al., 1998). The normative theory posits that an individual's values, beliefs, and social norms drive volunteering behaviours. According to this view, individuals' values are gained, first, through experiences caring for others within their family, then later are fostered by other organizations (e.g., school, church, volunteer groups), often through volunteering. The key idea being that the act of volunteering becomes internalized by the volunteer as an expression consistent with that person's values and beliefs. The second perspective is *Social Practice*. Social practice is based on the idea that volunteering and other prosocial behaviours are fostered through repeated practical experiences doing volunteer work or prosocial acts. Volunteering, according to the Social Practice perspective, occurs through repeated experiences volunteering. This view does not account for the values and attitudes of volunteers, nor are they necessary for the formation of continued volunteering work. Instead, once individuals start volunteering, they will begin to habituate to the act (Haski-Leventhal et al., 2010; Janoski et al., 1998).

Psychological perspectives on volunteering tend to focus on the developmental, moral, and motivational characteristics or implications of volunteering (see Finkelstein & Brannick, 2007; Lies et al., 2012; van Goethem et al., 2014). Volunteering is generally viewed as a prosocial behaviour intended to benefit others (including individuals, organizations, or

communities; Musick & Wilson, 2007). However, the act of volunteering also appears benefits the volunteer, meaning that it is not purely altruistic or one-directional in terms of the benefits identified (Batson, 2010).

Other psychological perspectives on volunteering derive from motivational and personality-based theories adapted to describe volunteering behaviours, unlike the normative and social practice theories outlined above which dedicated specifically to explaining volunteering behaviours. The theories most often used to predict volunteerism are *Social Determination Theory* (SDT; Bidee et al., 2013; Deci & Ryan, 2012) and the *Theory of Planned Behaviour* (TPB; Ajzen, 1991; Brayley et al., 2014). SDT proposes that humans have an innate drive towards growth, mastery, and self-construction, seeking to challenge and increase their skills or knowledge (Deci & Ryan, 2000). Human motivation and action are, according to SDT, driven by innate psychological needs that when unmet prompt behaviour to fulfill those needs. Three needs comprise SDT: *autonomy* (ability to choose actions), *competence* (gaining a sense of mastery), and *relatedness* (connection to others; Deci & Ryan, 2000). Fulfilling these needs provides individuals with motivation, which can be intrinsic (internally driven behaviour; generally done because of enjoyment), extrinsic (externally driven behaviour; done to alleviate guilt, for praise), or elements of both referred to integrated (expression of values that become internalized through action; Deci & Ryan, 1985; Bidee et al., 2013). The TPB attempts to account for human behaviour as a product of our cognitions and is comprised of three determinants: *attitude* (positive or negative towards behaviour), *subjective norm* (social pressures towards the behaviour); *perceived control* (degree of autonomy toward choosing behaviour; Greenslade & White, 2005). Motivations to action are accounted for by the TPB through intentions, with higher intentions predicting the degree to which people will work towards a goal. Social pressure,

control, and attitudes all influence intention either increasing or decreasing the drive to act towards a behavioural goal (Ajzen, 1991).

A more pragmatic and volunteering specific theory emphasizes the diverse range of student motivations for engaging in community service and is based on the theory that different motivations and characteristics can lead to the same prosocial action (volunteering), referred to as the *functional perspective* (Pearl, 2017). Volunteering behaviour becomes sustained and can be enhanced when the psychological motivations match the activities a person performs while volunteering (e.g., gain career experience; helping others; Carpenter & Myers, 2010). Functional drives can be conceptualized as *other-oriented* (done to help others, understand others, express altruistic values) or *self-oriented* (done to alleviate own guilt, for status/gain, or to enhance own esteem; Clary et al., 1998). Other-oriented motivations are associated with positive well-being and more sustained volunteering, while self-oriented with lower well-being (Stukas et al., 2014). However, students who volunteer endorse self-oriented motivations along with other-oriented (although other-oriented tends to be ranked higher), but some evidence suggests that self-oriented (including career motives) are negatively associated with volunteering and are not likely to foster prosocial attitudes (Briggs et al., 2010). Volunteering, as mentioned, is not entirely altruistic, with different pathways to action. However, it appears that primarily other-oriented (e.g., values driven) motivations lead to more internalized and sustained prosocial volunteering behaviours (Penner, 2002).

The functional approach shares some common elements and conceptual similarities to SDT and TPB. The functional approach is similar to SDT in that internal and external drives motivate action and when satisfied promote further action (Bidee et al., 2013). The SDT, however, captures elements of motivation that align with specific characteristics of well-being,

namely autonomy, mastery, competence, and relatedness (Deci & Ryan, 2000; Ryff & Kim, 2020). When applied to volunteering research, autonomy appears to be the main predictor of sustained volunteering effort (Bidee et al., 2013). A TPB appears to take a more limited approach to capturing social influences compared to the functional approach. Greenslade and White (2005) recruited 81 volunteering adults to examine the effectiveness of functional approach or TPB at predicting volunteerism. They found that a TPB better predicted the amount of effort and time that participants volunteered (greater intention to volunteer) compared to the functional approach (which still predicted a significant proportion of variance in volunteering behaviour). The functional approach does not capture broader decision-making elements in a person's decision to volunteering, specifically the cost-benefit of doing so, but instead focuses primarily on the individual motives (Greenslade & White, 2005). Despite conceptual overlap and predictive validity, SDT and TPB theories are less frequently used compared to the functional theory of volunteering. The volunteering functions inventory (VFI; see Chapter 4) is a widely used measure of volunteering motives (Chacón et al., 2017) and the use in this thesis allows for greater contextualization with broader research.

The functional theory of volunteering shares conceptual similarities with self-other views of prosociality. Prior research has generally classified volunteering behaviour as a form of altruistic helping behaviour (Kroll & Vogel, 2018). However, helping behaviours can be enacted for different reasons, as demonstrated by Carlo et al., (2005) depending on the person and the situation. This view of prosocial behaviour fits well with a functional approach to volunteering and provides a novel way to view prosocial action, moving beyond the idea of just altruism or helping. Volunteering is done to satisfy psychological drives that, when aligned sustain the action of volunteering and these drives could include prosocial attitudes. This is explored in

more depth and detail in Chapter 4, based on the functional perspective and building off previous work testing the impact on wellbeing (Stukas et al., 2014). Furthermore, in Chapter 4, I extend the functional perspective to prosocial attitudes and tendencies based on the work of Carlo and colleagues (Carlo et al., 2005) looking at self-other perspectives on helping behaviours.

Volunteering is generally viewed as a prosocial action intended to help others and like motivations, the tendency for someone to act prosocially can vary based on their underlying prosocial attitudes (Kroll & Vogel, 2018). Traditionally, prosocial behaviour is conceptualized as a combination of other-orientedness (i.e., altruism) and helpfulness (see Finkelstein & Brannick, 2007). Prosociality is predictive of volunteering and prosocial motivations generally determine the degree that a person will spend time volunteering (Kroll & Vogel, 2018). Prosocial orientation is associated with other-oriented values, increased time commitments to volunteer organizations, and sustained behaviour beyond initial commitment (Penner, 2002). However, traditional conceptualizations of prosocial orientation overlook student volunteers who are motivated by self-oriented prosocial attitudes. Carlo et al. (2002) identified another dimension of prosocial behaviour, characterized by status seeking, praise, and the possibility of reward (i.e., being seen to help others) named public prosocial attitudes (Carlo et al., 2002). Self-oriented, or Public, prosocial attitudes produces action meant to enhance one's own status or alleviate negative self-states (Carlo et al., 2005; Carlo & Randall, 2002). The connection between public prosocial motives is understudied in the literature, especially in relation to volunteering behaviours. Furthermore, no study to date has examined the connection between functional motives and prosocial attitudes among volunteers.

Service-Learning. Service-learning emerged from the work of John Dewey, an early proponent of experiential learning. Dewey advocated for the role of educational institutions to

shape civic engagement and civil behaviour (aka., prosocial behaviour; Giles & Eyster, 1994b). Service-learning programs represent a practical attempt to connect Dewey's theories of learning, such as reflection, inquiry, and experiences and apply these theories within a curriculum (Kenny & Gallagher, 2002). Service-learning stems from Dewey's *Principle of Interaction*, which proposes that learning is a transaction between the individual and environment. According to this view, learning is dependent on students' personal context and is connected to their experience of the learning. If learning lacks context, then it becomes difficult for learners to reflect and connect with course material (Giles & Eyster, 1994b).

Service-learning is now identified as a high-impact educational practice (Kilgo et al., 2015). High-impact educational practices were developed to create better student engagement with course material, increase student retention, and provide students with skills and experiences to help them succeed post-graduation. High-impact practices include undergraduate research projects, first-year seminars, and service-learning programs, which have been shown to help improve academic outcomes among students (Kilgo et al., 2015; Kuh et al., 2008). It is important to note that although service-learning has a rich background and a pedagogical framework underlying its goals (e.g., reflection), the theory, understanding, and psychological mechanisms are not as in-depth as they are in a conceptually related field: volunteering (Deeley, 2010).

Historically, service-learning programs developed on university campuses throughout the United States (Kenny & Gallagher, 2002), but have been rare in Canadian universities, only emerging in the past two decades (e.g., the University of Ottawa started in 2009). At their inception, service-learning programs primarily had ties to religiously affiliated Christian universities and colleges, reflecting its roots in certain Judaeo-Christian traditions (Kraft, 1996). These universities have and continue to couch community service in practices and beliefs related

to religious and moral practices of serving others. Starting in the 1980's, a broader array of secondary and post-secondary institutions in the United States started to adopt service-learning as a method for students to gain extra-curricular experience related to their courses, to address declining rates of youth volunteering, and to instill a sense of civic pride or virtue (Janoski et al., 1998; Kenny & Gallagher, 2002; Kraft, 1996). These programs typically attempt to provide students experiences where they can apply skills and behaviours from school, gaining perspective on community challenges, and shaping a self-efficacy for students (van Goethem et al., 2014).

Many secondary school districts have introduced volunteering programs as part of their curriculum to boost volunteerism (Janoski et al., 1998). Generally, students are expected to complete a specific number of volunteer hours to graduate. This policy is based on the social practice theory of prosocial development, with the underlying goal to provide students with practical experiences volunteering and hopefully foster greater community engagement, increased community service, and prosocial attitudes (Haski-Leventhal et al., 2010). Compulsory volunteering is a policy intended to promote the association with civic engagement and participation in these programs, that is, instill a sense of volunteerism through mandated volunteering (Yang, 2017).

Despite the widespread adoption of service-learning, there remains little agreement between educators, administrators, and researchers on the basic principles of what constitutes service-learning (Butin, 2010). From the Deweyan perspective, service-learning can be viewed as a strategy rather than a philosophy or pedagogy (Butin, 2010). It is a program designed explicitly to enhance learning and increase civic engagement, but implicitly to challenge or transform students into civically active students. Advocates of service-learning differentially

present the program as a pedagogy, a philosophy, or as a method to promote learning (Hébert & Hauf, 2015). These presentations and definitions are often vague, leading to difficulty conducting rigorous research and leading to little agreement on theories of service-learning (Butin, 2010; Giles & Eyler, 1994a).

Issues with consistency of service-learning definitions were identified by researchers early in the adoption and promotion of service-learning, i.e., that programs and research lacked a theoretical framework (Giles & Eyler, 1994b). In fact, historically, proponents of service-learning have generally resisted formulating theories and conducting systematic research on the effects of service-learning programs. This position is often highlighted as a strength with the rationale that knowledge or experiences are lost or overlooked when attempting to quantify service-learning outcomes (referred to by one author as “arborescent thinking” meaning thinking that attempts to quantify every metric; Le Grange, 2007)³. According to Butin (2010), using quantitative research practices to determine the effects of service-learning is impossible because there are too many confounding variables involved. Butin’s view is rooted in a view of service-learning that is political and anti-foundational (see footnote 3) which is contrary to the structure of this thesis, however there is merit to his point as evidenced by meta-analyses of service-learning outcomes that demonstrated small effect sizes (see Hébert & Hauf, 2015; Warren,

³ Butin (2010) discusses 4 different theoretical perspectives to service-learning research and promotion. They are *technical*, *cultural*, *political*, and *antifoundational*. These different perspectives are often at odds with one another, leading to issues ranging from theory of service-learning, goals for promotion, and, of course, research. Technical perspectives on service-learning focus on quantifying key elements of service-learning, such as characteristics, outcomes, and aspects of program delivery. Research from a technical perspective tends to focus on issues related to efficacy, outcomes, and process of change. Cultural perspectives focus on individual students experiences in service-learning, including meaning-making and identity. Political perspectives emphasise the transformative nature of service-learning, as well as the potential for programs to challenge norms, hierarchies, and power structures. Finally, the antifoundational perspective seeks to shake-up the system by “disrupting” ways of learning and thinking. Antifoundational perspectives deny ideas of singular truth or knowledge and instead believe that knowledge is local, individual, and contextual (i.e., it is firmly post-modern; Butin, 2010).

2012). The historical tension between advocates and researchers of service-learning reflect a broader clash of research cultures between social sciences and education departments, where there is less adherence to more technical forms of research. This would account for the continued resistance to formulating a common conceptualization of service-learning, including the lack of applied research into the effects of service-learning programs.

Like service-learning, volunteering definitions can be wide ranging depending on the discipline (Cnaan et al., 1996). However, unlike service-learning research, psychological perspectives on volunteering have attempted to assess volunteering behaviours more rigorously from a moral or functional perspective (Clary et al., 1998; Finkelstein & Brannick, 2007), integrating motivations, identity, and prosocial tendencies. Though Butin and others may disagree with this approach, service-learning research would benefit from a greater emphasis on research methodology (van Goethem et al., 2014), operational definitions, and greater accounting of the role/structure of the institution on outcomes (Hart et al., 2008). This shift would provide more accurate estimate of the effects (Yorio & Ye, 2012) and more flexibility when promoting service-learning programs to a diverse array of students.

For the purposes of this thesis, the definition of service-learning reflects the components and structure of the service-learning program at the University of Ottawa. It is self-described as service-learning and is comprised of the main components of service-learning set out in the research literature as a high-impact educational practice, namely that service-learning students participate in the following: volunteering, course instruction, and formal reflection on their volunteer experience (Butin, 2010; Hart et al., 2014; Kilgo et al., 2015).

This thesis focuses primarily on the role of volunteering behaviours on prosocial change among students in service-learning or volunteering on their own. However, other researchers

have emphasised the reflection aspect of service-learning as the key mechanism of change (see Richard, 2017). It appears that reflection does account for some of the benefits of service-learning, but, for reasons outlined in the preceding paragraphs, a degree of caution is required when interpreting results due to methodological and assessment issues (van Goethem et al., 2014). The impact of reflection is not directly assessed in this thesis, instead I focus on the characteristics of students who participate and how the experiential effect of volunteering (through service-learning or others) impacts students over a semester. However, reflection is a component of the service-learning program at the University of Ottawa and was integrated into the coursework for students in this sample. Therefore, while not directly assessed, reflection remains a component of service-learning that differentiates it from volunteering in this thesis.

Impact of Service-Learning and Volunteering

There is a broad consensus among researchers that volunteering and service-learning are beneficial for students (Handy et al., 2010). Volunteering, through service-learning or on their own, provides students a sense of community and increases their connections among members of particular groups (e.g., religious groups, neighbourhoods, and broader communities; Stukas et al., 2016). The benefits demonstrated in the literature are similar for volunteering and service-learning. Both experiences provide students with experiences that are educational, psychological, and prosocial (Cruce & Moore, 2007; Janoski et al., 1998; Smith et al., 2010), and both involve some aspect of volunteering. However, service-learning is differentiated primarily by the institutional support provided and the explicit focus on reflection (Haski-Leventhal et al., 2010; van Goethem et al., 2014). More recent longitudinal data suggest a positive increase in prosocial behaviour based on student experiences with service-learning, as well as increased self-efficacy (belief in their own actions to help others) and prosocial behaviour one year later (Christoph et

al., 2014).

Volunteering, whether in high-school or post-secondary, appears to foster a positive association between volunteerism-promoting programs and engagement among adolescents (see Frumkin et al., 2009). The act of volunteering can increase connections between seemingly disparate groups by expanding individuals' sense of community and expanding their view of others (an element of empathy). Positive experiences volunteering can lead to increased future volunteering and a greater sense of community for the volunteer (Musick & Wilson, 2007). The connection between volunteers and the community underlies the relationship between a sense of social/civic connectedness and volunteering (Stukas et al., 2016).

Academic Impacts. The impacts of service on academic performance are not consistent throughout the literature. Students in service-learning are believed to benefit from community experiences that also promote academic development, and practical course related knowledge (Cox & McAdams, 2012). Some studies suggest a positive relationship between academic outcomes among service-learners and a positive association between service-learning and self-reported grade point average (GPA; Gutierrez et al., 2012; Lockeman & Pelco, 2013; Warren, 2012). Service-learning participation is also connected to increased student retention and graduation rates after completion of a service-learning program (Gutierrez et al., 2012), however this cross-sectional study may have suffered from self-selection bias because participation required applying, undergoing training, and significant time commitments. The authors attempted to address this issue by including a comparison group, however grade point average was self-reported.

More recently, Hebert and Hauf (2015), attempting to address previous methodological shortcomings, examined academic development between students enrolled in courses with

mandatory service-learning and students enrolled in courses without. They assessed academic development using test-retest methods and focused on 3 variables to determine academic achievement (e.g., final exam marks, a course specific assignment, and course evaluations). Students also self-reported their academic development, practical skills gained, interpersonal skills, and civic responsibility. Their results suggest students in service-learning did not differ in terms of course marks or ability to develop better course specific knowledge compared to students who did not enroll in service-learning. Service-learners, however, self-reported improved academic development, interpersonal skills, and civic responsibility that they attributed to their experiences with service (Hebert & Hauf, 2015). This suggests the impact of service-learning is connected to a perception of increased competency, confidence, or proficiency stemming from experiences working in the community that may not be directly captured by academic outcomes (i.e., GPA) alone. This is also consistent with Warren (2012)'s meta-analysis on the effect of service-learning on learning outcomes, however, even this study is not without issue. Warren conducted the analysis of only 11 included research studies out of 14, comprising 2129 research participants. Warren's (2012) meta-analysis assessed the academic effects of service-learning and concluded there was a positive effect of service-learning on academic outcomes. These results likely over-estimated the effect sizes (e.g., final grades) by including self-reported academic achievement (self-reported had higher Cohen's *d*) rather than more concrete measures (lower Cohen's *d*).

The results outlined above are likely due to a lack adequate and consistent definitions of learning outcomes (Warren, 2012) – an issue stemming from inconsistent conceptualizations of service-learning in the field more generally – or reflect other variables distinct from GPA (e.g., increased self-efficacy). Additional attempts have been made by researchers to systematically

examine the relationship between volunteering programs and academic learning outcomes using additional meta-analyses, but sourced studies often suffer limitations in terms of design, inclusion, and methodology (van Goethem et al., 2014). The available data suggest service-learning provides broader benefits to learning not captured by GPA or course outcomes. In other words, benefits of community service influence identity formation, self-esteem/efficacy, which lead to higher self-reported skills, i.e., improved general learning, but not course specific learning (Hébert & Hauf, 2015).

Data from research on the effect of volunteering on academic outcomes suggests a more complicated picture. Bowman et al., (2010) conducted a longitudinal study to assess the relationship between volunteerism in university and adult well-being finding a negative relationship between volunteering and GPA. The findings were based on data provided from 416 first year undergraduate students assessed again as seniors and 13 years post-graduation. Their results suggest volunteering can present competing demands on academic goals, a finding that runs counter to many claims made in other research studies (Bowman et al., 2010). Their results are based on volunteering in general, rather than specific outcomes based on service-learning programs, therefore it is possible that institution-support service-learning allow for a balance between academic demands and time commitment for volunteering. Further research on the effect of volunteering or service-learning is needed.

Psychological Impacts. The effect of volunteering or service-learning programs on psychological outcomes is complex. Students generally report increased connection to the communities where they volunteered, as well as increased well-being, satisfaction, and self-esteem/self-efficacy (Kilgo et al., 2015). Among volunteers and service-learners the act of helping produces increased positive attitudes towards others (Leung et al., 2012), positive affect

and positive well-being (Finkelstein & Brannick, 2007), and psychological flourishing (Nelson et al., 2016). The frequency of volunteering predicts higher scores on purpose in life among volunteers, with higher happiness or pleasure associated with higher wellbeing and volunteering (Okun & Kim, 2016). In sum, these studies suggest that volunteering and service-learning provide broad increases in psychological well-being (e.g., purpose; Okun & Kim, 2016), as well as increased positive affect, esteem/efficacy, and flourishing – all elements indicative of increased psychological functioning.

The effect described above appears cyclical. Psychological outcomes increase in response to volunteering, leading to a cycle driven by positive experiences and positive well-being. Greater well-being then leads to increased desire to continue volunteering (Mestre et al., 2019). Individuals who are happier, report higher well-being and lower depression scores, are more likely to invest their time volunteering, which works to further boosts their positive psychological outcomes (Thoits & Hewitt, 2001), a process of internalizing that is believed to underly the effect of fostering prosociality and connected with well-being (Finkelstein et al., 2005; Nelson et al., 2016). It is likely that the mechanism for change (the cyclical relationship described above) occurs over a much longer time frame than most studies (e.g., academic semester). Like academic outcomes, the research supporting the longer-term impacts of service-learning suffers from a lack of methodological rigour and use of validated outcome measures (Hart et al., 2014) As a result, service-learning outcomes may reflect students own perceptions of change rather than more concrete change and some research designs appear to limit the effectiveness demonstrated by volunteering programs (Yorio & Ye, 2012; Hébert & Hauf, 2015; this is part of a larger debate about methodology, change, and role identity that is beyond the scope of this thesis).

Prosocial Impacts. The impact of service-learning and volunteering appear complex because shifts in prosocial motivation can result from external factors, for example, following a disruption to a person's life (e.g., getting a job; recent military experience; Kroll & Vogel, 2018). Furthermore, the relationship between prosocial behaviour, tendencies, and volunteering or service-learning appears bidirectional, leading to a reciprocal relationship (e.g., Carlo et al., 2015). As a result, prosocial tendencies and behaviours can spur greater volunteering, but so too can volunteer experiences or other life changes. Tendencies (i.e., propensity to help others and improve society), similar to personality traits, can influence the relationship between volunteering behaviours and well-being (i.e., those who have more prosocial tendencies were more likely to volunteer which predicted greater well-being; Bowman et al., 2010; Livi et al., 2020). This is consistent with other longitudinal research of civic engagement among young adults that found stronger reported connections with family, school, and community predicted a greater propensity to volunteer, leading to more volunteering as a young adult (Duke et al., 2009).

As mentioned, empathy and prosocial behaviour appear to have a bidirectional relationship, both increasing the tendency to engage in helping behaviours (Carlo et al., 2015). This is similar in function to the psychological benefits of volunteering outlined above, where experiences volunteering increase wellbeing, leading to a greater propensity to volunteer. However, there is little research that directly examines the relation between service-learning participation and volunteering (most research compares service-learning to control groups, if comparison groups are used at all; Hart et al., 2014) on prosocial development. Additionally, there is little information available of the prosocial characteristics or individual differences of students who participate in service-learning (Cruce & Moore, 2007) compared to volunteering

and even non-volunteering students. Specifically, whether concurrent volunteering (in addition to service-learning programs) differentiates between students on psychological well-being, as well as on prosocial motivational factors and empathy-based decisions to help others.

Characteristics of Students in Service-Learning or Volunteering

The above theory, rationale, and research highlights the complexity of promoting prosocial attitudes and outcomes among students using experiences of volunteering as an intervention. Service-learning aims to increase long-term prosocial behaviour through volunteering. However, volunteering drops once the opportunity and need are gone (i.e., graduation), and the “mitigating” effects of service-learning appear minimal in reducing the drop in community service during transition to adulthood (Wray-Lake et al., 2017). It appears that most students who continue to volunteer do so based on their academic, psychological, and prosocial characteristics. More and more studies support this interpretation by demonstrating the importance of self-selection factors and inherent prosocial attitudes already present among volunteers (Hart et al., 2008; Meyer et al., 2019).

Alternatively, the institution does play an important role in terms of increasing access and promotion of community service. This is illustrated by the fact that post-secondary students volunteer more compared to non-students of similar age (Smith et al., 2010). Volunteering and community service in university appears to provide greater rewards in terms of social connections, career or job experience/resume building, or students simply have more opportunities to volunteer, for example, through service-learning programs (Haski-Leventhal et al., 2010; Pearl, 2017). The role of self-selection likely influences the degree of community service participation present among post-secondary students who volunteer. For example, students who volunteer are more prosocial, empathic, and motivated to help compared to other

students (Meyer et al., 2019) and to non-students. Therefore, university students have more opportunity to volunteer (institutional role) and are more likely to engage in prosocial actions based on existing prosocial traits (self-selection; Okun & Kim, 2016).

Academic Characteristics. Students who participate in service-learning or volunteer more frequently appear more academically engaged. Students in service-learning tend to earn more credits compared to students who did not enrol in service-learning (Warren, 2012). In addition, some service-learning programs require opt in based on current grades or essays as a form of application (Thomas et al., 2021). In Meyer et al.'s (2019) study, students were required to apply to a course to participate. In both cases, more exceptional and goal-oriented students were selected into service-learning courses. Furthermore, students who were already engaged in their campus community (e.g., member of a fraternity or learning community member) were much more likely to volunteer compared to non-community members. Students who worked few or no hours, were enrolled in arts, humanities, and education (compared to professional programs), and those who reported an A average were all more likely to report volunteering behaviours (Cruce & Moore, 2012). However, other research suggests that high GPA could be a barrier to volunteering for students more generally (Bowman et al., 2010), possibly due to an emphasis on coursework during a semester rather than volunteering.

Psychological Characteristics. Students' personality disposition also influences the decision to participate with extraversion and agreeableness identified as two personality domains most associated with the decision to engage in volunteer work (Wilson, 2000). Volunteering is associated with lower self-reported depression scores among volunteers (Thoits & Hewitt, 2001), as well as higher emotion regulation abilities, interpersonal skills, and more positive emotionality compared to non-volunteers (Matsuba et al., 2007). Those who do not volunteer report lower

self-esteem, higher social anxiety (Handy & Cnaan, 2007), which appears to reduce the likelihood of volunteerism (Wilson, 2012).

As discussed above, there is considerable research looking at predictors/correlates of volunteering. However, less is known about the predictors associated with volunteering among university students. Findings from a large national sample ($N = 12\,855$) of university students conducted in the US and some Canadian post-secondary institution suggest that students with moderate to high levels of civic mindedness were more likely to report volunteering behaviours compared to their low-civic minded colleagues (Cruce & Moore, 2012).

A recent longitudinal study by Christoph, Gneiwoz, & Reinders, (2014) examined the relationship of service-learning and prosocial behaviour among 2408 German adolescents (aged 14-15). They found a positive increase in prosocial behaviour when their experiences with service-learning and agency were positive, leading to increased prosocial behaviour one year later. In other words, prosocial students will seek out prosocial experiences and positive experiences volunteering further reinforce prosocial behaviour (Christoph et al., 2014), while negative experiences volunteering can reduce the future intentions to volunteer (Taylor & Pancer, 2007). These results further suggest that volunteers are more likely to be prosocial, more likely to seek out opportunities to volunteer or help others (Meyer et al., 2019; Thomas et al., 2021) meaning that programs for volunteering are likely self-selecting highly engaged students. This further complicates the assessment of the impact of service program outcomes echoing the findings and suggestions of Yorio and Ye (2012) regarding inflated or deflated outcomes based on institutional and methodological factors.

Prosocial Characteristics. Volunteering is viewed as a prosocial helping behaviour intended to benefit others (Thoits & Hewitt, 2001), meaning it is often examined from a moral

development framework, including the role of empathy and prosocial attitudes underlying who volunteers and why. According to Batson (2010), empathic concern is a pathway to prosocial behaviour. There appears to be a strong link between empathy, prosocial behaviour and helping behaviours. However, the reasons for helping vary from person to person, some more self-oriented, while others are other-oriented (e.g., empathy; Batson, 2010).

Certain individual traits appear to increase the likelihood that a person will engage in prosocial helping behaviour such as volunteering (Briggs et al., 2010; Carlo et al., 2005). Prosocial motivations or orientations appear to be relatively stable traits predictive of time spent volunteering (Livi et al., 2020). Development of empathy and prosocial reasoning in adolescence is linked to later altruistic and prosocial behaviour and this relationship appears connected to a persons' moral reasoning and emotional concern for others (Mestre et al., 2019). The implication is that early experiences can shape a person's tendencies to engage in prosocial helping (Carlo et al., 2003). Prosocial disposition is just one aspect of prosociality predicting volunteering or helping behaviour. Empathy (e.g., perspective taking, empathic concern) is another important element of prosocial action (Penner & Finkelstein, 1998).

Prosocial attitudes and orientation describe the intersection of beliefs, values, traits, and motivations, but appears to be primarily composed of two constructs: empathy and helpfulness (Finkelstein et al., 2005). Prosocial behaviour is often defined as helping others for altruistic or values laden reasons (see Finkelstein et al., 2005). Helping others is not only done for altruistic reasons and can, like motivations research suggests, be done for more selfish or self-oriented reasons (Carlo et al., 2005) meaning that traditional views of prosocial behaviour may be too narrowly focused. Altruistic or values based other-oriented motivations, such as a desire to help others or their community, represent more typical expectations about who volunteers and why,

although more recent research suggests that volunteers do so for a variety of motives, including self-oriented motivations like career, social, or to alleviate ego distress (Chacón et al., 2017). The underlying motivation can differ between self-other, but the outcome remains the same, volunteering behaviours. This is described above as the functional approach to volunteering (Clary et al., 1998).

The volunteering functions measure is widely used in research on volunteering and volunteering motivations. It is discussed in greater detail in Chapter 4. Like volunteering motivations, prosocial orientations can be delineated along self-other dispositions or attitudes (Carlo & Randall, 2002). Other-oriented (such as altruism) or self-oriented (such as public i.e., helping others for reward or to gain status) are a novel way to view prosocial behaviour. However, the relationship between volunteering or service and public prosociality on these outcomes is not known. Volunteering done for status or recognition has been overlooked in the volunteering and service-learning literature, including the impact of this disposition on expected outcomes among students.

Institutional Characteristics. One important, and often overlooked element is the role and structure of the institution in promoting or providing access to volunteer opportunities (i.e., is voluntary, mandatory, short duration vs. more consistent; Bureau et al., 2014). This can influence who volunteers and why through opportunities available, culture, or policies intended to promote volunteering/service. For example, some institutions rely on mandatory volunteering policies or service-learning participation and students who believe the requirement to volunteer is overly controlling (removing autonomy) are less likely to volunteer in the future (Dienhart et al., 2016). Students who feel pressure to participate in service-learning do not appear to exhibit the same boost to prosociality compared to students who do not feel pressured; furthermore,

volunteering because of institutional requirements or social pressure was negatively associated with prosocial value orientation (Horn, 2012).

Program policies guiding the implementation of service-learning and volunteering, therefore, affect the efficacy of programs on students. Mandatory programs can suppress volunteering behaviours (Stukas et al., 1999), while voluntary programs can lead to issues of self-selection (Meyer et al., 2019). Furthermore, both attitudes and participation as a volunteering influence likelihood of future volunteering and this relationship is reciprocal, but prosocial attitudes are a stronger indicator of the decision to volunteer (Janoski et al., 1998). This means some students (typically lower on prosocial tendencies or civic orientation) benefit from mandatory volunteering in school, but those higher on civic orientation do not (since they are already higher on prosocial values i.e., ceiling effect; Schmidt et al., 2007). However, few studies have examined the institutional effect or accounted for the structure of service-learning when assessing the characteristics of students or the impact of these programs on facilitating change in students (van Goethem et al., 2014; Yorio & Ye, 2012).

Service-Learning and Volunteering Promotion at the University of Ottawa

The community service-learning program at the University of Ottawa, now called the Community Service-Learning Program (CSLP), helps connect students to community organizations, providing training, structure, and better support for students/faculty/community partners. It is up to each individual professor to opt-in to service-learning, therefore not every course offers a service-learning component. Service-learning is optional for students in courses where professors have opted in. The CSLP partners with professors to offer experiences volunteering that align with course material and content. Representatives present the benefits of service-learning to students at the start of the semester to recruit students to the program.

Students register with the CSLP to keep track of their volunteering hours. Students who agree to participate commit to providing at least 30 hours of volunteer time with the relevant organization. At the end of the semester students are required to complete an assignment outlining their experience volunteering, which is done in lieu of other course assignments (usually instead of a final paper) – consistent with the principles of reflection that underly service-learning practices (van Goethem et al., 2014). Students who complete their service-learning commitment are provided with a “co-curricular record”, which is a transcript for extra-curricular activities tracked by the university.

The service-learning programs original goals were to: 1) “foster social responsibility, leadership and skills development, whatever students’ level of engagement”; 2) “to cultivate impact-driven partnerships to address community priorities and improve student learning”; 3) to connect students to local and international community engagement opportunities” (servingothers.uottawa.ca/about, n.d.). The CSLP promotes service-learning to students by highlighting skills and knowledge development, academic success, practical career experience, and increasing knowledge of social or civic issues (servingothers.ca/volunteering/community-service-learning, n.d.).

Service-learning at the University of Ottawa is explicitly marketed primarily as a program to increase academics and career opportunities, tapping into students’ self-oriented motives and attitudes. The program does highlight the importance of civic engagement, but this is not prominent or as explicit as the career/academic motivations. The shift by CSLP to promote self-oriented motives for volunteering, outlined above, is primarily in response to provincial post-secondary funding policies. A new provincial government in Ontario was elected in 2018 and enacted new policies designed to encourage post-secondary institutions to focus on job

training and skills development of students. The new policy identified several metrics to assess whether institutions are effective in this goal by measuring the income of graduates, increasing experiential learning opportunities, number of students employed in their field, and institutional graduation rates. Universities must demonstrate they are meeting these criteria and have the data/outcomes to support further funding (Crawley, 2019). This policy means that a large portion of public funding for universities is tied to the ability of the institution to demonstrate success on the above outcomes. As a result, many institutions have shifted away from language promoting other-oriented values and moved to language demonstrated the career and skills development aspect of community service. This was a change that occurred during data collection for this thesis. It is therefore difficult to say what the full impact is on the data, but also how the currently collected data will be comparable to any future data. This further highlights the complexity of assessing service-learning and volunteering impacts at the individual, classroom, and institutional level, while acknowledging the important role of education policies (which differ from province to province). This is discussed further in the discussion.

Research Overview and Rationale

Service-learning, which includes volunteering as a key component, is assumed to have positive benefits for students because of the integration of volunteering/academics and this is generally supported by the research literature (van Goethem et al., 2014; Warren, 2012; Yorio & Ye, 2012). Nevertheless, there is little information on the specific characteristics of students who participate in service-learning courses, how they differ from volunteers and non-volunteers. For example, service-learning programs may attract highly prosocial and engaged students, many of whom likely volunteer already. This could impact both the impact of the program and potentially undermine the program goals of fostering prosocial behaviours among university students.

Students generally report diverse volunteering motives in addition to prosocial attitudes towards community service based on their unique experiences and goals (Cruce & Moore, 2007), but the relationship between other/self-oriented motives and prosocial attitudes has not yet been examined.

This thesis will present the results of two studies submitted for publication in peer-reviewed journals, and one additional study building upon Chapter 2's results/data. Refer to Appendix A for overview of variables (and corresponding measures) tested in each Chapter. The first study (Chapter 2) is a cross-sectional design that examined psychological, prosocial, and academic characteristics of students enrolled in service-learning, non-service-learning volunteers, and non-volunteering students. Chapter 3 is a longitudinal study assessing the impact of service-learning and volunteering over a period of 1 semester. Chapter 3 is an attempt to address methodological issues present in previous research and to better distinguish the impact, if any, of service-learning compared to volunteering. Chapter 4 is a cross-sectional study testing the relationship between self-and other-oriented prosocial attitudes and volunteering motives among a broader sample of undergraduate students. The goal of the Chapter 4 is to address gaps in knowledge regarding the relationship between prosocial and volunteering functions, specifically with a focus on the impact of self-oriented motivations on well-being.

Chapter 2

**Service-Learning as Entry into or Enhancement of University Volunteering? Student
Characteristics at an Elective Service-Learning Institution**

Abstract

Service-learning is a pedagogical practice that enhances university coursework with volunteering. Current challenges for the field are understanding the benefits of service-learning in relation to volunteering, and with regards to pre-service student characteristics. Although students are the focus of service-learning research and practice, nevertheless, understanding the institutional structuring of students' service-learning is needed to understand its benefits. A model of institutional structuring of service-learning (offered or not; elective or mandatory) is presented and used to inform a study of 266 undergraduate students' academic, psychological, and prosocial characteristics in an elective service-learning course. The study revealed four groups of students: service-learners with prior volunteer engagements; volunteers; non-volunteers; and service-learners with no prior volunteer engagements. The paper is the first to identify and examine service-learners with no prior volunteer engagements, and to situate these students in the context of other service-learners, volunteers, and non-volunteers. Although service-learners with prior volunteering engagement resembled volunteers, service-learners with no other volunteering engagement differed from all other groups. The findings are discussed with regards to the benefits of service-learning and volunteering in a variety of institutions.

Keywords: service-learning, volunteering, college student development, institutions

Service-Learning as Entry into or Enhancement of University Volunteering? Student Characteristics at an Elective Service-Learning Institution

Service-learning is a widely implemented (see e.g., Chiang, 2008; Webb, 2017) and transformative (Felten & Clayton, 2011) pedagogical strategy that pairs university courses with volunteering placements (Butin, 2010) to foster students' academic and civic development (Janoski et al., 1998; Lies et al., 2012). The field of service-learning has a rich theoretical background, drawing on work by Dewey and others, that positions service-learning as an enhancement of both volunteering and the classroom (Cruce & Moore, 2007). That positioning is challenged by a relative dearth of empirical support for the benefits of service-learning *over* volunteering (see Hart et al., 2008, 2014). Many research studies demonstrate that both service-learning and volunteering are associated with positive academic, psychological, and prosocial development (Bowman et al., 2010; Conway et al., 2009; Haski-Leventhal et al., 2019; Warren, 2012). Service-learners and volunteers have higher GPAs (Gutierrez et al., 2012), report greater well-being and purpose in life (Okun & Kim, 2016), and are more prosocial outside of their volunteering activities (Penner, 2002) than are non-volunteering students. In the case of volunteering, however, many of its purported benefits reflect pre-existing characteristics of engaged students who "self-select" into volunteering (e.g., Cemalcilar, 2009; Johnson et al., 1998; Meyer et al., 2019).

Service-learning may function similarly to volunteering, with many of its purported benefits already present in those students drawn to service-learning. The possibility that engaged students similarly self-select into service-learning has yet to be directly examined (Hart et al., 2014). Research on service-learning often relies on designs or methods that focus narrowly on service-learners (Furco & Root, 2010), for example examining a single classroom (e.g., Meyer et

al., 2019) or through qualitative measures that emphasize the transformative aspects of service (Thomas et al., 2021), without examining these students in comparison to volunteers and non-volunteers (Furco & Root, 2010). These studies support the idea that service-learners are exceptional students drawn to learning and helping others but shed little light on the characteristics of service-learners in a larger academic context (van Goethem et al., 2014). One goal of the present paper is to examine the academic, psychological, and prosocial characteristics of service-learning students in comparison to student volunteers and non-volunteers to better understand the issue of self-selection.

From an institutional perspective, understanding the mechanisms of service-learning in college student development is also important to inform the practical decisions of actors (administrators, faculty, and students) who structure and participate in service-learning. Beyond these practical issues, institutions tend to fade into the background in service-learning research relative to students, even though institutions of higher-learning generate and shape opportunities for students to serve, structuring the spaces in which students apply and develop their agency (Sokol et al., 2015; Thomas et al., 2021). Although students are the focus of service-learning research, nevertheless, understanding the institutional structuring of students' service-learning is needed to understand its benefits. The approach taken in the present paper initially flips the student-centered approach on its head, with an examination of the structuring of service-learning by institutions, which have long been recognized as important, but typically given little direct attention in research on service-learning (Brandenberger, 1998), to generate a fresh perspective on student development, one that has important bearing on the question of self-selection into service-learning.

The paper first presents a model of institutional structuring of volunteering and service-learning as mandatory or elective (see Yorio & Ye, 2012) . The model shows how, in principle, up to four separate groups of students can emerge at an institution that offers service-learning as an option: service-learners with prior volunteer engagements, volunteers who do not opt for service-learning, non-volunteers, and service-learners with no prior volunteer engagements. The model reveals the possibility of two distinct groups of student service-learners, those who enter service-learning with prior volunteering engagement, representing a more standard view of service-learning as an enhancement of volunteering, and those who enter college volunteering through service-learning. A study that examines undergraduate students' characteristics in an institution with elective service-learning and finds that a minority of service-learners begin service with no volunteering engagements, and that their academic, personal, and prosocial characteristics differ from other service-learners, volunteers, and non-volunteers. The study also demonstrates that service-learners with prior volunteering engagements largely resemble other student volunteers. The approach taken here thereby allows for two firsts: an examination of service-learner characteristics in comparison to volunteers and non-volunteers, and an examination of a group of service-learners, i.e., those without prior volunteering engagement, that have yet to be studied in the service-learning literature.

Institutional Structuring of Volunteering and Service-Learning

Service-learning begins with institutional actors, whether a professor or group of professors, or administration, that introduce service-learning to a college or university, and only then draws in students (Sokol et al., 2015). Students' experiences with service-learning are contingent in part on social structuring. A full account of the role of institutions in volunteering and service-learning is beyond the scope of the paper (see Bringle & Hatcher, 2000; Bureau et

al., 2014; Young et al., 2007). However, we examine the two aspects of how institutions structure volunteering and service-learning that were identified by Yorio and Ye (2012): the decision to offer service-learning or not and making either volunteering or service-learning mandatory or elective. By institutional structuring, we intend to include both higher-level (e.g., central administration) and more direct (e.g., a particular professor) organization of the academic environment for students in relation to volunteering and service-learning, and these structures could be campus-wide, or apply only within a given program, course, or a particular professor's course. The two axes of the model in Figure 1 (the offer of service, and whether volunteering and service are mandatory or elective) produces four institutional possibilities. The resulting matrix of institutional structuring includes: 1a) elective service-learning and elective volunteering; 1b) mandatory service-learning and no volunteering; 1c) elective volunteering and no service-learning; 1d) mandatory volunteering and no service-learning.

Institutional structuring creates possibilities where all students in an institutional structure (e.g., a class) engage in service-learning (i.e., when mandatory), to possibilities where service-learning is not an option. A student's agency is reflected both through a history of prior choices (themselves structured by society), which may include prior experiences in volunteering and the choices offered in entering a given institutional structure (e.g., a university; a particular course). Within some of the structures, students may make further choices (e.g., elect to participate in service-learning if offered as an elective). The interplay between structure and agency will become somewhat clearer when the model is put into practice, and most clearly so in an institution depicted in Figure 1a) where service-learning is offered and elective. Both Figure 1a) and 1b) identify the theoretical possibility of students who participate in service-learning without

prior volunteering engagement. In a service-elective institution the actual presence of such students will be dependent on student choices within the structure of the class

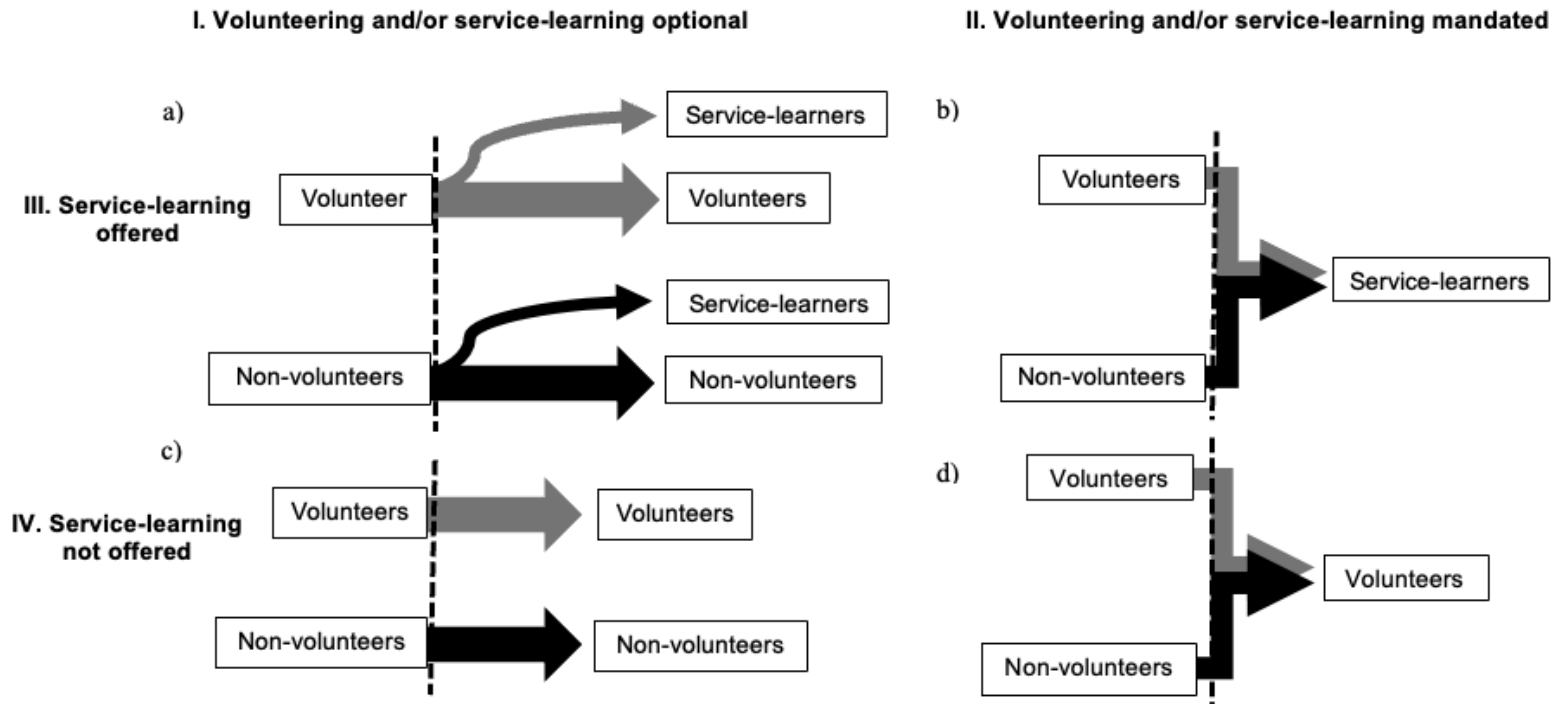


Figure 1 –Dotted line represents students' entry into an institutional structure with optional or mandatory service-learning or volunteering and student possibilities at the far side of the arrow. Only the institution depicted in a) has the possibility of students opting for service-learning from a non-volunteering as a distinct group.

To our knowledge, no prior studies of service-learning have explicitly identified or examined students who elect service-learning without prior volunteering engagement. These students, in principle, pose an interesting challenge to straightforward narratives of self-selection into service-learning and volunteering. For the reasons noted above, an institution that offers elective service-learning provides unique opportunities for researchers, namely the possibility to compare service-learners to volunteers within an institution and to examine students who elect to engage in service-learning without prior volunteering in comparison to the former groups and to non-volunteers. Other institutional structures present different opportunities for researchers, such as randomized control trials (e.g., Leung et al., 2012) at institutions that mandate service or volunteering in a given course (i.e., Figures 1b and 1d), a point that will be returned to in the discussion.

Examining Student Characteristics at an Institution with Elective Service-Learning

Drawing on the model outlined above, the study described below examined students' academic, psychological, and prosocial characteristics within the institutional structuring of courses with elective service-learning. Four groups of students were identified based on students' volunteering engagement prior to entry into the courses and based on students' service-learning choices upon entry into the courses (see Figure 2 for the numbers in each group). The following acronyms were attached to the groups for space considerations in what follows: 1) SLVOL: students who were engaged in volunteering prior to entry into the course, and elected to engage in service-learning; 2) VOL: students engaged in volunteering prior to entry into the course and who did not elect to engage in service-learning; 3) SLNOVOL: students who were not engaged in volunteering prior to entry into the course and elected to engage in service-learning; and 4)

NOVOL: students who were not engaged in volunteering prior to entry into the course and did not elect for service-learning. Based on the research literature, we hypothesized that the SLVOL and VOL groups would be highest in academic, psychological, and prosocial characteristics (e.g., Cruce & Moore, 2007; Hart et al., 2014; Meyer et al., 2019). The present study is the first to examine the SLNOVOL group, and our hypothesis were exploratory in nature, namely exploring the possibility that the SLNOVOL group is distinct from the other groups (e.g., given that students were not currently oriented to volunteering, yet had elected to do service-learning).

Methods

Institutional Structuring of Service-learning

The study took place at a large urban Canadian public university with a service-learning center on campus that governs service-learning as elective for individual faculty to implement in their classes, and faculty who implement service-learning typically by adding service-learning as an elective component of their course (as was the case with courses described below). Students who elect to do service-learning must complete a 30-hour placement, with a reflective assignment that replaced a standard assignment in the course as well as weekly service-learning reflections throughout the term. Students are provided with volunteering placements with course-relevant organizations by the service-learning center and have the option to create their own placements with professor permission.

Participants

Data was collected in five developmental psychology courses with elective service-learning over a two-and-a-half-year period (all courses took place before the COVID-19 pandemic). The courses were open to students from any faculty who had taken introductory psychology. A total of 323 participants enrolled in the study (57 participants were excluded

because of inattentive responding or incomplete surveys), leaving a final sample of 266. Participants were primarily enrolled full-time (95.86%); mean age was 20.86 (SD = 2.22). Year of study ranged from 1st to 5th year and just over half of participants identified social science as their primary academic faculty. The majority of students identified as female (83.08%; male = 16.17%; other identity = 0.75%), consistent with typical enrolment in a second-year developmental psychology course. Self-reported ethnicity was coded based on Statistics Canada census categories (Statistics Canada, 2015). Just over half of the sample reported European ethnicity (51.10%) and the remaining students distributed across different ethnicities (Central Asian/Middle Eastern = 9.40%; East Asian = 7.50%; Southeast Asian = 7.50%; African = 6.80%; South Asian = 3.40%; Latin American = 1.90%; First Nations = 0.80%; Other Origin/Missing = 5.60%). Our sample was representative of the diverse array of ethnic origins of the student population.

Measures

Volunteer and Service-Learning Characteristics

We collected several metrics to assess participants engagement as a volunteer (e.g., on- or off-campus volunteer; number of hours volunteered per week). The volunteer metrics, in addition to students' subsequent choices regarding service-learning, were used to organize the four comparison groups (SLVOL; VOL; SLNOVOL; NOVOL) described above and depicted in Figure 2.

Academic Characteristics

Students self-reported their overall GPA at the beginning of the semester. GPA was reported on a 10-point scale (e.g., 10.0 = A+, 5.0 = C+, 0 = F).

Psychological Characteristics

To assess positive psychological characteristics, we used the Psychological Well-being Scale (PWB; Ryff & Keyes, 1995). The PWB is a 54-item self-report measure assessing well-being across 6 subscales: self-acceptance (positive attitudes towards self), positive relations with others (intimacy/alignment with others), autonomy (self-determination or independence), environmental mastery (control, or create environments to meet own needs), purpose in life (sense of direction or goal), and personal growth (ability to grow and expand as a person; Ryff & Keyes, 1995). The PWB demonstrated good to excellent internal consistency ($\alpha = .86 - .93$).

Prosocial Characteristics

Prosocial characteristics were assessed using a measure of empathy and a measure of prosocial orientation. Empathy was measured using the Interpersonal Reactivity Index (IRI; Davis, 1983), a multi-dimensional self-report measure of empathy containing 28-items in four subscales. Three subscales were used in this study: Perspective Taking (PT: understand other's reactions or behaviours), Empathic Concern (EC: emotional concern for others), and Personal Distress (PD: responding to extreme distress in others). The IRI subscales demonstrated acceptable internal reliability ($\alpha = .71$ to $.77$). Prosocial orientation was measured with the Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002)⁴. The PTM is a 23-item self-report measure of prosocial disposition and behaviours. This measure contains 6 subscales, but only 4 primary subscales were used for this study: public (helping to receive praise or reward; helping

⁴ The PTM was selected primarily due to the inclusion of the *public* and *altruism* subscales. The public subscale is unique among measures of prosociality because of the emphasis on self-oriented prosocial tendencies. The PTM has been used and validated widely among undergraduate students (Carlo & Randall, 2002), however, there are some issues with the PTM in terms of scale construction and factor loading. Certain subscales of the PTM do not cluster consistently and there is some overlap between subscales. This is apparent in the range of reliability found in this study, where certain subscales (e.g., *dire*) were less reliable compared to the other three.

to be seen), anonymous (helping others without their knowledge), dire (helping in a crisis), and altruism (self-less helping or helping without benefit to oneself). Reliability for each subscale ranged from moderate to excellent ($\alpha = .62 - .88$), consistent with previous validation studies (Carlo & Randall, 2002).

Procedure

Enrollment in the study was voluntary, and participants were compensated with bonus points in the course. To receive these points, participants completed on-line questionnaires at three timepoints (early; mid; late) during the 4-month academic semester, however for the purposes of the present study we examined differences between volunteer groups at the start of the semester, coinciding with the start of their service-learning placement. The larger study was conducted over a several year period and we made slight modifications to the administration of questionnaires to meet the interests of the service-learning center, meaning that some measures were not consistently provided at the initial time point, as reflected in the difference in sample size available for analysis at the start of the semester. This study was approved by the university research ethics board.

Results

Data Analysis Plan

Data were analysed using SPSS version 27. We examined differences between the four student groups (SLVOL; VOL; SLNOVOL; NOVOL), continuous descriptive variables (GPA), and outcome measures (IRI, PTM, PWB) using a one-way ANOVA (See Table 1). Tukey's HSD post-hoc tests were used to compare groups. Alpha levels were kept at $p = 0.05$ due to the exploratory nature of this study.

Description of Volunteering and Service-Learning at Outset of Semester

Participants were first grouped in relation to their volunteer engagement prior to decisions surrounding service-learning in the course. As depicted in Figure 2, over half of participants reported volunteering at the start of the semester and prior to opting in to service-learning ($n = 136$) and 129 students reported no volunteering. Subsequently, students were grouped based on their decision on service-learning and in relation to their volunteering. Of the 136 volunteers, 46 elected to sign up for service-learning. Of the 129 non-volunteers, 20 elected to sign up for service-learning. The resulting categories were 91 VOL students, 46 SLVOL students, 20 SLNOVOL students, and 109 NOVOL students (see Figure 2). Of note is the approximate ratio of SLVOL students to SLNOVOL students is approximately 2:1. We found no significant differences of age or gender between groups.

We calculated average hours volunteered per week once service-learning placements were started. Reported volunteer hours reflected average hours of volunteering per week and service-learner hours were calculated by average their total volunteer hours for the semester over their period of service-learning participation. SLVOL reported the highest average hours ($M = 9.49$, $SD = 4.59$, $N = 46$), VOL the second highest average ($M = 7.26$, $SD = 5.92$, $N = 91$), followed by SLNOVOL ($M = 4.96$, $SD = 2.36$, $N = 20$), however, these differences were not statistically significant.

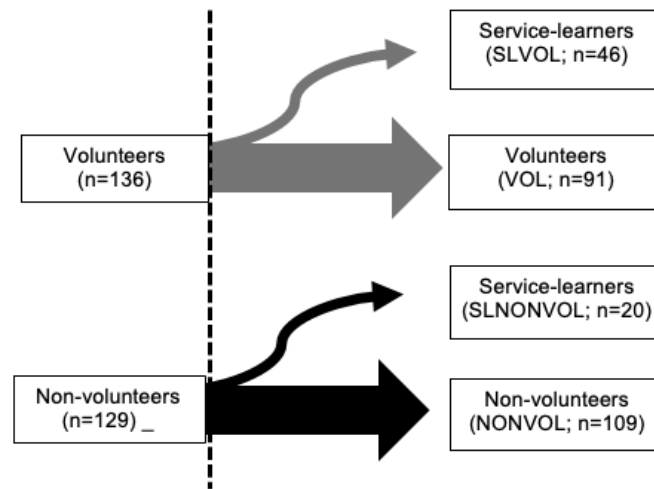


Figure 2. Figure depicts numbers of students before and after institutional structuring at an institution offering service-learning as an option. 66 students opted for service-learning, but were drawn from two different groups, with service-learners from a non-volunteer background as a significant minority (30% of total service-learners).

Nearly all participants in our sample indicated experience volunteering through high school volunteering programs mandated by provincial education curriculum, with approximately 81% completing at least 40 hours.

Primary Results

Results from the one-way ANOVA suggest differences between the student groups on academic, psychological, and prosocial characteristics (see Table 1 and Figure 3).

Academic characteristics. The results of the ANOVA testing GPA suggest significant differences between groups ($F = 6.54$, $df = 3$, $p < 0.001$). VOL reported the highest GPA ($M = 7.87$, $SD = 1.35$), followed by SLVOL ($M = 7.37$, $SD = 1.50$), NOVOL ($M = 7.03$, $SD = 1.40$), and SLNOVOL ($M = 6.87$, $SD = 1.46$). VOL (highest average GPA) differed significantly from NOVOL ($p < 0.01$) and SLNOVOL ($p = 0.042$; lowest average GPA).

Psychological well-being characteristics. We found significant differences between groups on several subscales of the PWB, including the personal growth, positive relationships with others, and purpose (at cut-off). Specifically, SLVOL differed significantly from NOVOL, on personal growth. SLNOVOL differed from NOVOL on the positive relationships with others subscale of the PWB and this difference was significant. Finally, SLNOVOL reported the highest purpose scores among volunteering status groups and appear to differ from NOVOL, however, this result was at the cut-off for significance ($p = 0.05$).

Table 1

One-way ANOVA Testing Psychological, and Prosocial Characteristics by Volunteer Group at the Beginning of the Academic Semester

		SLVOL			VOL			SLNOVOL			NOVOL			F	P
		N	M	SD	N	M	SD	N	M	SD	N	M	SD		
IRI	Empathic Concern	30	19.63	4.11	61	19.31	3.92	13	15.54	3.78	62	19.44	3.57	4.18	0.01**
	Personal Distress	30	14.73	5.25	61	16.33	5.01	13	14.31	4.37	62	15.79	4.67	1.09	0.36
	Perspective Taking	30	18.60	3.86	61	17.20	3.94	13	14.54	4.10	62	17.16	3.38	3.60	0.02*
PTM	Altruism	45	21.27	3.28	89	21.58	2.61	20	21.30	2.18	107	21.65	3.07	0.24	0.87
	Anonymous	45	15.14	4.48	88	15.30	4.38	20	12.35	4.26	109	14.79	4.75	2.36	0.07
	Compliant	45	7.69	1.84	90	7.72	1.49	20	8.15	1.39	109	7.83	1.62	0.47	0.71
	Dire	45	10.51	2.23	89	11.01	2.28	20	10.20	2.61	107	10.61	2.58	0.92	0.43
	Emotional	45	14.80	2.46	90	15.29	2.91	20	15.25	3.21	108	14.79	3.34	0.55	0.65
	Public	45	6.64	2.39	90	7.29	2.65	20	7.50	3.07	108	7.00	2.74	0.78	0.51
PWB	Autonomy	42	37.50	6.39	87	37.22	6.94	20	34.75	5.49	107	37.35	6.74	0.94	0.42
	Competence	45	36.44	7.33	87	36.41	6.37	20	36.70	8.65	105	35.22	6.99	0.66	0.58
	Personal Growth	44	44.36	5.64	87	43.46	5.87	20	43.60	4.10	103	41.80	5.24	2.87	0.04*
	Positive Relationships with Others	45	40.47	7.40	86	40.55	7.35	20	44.35	6.14	107	39.20	6.77	3.13	0.03*
	Purpose	43	41.72	5.99	87	41.45	6.09	20	42.20	5.97	107	39.53	6.08	2.58	0.05
	Self-acceptance	45	37.64	8.18	87	37.48	7.56	19	38.42	9.09	107	36.09	7.82	0.88	0.45

Note. Sample size for each group: $n_{SLVOL} = 46$, $n_{VOL} = 91$, $n_{SLNOVOL} = 20$, $n_{NOVOL} = 109$. NOVOL = Non-Volunteers; SLNOVOL = Service-

Learning Only Volunteers; VOL = Volunteers (Non-Service-Learning); SLVOL = Service-Learning and Other Volunteers. IRI = Interpersonal

Reactivity Index; PWB = Psychological Well-Being; PTM = Prosocial Tendencies Measure. *Effect sizes:* $d_{empathic\ concern} = 0.54$; $d_{perspective\ taking} =$

0.49 ; $d_{personal\ growth} = 0.44$; $d_{positive\ relationships\ others} = 0.51$.

Prosocial characteristics. We found significant differences on the empathic concern and perspective taking subscales of the IRI (see Table 1). Tukey post-hoc test was used to compare results between groups (see Table 2). Specifically, we found that SLNOVOL differed significantly on empathic concern for others from NOVOL and SLVL. SLNOVOL reported the lowest empathic concern scores compared to all other groups in our study. Furthermore, SLNOVOL reported lower perspective taking scores compared to the SLVL and this difference was significant (but did not differ from the other volunteering groups). SLNOVOL also differed significantly from NOVOL on Anonymous prosocial volunteering from the PTM (helping without others' knowledge). SLNOVOL reported lower scores on this subscale compared to the NOVOL group.

Table 2

Tukey Post-hoc Analysis Results Presented by Subscale and Volunteering Status Group

Subscale	Comparison		Mean Difference	SE	Confidence Interval	
	Condition	Condition			Lower	Upper
Empathic Concern (IRI)	SLNOVOL	NOVOL	-3.90 *	1.17	-6.92	-0.87
		VOL	-3.77 *	1.17	-6.80	-0.74
		SLVOL	-4.09 *	1.27	-7.39	-0.80
Perspective Taking (IRI)	SLNOVOL	SLVOL	-4.06 **	1.24	-7.28	-0.84
Positive Relationships with Others (PWB)	SLNOVOL	NOVOL	5.15 *	1.71	0.72	9.59
Personal Growth (PWB)	SLVOL	NOVOL	2.57 *	0.98	0.03	5.11

Note. Only significant results from the One-Way ANOVA presented in Table 1 are listed in this table. * Indicates

significance at $p < .05$; ** indicates significance at $p < 0.01$. NOVOL = Non-Volunteers; SLNOVOL = Service-Learning

Only Volunteers; VOL = Volunteers (Non-Service Learning); SLVOL = Service-Learning and Other Volunteers. IRI =

Interpersonal Reactivity Index; PWB = Psychological Well-Being; PTM = Prosocial Tendencies Measure.

Empathic concern and perspective taking represent the affective and cognitive components of empathy (respectively). Those high on empathic concern tend to report greater emotionality and concern for others, especially those in distress, which is associated with greater tendency to help. Individuals higher in perspective taking tend to better anticipate others' reactions or behaviours, be socially more skilled, and report higher self-esteem (Einolf, 2008).

Our results, suggest that where differences occurred, SLNOVOL tended to score lower and SLVOL higher compared to each other (except for socially oriented well-being). NOVOL participants scores were consistent with VOL scores throughout, with VOL reporting higher, but non-significant scores on each domain. The data indicates a trend, while not fully satisfying the threshold for significance, where SLVOL students represent academically and empathically engaged students on one end of a spectrum in contrast to SLNOVOL, who endorsed socially oriented wellbeing, but the lowest academic and empathy scores.

Discussion

The present study examined students' academic, psychological, and prosocial characteristics in relation to volunteering and service-learning and in a model of institutional structuring of service-learning as elective or mandatory (Yorio & Ye, 2012). The study was conducted at an institution offering elective service-learning, and in the analyses, students were grouped based on their volunteering engagement on entry into the course and their subsequent choices surrounding service-learning. The present study compared student characteristics of service-learners in comparison to volunteers and non-volunteers and examined differences between service-learners. The group of service-learners with no volunteer engagement were distinct from the three other groups of students (volunteers, non-volunteers, and service-learners with other volunteering engagement), notably on measures of GPA and empathy. The findings

will be discussed below first in relation to the characteristics of volunteers and service-learners with regards to the issue of self-selection. The discussion will then turn to considerations of institutional structuring in relation to research on service-learning.

Service-learning, volunteering, and self-selection

In support of past research, overall, service-learners with concurrent volunteer engagement were similar to volunteers. In comparison with other students, these two groups had the highest GPAs, desire for personal growth, and higher empathy. These results support the concerns of some researchers (e.g., Hart et al., 2014; Meyer et al., 2019) that higher-achieving and more prosocial students are the ones who self-select into volunteering and service-learning. Comparatively, highly engaged volunteers and volunteering service-learners (SLVOL) fit implicit expectations of service-learners based on previous research, i.e., are highly prosocially motivated and engaged (e.g., Meyer et al., 2019; Gutierrez et al., 2012; see Table 1). These students were also higher on empathic concern and perspective taking, two principal components of empathy and predictive of prosocial behaviour and endorsed high personal growth-related well-being. This suggests they derive well-being from enacting their prosocial values or challenging themselves in new experiences (a goal of service-learning), further reinforcing the unique and highly prosocial/empathic nature of this group.

The study identified a second group of service-learners, a smaller (but important) group of less engaged service-learners (SLNOVOL) who differed in terms of their academic and prosocial characteristics from other volunteering groups in our sample. The smaller SLNOVOL group elected to participate in service-learning and could do so because of the optional structure of the program, compared to the larger service-learning group who appear, based on the degree they volunteer, to represent highly engaged/prosocial students (who would be more likely to seek

out volunteering experiences anyway). The latter findings contradict a straightforward account of self-selection as the driver of the beneficial characteristics of service-learning, as the students without volunteering engagement who elected to do service-learning were lower on many measures of academic, psychological, and prosocial development. It is possible that some students believed the service-learning option offered in the class to be less work compared to the standard course assignment. However, the reflection assignment for students in service-learning was only 2 pages shorter compared to standard assignments in addition to 30 hours of volunteer work. SLNOVOL were characterized by lower academic achievement and empathic traits (the lowest GPA score of any group in our study), but endorsed higher levels of social well-being, specifically fulfilling personal relationships – one element predictive of prosocial and volunteering behaviours (Okun & Kim, 2016), and personal growth, and indications of higher purpose or well-being derived from achieving/working towards a goal. Our data suggests helping without others knowledge is not a motivating factor among students drawn from the non-volunteering group.

Institutional structuring and understanding service-learning

The findings of the present study were situated in a model of institutional structuring of service-learning. We proposed that to better understand the role of service-learning, researchers consider student characteristics (see Figure 1), based on their participation in community service, and their institutional structure. The model identified four possible institutional structures: elective service-learning; mandated service-learning; no service-learning; and mandated volunteering. The model was productive for our study because it allowed for the classification of students into volunteering and service-learning comparisons groups.

Identifying the structure of service-learning programs on the axis of elective and

mandatory, offered or not is useful from a research perspective. As Yorio and Ye (2012) argued, accounting for the structure of service-learning into research designs allows for a more accurate understanding of the effects of volunteering compared to service-learning in our institutional context. For example, at an institution with elective service-learning researchers face something like a quasi-experimental design. The results of the present study, for example, reflect characteristics of students who have chosen to select into groups. Other institutional structures presented in Figure 1 could be used to examine different research questions and provides a necessary framework that informs how results can be interpreted. For example, a mandatory structure allows for randomized control models.

Service-learning as a strategy to enhance college-student development cannot be viewed in isolation from the broader social, institutional, and even policy decisions that influence how students participate in their community. Several authors have indicated that institutional offerings, student characteristics, and the comparison with other forms of service are important elements required to fully capture the effect of service-learning and volunteering among undergraduate students (e.g., Hart et al., 2014; Hébert & Hauf, 2015; van Goethem et al., 2014). We agree with Yorio and Ye's (2012) statement that service-learning research requires a "concise organizing framework" (p. 24) that will allow researchers to shed light on the role of institutional structuring and program components that shape who participates (e.g., mandatory vs. elective) and who benefits from service-learning or volunteering experiences. For these reasons, we believe our proposed model is useful to researchers. The act of participating in service-learning (and volunteering more generally) occurs in the context of student's development, career or academic aspirations, prosocial dispositions, and their unique experiences in the community, therefore must be considered as part of the broader institutional framework

that facilitates access or experiences with service.

Limitations and Future Directions

There are several important limitations to our study. Our sample contained a relatively small number of SLNOVOL participants compared to other groups, reducing statistical power in our analysis. Recruitment was limited to developmental psychology courses, rather than the service-learning program more generally or even other service-learning courses (although, service-learners came from a variety of disciplines other than psychology in our study).

Over half the current sample reported volunteering in some capacity on or off campus, meaning that most service-learners have at least a baseline experience volunteering. Few in our sample had never volunteered previously, meaning that service-learning might not provide students with novel or transformative experiences (given they have already volunteered). We did not examine past volunteering experiences in detail or types of current volunteering experiences (e.g., short-term vs. long-term commitments). We also did not assess the quality of volunteer experiences, which, in previous research accounted for differences in outcomes, including prosocial change (Horn, 2012). Finally, this study did not include volunteering motivations measures (however, our outcomes touch on psychological motivations). Including measures of volunteering motivations would help shed further light on the underlying complexity and possible relationship with prosocial behaviour of students entering service.

Conclusion

Traditionally, service-learning is presented as a pedagogical intervention or high-impact educational practice, one that provides a transformative experience for students involved (Kilgo, 2015). To some, service-learning provides an opportunity to increase students' prosocial and empathic actions through volunteering that is radically transformative with the goal of disrupting

student's worldview (Butin, 2010). In a superficial reading of the findings of the present, if students drawn to volunteering and service-learning already possess academic, psychological, and prosocial characteristics, then the rationale for institutions and institutional actors to implement service-learning programs is short-circuited. Injecting a fuller account of institutions into research on service-learning brings in the role of structure alongside that of students' agency (Sokol et al., 2015). It could be that students are drawn to social institutions that are infused with academic, psychological, and prosocial values, an orientation that can begin even before a student is formally "within" that institution. It is also important to note, as will be expanded on in the next section, that self-selection can only occur in institutions with elective service-learning or volunteering.

A more sociological and institution-centered perspective can further enrich that perspective. Although all university students possess the capacity for reflection (Archer, 2012), not all students have equal access to volunteering (Couton & Gaudet, 2008) or service-learning, and institutions play a critical role in structuring students' possibilities. As service-learning programs expand into a variety of college and university institutions, institutions that may already foster other forms of non-service volunteering, questions raised about the role of the characteristics of students and institutions become even more relevant to understanding the impacts of service (Brandenberger, 1998). Few studies have examined the characteristics of students who participate in service-learning compared to other forms of volunteering and non-volunteering, and many have treated students as a homogenous group (undifferentiated within service-learning and between volunteers). However, the institutional structure and goals of service-learning likely lead to overrepresentation among students who are already prosocial engaged (tempering the impact of volunteering), while "ignoring" students who are less engaged

or established as volunteers (who could be considered the explicitly targeted service-learner).

Butin (2010) described the radical and transformative nature of service-learning that is rooted in new and challenging experiences within the community, but how transformative is service-learning if most participants are already engaged or have already served? Perhaps service-learning provides especially transformative experiences to those students who can participate in elective service-learning at our institution, and who are generally less engaged and prosocial. We do not have a clear answer to this issue, but our results speak to the importance of assessing who volunteers and the characteristics that define service-learners and volunteers. Given that our traditional conceptualization of service-learning requires reframing to better account for unique prosocial or psychological attitudes among students who engage in service-learning.

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Chapter 3

Comparing Undergraduate Service-learners, Volunteers, and Non-Volunteers: Assessing University Student Characteristics and Linear Change over the Semester

Abstract

Service-learning is often presented as an enhancement of volunteering that produces positive outcomes. However, student characteristics at entry may differ from those of more experienced volunteers who engage in service-learning. Furthermore, differences at entry between more experienced service-learners, novice service-learners, and volunteers could impact changes over the semester (i.e., the impact of service on outcomes), but few studies have examined this in detail. This study examines the academic, psychological well-being, and prosocial characteristics of students ($N = 266$) participating in only in service-learning (SLNOVOL), in service learning and other volunteering (SLVOL), volunteering (VOL), compared to students who do not volunteer (NOVOL) during one semester. Multilevel modelling was used to assess participant characteristics and change over time of participants recruited from five undergraduate psychology courses. The results suggest differences within service-learning students and between non-service-learning enrolled students (see chapter 2), but no meaningful linear change on most outcome measures over the course of the semester on academic, psychological, and prosocial outcomes. Implications of these findings are discussed in detail below.

Keywords: service-learning, volunteering, impact, multilevel modelling, institutions

Comparing Undergraduate Service-learners, Volunteers, and Non-Volunteers: Assessing University Student Characteristics and Linear Change over the Semester

Service-learning is a pedagogical strategy intended to increase students' academic outcomes and to foster civic or prosocial attitudes (Clary et al., 1998). Service-learning is volunteering combined with classroom reflection and education (Salam et al., 2019), with reflection identified as the main source of what makes service-learning so impactful (van Goethem et al., 2014). Many studies have examined the impact of service-learning on student outcomes and the evidence seems to support the effectiveness of these programs to create change in civic engagement, fostering prosocial attitudes, and increasing academic achievement (Warren, 2012). However, some researchers have raised concerns about the quality of the data and methodology (e.g., lack of comparison groups; Hart et al., 2014; Yorio & Ye, 2012). Furthermore, service-learning programs appear to attract students who are already highly engaged and prosocial, leading to issues related to self-selection (Meyer et al., 2019). The effects of service-learning programs may be similar to those of volunteering more generally, but this has yet to be fully explored in the literature (Hill & Hammond, under review). Therefore, it is unclear if the positive program effects are better attributed to the benefits of volunteering more generally rather than service-learning, since both provide similar benefits to those that participate and research comparing the two is lacking (Hart et al., 2014).

The overlap between volunteering and service-learning complicates our understanding of the effectiveness of community service programs. The positive impacts of volunteering are well studied, across a diverse array of disciplines (Binder & Freytag, 2013; Briggs et al., 2010; Lambright, 2008), and provide volunteers with many of the same benefits as service-learning (Handy et al., 2010). Volunteers are more likely to endorse prosocial traits (Penner, 2002) and

empathy (which is linked to prosocial action; Davis, 1983). Prosocial traits and empathy both predict commitment to volunteering (Mestre et al., 2019), also found among those in service-learning programs (Meyer et al., 2019; Thomas et al., 2021). The experience of volunteering, like service-learning, can lead to greater personal, academic, and prosocial benefits, as well as increased future volunteering (Haski-Leventhal et al., 2019), and these outcomes mirror those found in service-learning, including higher grades (Gutierrez et al., 2012), report higher purpose in life, or empathic concern for others (Einolf, 2008; Furco & Root, 2010; Okun & Kim, 2016). Furthermore, service-learning and volunteering participation are both associated with positive increase in academic outcomes, wellbeing, and civic engagement when measured over a semester (Haski-Leventhal et al., 2019; Hébert & Hauf, 2015).

The understanding of service-learning is, however, complicated by methodological issues with service-learning research, namely a lack of comparison groups (Yorio & Ye, 2012), limiting our understanding of student volunteering characteristics at entry into service-learning (Meyer et al., 2019) and the impact of volunteering or service-learning experiences to effect change among students. The institutional structure or policies further influence the effect of these programs (Hill & Hammond, under review; Dienhart et al., 2016), where some require students to apply to these programs leading to greater self-selection bias (see Meyer et al., 2019). Other programs offer specialized courses outside of degree requirements attracting predominantly high achieving and prosocial students (see Gutierrez et al., 2012). Volunteering experiences typical among high achieving and prosocial students could therefore account for many of the apparent benefits of service-learning (Furco & Root, 2010). Few studies have systematically examined service-learning either through more rigorous randomized control designs (found limited long-term effects; Leung & Yung, 2020) or by including comparison groups, meaning attributions of

positive change (i.e., specific effects of service-learning vs. volunteering more broadly) are unknown.

Despite the methodological limitations outlined above, there is evidence for the positive effects of service-learning. Results of several meta-analyses found general support for ability of service-learning programs to provide increases in academic, civic outcomes, and well-being outcomes (Conway et al., 2009; Warren, 2012; Yorio & Ye, 2012). In addition, one (rare) RCT of service-learners reported both the control and service-learning group increased positive attitudes towards others, but only the service-learning group maintained those gains after the program ended. As Yorio and Ye (2012) demonstrated, study methods and institutional structure impact effect size estimates of service-learning when compared to non-volunteers. This is especially important to consider given service-learning appears to attract the highly engaged and prosocial, leading to program effects that are likely further suppressed since students are already high on desired service-learning outcomes (e.g., empathy, prosocial attitudes, civic engagement).

This chapter seeks to address these limitations by comparing service-learners, volunteers, and non-volunteering students over the course of an academic semester. In Chapter 2, we identified a second, less engaged group of non-volunteering service-learners (Hill & Hammond, under review) and, this study will specifically compare this group to service-learners more engaged in volunteering, to volunteers, and to non-volunteers over time to assess the impact of volunteering and service-learning. This study builds on the results from Chapter 2, utilizing data obtained from that initial study and testing possible change over the semester among different volunteering groups of students (among service-learners, volunteers, non-volunteers, and service-learners + volunteers). Although much research has examined the benefits and impacts of service-learning or volunteering on student outcomes, few studies have examined the effect of

different levels of volunteering and accounting for student characteristics at entry into service-learning. Previous research has focused narrowly on service-learning, without accounting for other forms of volunteering or of students propensity to engage in prosocial acts, thus limiting our ability to disentangle the effect of volunteering from service-learning programs.

Methods

Participants

Participants in this study are the same used for the analysis in Chapter 2. A total of 323 participants enrolled in the study, however 57 participants were excluded following data cleaning procedures (i.e., flagged for inattentive responding, incomplete surveys, response sets), meaning our final sample size was 266. Participants were predominantly female (83.1%), enrolled in full-time studies (95.86%), mean age was 20.86 (SD = 2.22). Year of study ranged from 1st to 5th year. Primary self-reported identity was recoded based on Statistics Canada census categories. Our sample represented a diverse array ethnic origin (see Table 1), consistent with the diverse nature of our sample pool.

Our sample was drawn from second- and third-year child development course. Over half of participants reported their primary academic faculty as Social Science (53.31%), followed by Science (22.18%) and Health Science (12.45%). The remaining participants identified various other faculties. Like Chapter 2, participants self-reported their ethnicity which was recoded based on Statistics Canada census categories (Statistics Canada, 2015). Over half reported European ethnicity (51.10%) and the remaining students distributed across different ethnicities (Central Asian/Middle Eastern = 9.40%; East Asian = 7.50%; Southeast Asian = 7.50%; African = 6.80%; South Asian = 3.40%; Latin American = 1.90%; First Nations = 0.80%; Other Origin/Missing = 5.60%).

Measures

Interpersonal Reactivity Index (IRI; Davis, 1983). The IRI is a multi-dimensional measure of empathy containing 28-items in four subscales. The subscales include, Perspective Taking (PT: understand other's reactions or behaviours), Fantasy (FS: high arousal to others' suffering), Empathic Concern (EC: emotional concern for others), and Personal Distress (PD: decreased connection to others). The IRI subscales have acceptable internal reliability ($\alpha = .71$ to $.77$) and test-retest reliability (measured 60-75 days apart: $r = .62$ - $.71$).

Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002). The PTM is a 23-item self-report measure developed to assess prosocial disposition and behaviours. Participants rate their agreement with each of the 23 statements on a 5-point Likert scale. The PTM contains 6 subscales: public, anonymous, dire, emotional, compliant, and altruism. Subscale's consistency ranged from moderate to excellent ($\alpha = .62$ - $.88$) and test/re-test reliability were high (2-weeks; $r = .60$ - $.80$). Higher scores on the PTM are associated with greater perspective taking, greater sympathy, and social responsibility (Carlo & Randall, 2002).

Psychological Well-being Scale (PWB; Ryff & Keyes, 1995). The PWB is a 54-item self-report measure of well-being. PWB scales are self-acceptance (positive attitudes towards self), positive relations with others (intimacy/alignment with others), autonomy (self-determination or independence), environmental mastery (control, or create environments to meet own needs), purpose in life (sense of direction or goal), and personal growth (ability to grow and expand as a person; Ryff & Keyes, 1995). The PWB demonstrates good to excellent internal consistency ($\alpha = .86$ - $.93$) and acceptable test-retest reliability (6-weeks; $r = .81$ - $.85$).

Procedure

The procedure for this study is identical to Chapter 2. Participants were recruited from 5 developmental psychology courses. Participation was entirely voluntary, and participants were asked to complete questionnaires at 3 time points during the 4-month academic semester (start-semester, mid-semester, and end-semester). Start of semester survey responses were collected to determine baseline scores, and follow-up time points to allow for assessment of the impact of volunteering over time. The questionnaires were administered on-line and included measures of participant demographic information, volunteering behaviours, academic information, as well as psychological well-being, empathy/altruism, prosocial tendencies, and state based positive/negative affect. This study was conducted between 2017 and 2018. We made slight modifications to the administration of questionnaires based on feedback and interest from the service-learning center, as a result some measures were not consistently provided at the initial time point. There are differences in sample size between time points for certain measures used in the analysis. This study was approved by the university research ethics board.

Volunteering Status Categories

Participants were asked to indicate if they were currently volunteering in any capacity at when assessed (i.e., on or off-campus volunteer; service-learning specific volunteer, not currently volunteering). Over half of participants indicated some form of volunteering behaviour (volunteer = 59.02% vs. non-volunteer = 40.98%). Of those who reported volunteering, 24.8% (n = 66) reported volunteering through the service-learning program as part of their developmental psychology course requirements, while 34.20% of volunteers reported volunteering outside of the course either on or off campus.

Table 1

Total frequency and percent values of participants based on volunteering and service categorization.

		Frequency	Percent
Volunteer Status	NOVOL	109	41.00%
	VOL	91	34.20%
	SLVOL	46	17.30%
	SLNOVOL	20	7.50%

Note. NOVOL: Non-volunteer, VOL: Volunteer not affiliated with service-learning, SLNOVOL: participating only in service-learning program. SLVOL: participating in service-learning *and* other forms of volunteering.

Participants were categorized based on their current volunteering status, including participation in service-learning. We created 4 groups based on our data: NOVOL (not currently volunteering), VOL (volunteering on or off campus – not associated with service-learning), SLVOL (volunteering on or off campus *and* electing to participate in service-learning), and SLNOVOL (participating only in service-learning, i.e., no other volunteer commitments; see table 2). This grouping is consistent with Chapter 2.

Results

We used Multi-Level Modelling (MLM) to test differences between volunteering status groups at time 1 and change over a single academic semester. MLM analyses were conducted using HLM 8 software and SPSS version 27 to prepare datasets. MLM is a robust analysis that

allows for testing nested data (e.g., repeated observations nested within student participants, nested within classrooms; Bryk, 1992). Statistical assumptions for MLM are similar to ordinary least squares (OLS) regression analysis.

Participants were measured at times 1, 2, and 3 (repeated measurement at level-1), which is nested within-person at level-2 (e.g., volunteering status), and persons are nested within classes at level-3 of our model. Group or classroom level data may be dependent (within each class), thus inflating type 1 error and producing inaccurate standard errors (Aarts et al., 2014; Tasca & Gallop, 2009). Therefore, we tested for dependence of data, which determines whether to ignore classroom level nesting (i.e., level-3 groups) and simply run a conditional 2-level model. Intraclass Correlation Coefficient (ICC) value was calculated to assess for dependence. ICC dependence is calculated using the following equation: $\rho = \tau_{10j}(\text{conditional}) / [\tau_{10j}(\text{unconditional}) + \tau_{1ij}]$, where τ_{10j} represents the level-3 between group variance component and τ_{1ij} represents the unconditional level-2 variance component. A ρ value less than 5% of the variance suggests that between group dependence is ignorable and an unadjusted 2-level model can be used (Kenny et al., 1998). ICC calculation for the data produced a ρ value of = 0.02, meaning that classroom level dependence (or level-3 of the model) can be ignored, therefore I conducted a 2-level MLM analysis.

Subscales from the measures used in this study were entered as outcome variables at Level 1. Volunteering status was dummy coded and entered uncentered at Level 2 of the model. Non-volunteering status was used as the comparison group because these students participated in the same class as their volunteering counterparts but were not actively volunteering. This provided a useful way to assess differences specific to volunteering and service-learning participation compared to just course participation. Centering dummy coded variables can lead

to issues with interpreting values, therefore no centering occurred at level 2 of the model.

Pseudo- R^2 values were used to assess model fit – comparing unconditional (no level 2 predictors) and conditional (volunteering status variables) models to assess improved fit.

Main Results

The results of the 2-level MLM analysis are presented in Table 2. Descriptive data, including means and standard deviations are presented in Chapter 2: Table 1, and pre-post post-hoc-analysis for significant outcomes are presented in Chapter 2: Table 2. We tested the relationship between volunteering status with outcome variables at time 1 (intercept), as well as linear change over time (slope). The intercept results suggest differences in scores based on service-learning volunteering status at time 1 on variables measuring empathy and psychological well-being. SLNOVOL was associated with lower empathic concern scores (affective empathy) compared to non-volunteers (Table 3). SLVOL students were more likely to report higher scores on empathic concern at the time 1 compared to the NOVOL. The SLNOVOL group was associated again with significantly lower scores on perspective taking (cognitive empathy) compared to NOVOL, while SLVOL status was associated with higher scores on perspective taking (highest score among groups) compared to non-volunteers (Table 3).

In contrast to the findings on the measure of empathy, SLNOVOL predicted higher scores on Personal Relationships with Others (e.g., “being a giving person” or “spending time with others”) and Purpose subscales (e.g., “I have a sense of direction and purpose in life”) compared to NOVOL (Table 2). SLVOL reported lower scores on the Personal Relationships with Others subscale compared to NOVOL, but no significant relationship with Purpose. Furthermore, there was no relationship with SLNOVOL or SLVOL status on reported scores of prosocial orientation at time 1 (Table 4). VOL and NOVOL differed on one outcome variable

(empathic concern; VOL participants reported significantly lower empathic concern scores compared to non-volunteers; Table 3). Otherwise, there was no relationship between VOL group status and NOVOL status on any outcome variable from the PWB and the PTM (Table 4) measured at time 1.

We tested change over time (1 academic semester – 3 months duration) on each outcome variable. The data suggest SLVOL was associated with a significant negative change over the semester on the perspective taking subscale of the IRI compared to NOVOL. Furthermore, VOL demonstrated a significant negative trend in anonymous prosociality compared to NOVOL students (Table 4). Time 1 baseline scores for each participant were added to the model to control for within-participant variability and to assess if change were associated with volunteering effects. The significant linear change effect disappeared when time 1 baseline was added to the model, mean that time effects could be accounted for by regression to the mean. Furthermore, there were no other linear increases or decreases found between volunteering status and PTM subscales (Table 4). Despite initial differences found on subscales of the IRI (Table 3) and PWB (Table 2), group status was not associated with any change over the semester related to volunteering status.

Pseudo- R^2 values were calculated for each model and outcome tested (see Table 2). Pseudo- R^2 values suggest small effect sizes for outcome variables (Aarts et al., 2014). Previous research has reported moderate effects of service-learning participation. There are several possible reasons for this: 1) Service-learning program impacts are smaller than previously estimated; 2) the effect of service-learning or volunteering could be accounted for by other factors not accounted for in this study due to the complexity of individual experiences volunteering and motivations (e.g., career advancement, prosocial values expression), course-

based factors (e.g., intensity of reflection in class), and institutional effects influencing participation (e.g., culture of service, career focused incentives to volunteer).

Table 2

2-level MLM analysis testing change in psychological wellbeing at time 1 and time 3 between 4 dummy coded volunteering status groups (level 2).

		Intercept (characteristics)				Slope (change over semester)				Random Effects		
		<i>b</i>	<i>SE</i>	<i>t</i>	<i>a</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>a</i>	Variance (SE)	<i>Pseudo R</i> ²	
Personal Relationships with Others (<i>df</i> = 257)	Intercept	39.27	1.04	37.11	0.001 ***	-0.07	0.66	-0.11	0.91	Intercept	77.44 (8.80)	0.80
	VOL	2.62	1.54	1.71	0.09	1.15	0.96	-1.20	0.23	Time	15.66 (3.96)	
	SLNOVOL	6.46	2.57	2.51	0.01 **	1.50	1.54	-0.98	0.33	Residual	2.20 (1.48)	
	SLVOL	-5.12	2.87	-1.76	0.08	1.44	1.76	0.82	0.42			
Purpose in Life (<i>df</i> = 257)	Intercept	39.52	0.93	42.43	0.001 ***	0.01	0.65	0.02	0.99	Intercept	63.85 (7.99)	0.95
	VOL	2.95	1.36	2.16	0.03 *	-0.91	0.94	-0.97	0.33	Time	18.79 (4.33)	
	SLNOVOL	5.16	2.26	2.28	0.02 *	-2.24	1.49	-1.51	0.13	Residual	0.51 (0.71)	
	SLVOL	-1.82	2.59	-0.71	0.48	1.09	1.75	0.63	0.53			
Self-Acceptance (<i>df</i> = 257)	Intercept	36.51	1.13	32.16	0.001 ***	-0.40	0.73	-0.55	0.58	Intercept	45.90 (7.77)	0.03
	VOL	1.33	1.66	0.81	0.42	0.11	1.04	0.11	0.92	Time	1.31 (1.14)	
	SLNOVOL	1.39	2.78	0.50	0.62	0.93	1.66	0.56	0.58	Residual	11.86 (3.44)	
	SLVOL	0.07	3.12	0.02	0.98	-0.84	1.93	-0.44	0.66			
Autonomy (<i>df</i> = 255)	Intercept	37.41	1.01	36.96	0.001 ***	-0.84	1.93	-0.44	0.66	Intercept	87.40 (9.34)	0.94
	VOL	0.48	1.49	0.32	0.75	-0.35	0.86	-0.41	0.68	Time	17.59 (4.19)	
	SLNOVOL	-1.81	2.51	-0.72	0.47	-0.68	1.23	-0.55	0.58	Residual	0.53 (0.73)	
	SLVOL	1.52	2.81	0.54	0.59	1.21	1.35	0.90	0.37			
Competence (<i>df</i> = 258)	Intercept	34.52	1.08	31.98	0.001 ***	0.68	0.70	0.98	0.33	Intercept	61.39 (7.84)	0.43
	VOL	2.03	1.58	1.29	0.20	-0.75	0.99	-0.76	0.45	Time	10.50 (3.24)	
	SLNOVOL	2.52	2.62	0.96	0.34	-1.00	1.58	-0.63	0.53	Residual	6.55 (2.56)	
	SLVOL	-1.25	2.91	-0.43	0.67	0.98	1.80	-0.63	0.59			
Personal Growth (<i>df</i> = 258)	Intercept	42.46	0.88	47.90	0.001 ***	-0.73	0.64	-1.15	0.25	Intercept	55.29 (7.43)	0.95
	VOL	1.98	1.28	1.55	0.12	-0.21	0.90	-0.23	0.82	Time	18.14 (4.25)	
	SLNOVOL	2.18	2.13	1.02	0.31	-0.25	1.46	-0.17	0.86	Residual	0.54 (0.74)	
	SLVOL	1.70	2.38	0.71	0.48	-1.00	1.66	-0.60	0.55			

Note. The PWB was measured at 2 time points during the semester (Time 1 and Time 3). Differences in *degrees of freedom* and sample size are the result of missing item data. A 2-level MLM model was used to test for the effects of volunteer status at time 1 and change over the semester. Volunteering status was dummy coded (non-volunteers [NV] as comparison group) and entered uncentered at level 2 of the model. * = $p < .05$; ** = $p < .01$; *** = $p < .001$. NOVOL: Non-volunteer, VOL: Volunteer not affiliated with service-learning, SLNOVOL: participating only in service-learning program. SLVOL: participating in service-learning *and* other forms of volunteering.

Table 3

2-level MLM analysis testing change in empathy measured by the interpersonal reactivity index at 3 timepoints between 4 dummy coded volunteering status groups (level 2).

		Intercept (characteristics)				Slope (change over semester)				Random Effects				
		<i>b</i>	<i>SE</i>	<i>t</i>	<i>a</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>a</i>	Variance (SE)	<i>Pseudo R</i> ²			
Empathic Concern (<i>df</i> = 249)	Intercept	19.61	0.70	28.18	0.00	***	-1.02	0.30	-3.46	0.01	**	Intercept	0.05 (0.69)	0.05
	VOL	-0.87	0.99	-0.88	0.38		0.63	0.42	1.48	0.14		Time	0.05 (0.22)	
	SLNOVOL	-4.01	1.72	-2.32	0.02	*	0.95	0.73	1.31	0.19		Residual	13.21 (3.63)	
	SLVOL	4.65	1.87	2.49	0.01	**	-1.22	0.79	-1.54	0.13				
Perspective Taking (<i>df</i> = 249)	Intercept	16.54	0.69	23.78	0.00	***	0.41	0.28	1.48	0.14		Intercept	4.91 (2.22)	0.08
	VOL	-0.40	0.98	-0.40	0.69		0.42	0.40	1.06	0.29		Time	0.22 (0.47)	
	SLNOVOL	-3.52	1.70	-2.08	0.04	*	1.22	0.68	1.79	0.07		Residual	10.71 (3.27)	
	SLVOL	5.55	1.85	3.01	0.00	***	-1.85	0.74	-2.50	0.01	**			
Personal Distress (<i>df</i> = 249)	Intercept	14.35	0.80	17.85	0.00	***	1.08	0.30	3.61	0.00		Intercept	12.85 (3.58)	0.15
	VOL	0.70	1.14	0.61	0.54		-0.08	0.43	-0.19	0.85		Time	0.36 (0.60)	
	SLNOVOL	-1.83	1.96	-0.93	0.35		0.68	0.73	0.94	0.35		Residual	11.41 (3.38)	
	SLVOL	0.56	2.13	0.26	0.79		-0.23	0.79	0.94	0.77				

Note. The Interpersonal Reactivity Index (IRI) was measured at 3 time points during the semester. Differences in degrees of freedom and sample size are the result of missing item data. A 2-level MLM model was used to test for the effects of volunteer status at time 1 and change over the semester. Volunteering status was dummy coded (non-volunteers [NV/Intercept] as comparison group) and entered uncentered at level 2 of the model. * = $p < .05$; ** = $p < .01$; *** = $p < .001$. NOVOL: Non-volunteer, VOL: Volunteer not affiliated with service-learning, SLNOVOL: participating only in service-learning program. SLVOL: participating in service-learning and other forms of volunteering.

Table 4

2-level MLM analysis testing change in prosocial tendencies at 3 timepoints between 4 dummy coded volunteering status groups (level 2).

		Intercept (characteristics)				Slope (change over semester)				Random Effects				
		<i>b</i>	<i>SE</i>	<i>t</i>	<i>a</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>a</i>	Variance (SE)	<i>Pseudo R</i> ²			
Anonymous (<i>df</i> = 260)	Intercept	14.29	0.54	26.32	0.001	***	0.58	0.21	2.73	0.01	**	Intercept	13.87 (3.72)	0.02
	VOL	1.13	0.80	1.40	0.16		-0.77	0.31	-2.46	0.01	**	Time	0.04 (0.19)	
	SLNOVOL	-2.14	1.38	-1.55	0.12		-0.49	0.51	-0.96	0.34		Residual	6.53 (2.55)	
	SLVOL	3.02	1.53	1.97	0.05	*	-0.09	0.57	-0.17	0.87				
Altruism (<i>df</i> = 261)	Intercept	21.72	0.35	62.53	0.001	***	-0.10	0.16	-0.63	0.53		Intercept	3.90 (1.97)	0.07
	VOL	0.08	0.51	0.17	0.87		-0.20	0.23	-0.89	0.38		Time	0.10 (0.32)	
	SLNOVOL	-0.05	0.87	-0.06	0.95		-0.35	0.37	-0.93	0.35		Residual	3.20 (1.79)	
	SLVOL	-0.09	0.96	-0.10	0.92		0.21	0.41	0.53	0.60				
Dire (<i>df</i> = 261)	Intercept	10.64	0.29	36.36	0.001	***	0.04	0.12	0.36	0.72		Intercept	3.36 (1.83)	0.03
	VOL	0.49	0.43	1.14	0.26		-0.04	0.18	-0.22	0.83		Time	0.05 (0.21)	
	SLNOVOL	-0.76	0.74	-1.03	0.30		0.32	0.30	1.05	0.29		Residual	2.02 (1.42)	
	SLVOL	0.30	0.81	0.73	0.47		-0.15	0.33	-0.46	0.64				
Public (<i>df</i> = 261)	Intercept	7.12	0.36	20.07	0.001	***	-0.06	0.16	-0.44	0.66		Intercept	3.33 (1.82)	0.00
	VOL	0.31	0.52	0.60	0.55		-1.17	0.22	-0.78	0.44		Time	0.02 (0.15)	
	SLNOVOL	0.25	0.90	0.28	0.78		0.02	0.38	0.06	0.95		Residual	3.61 (1.90)	
	SLVOL	-0.44	0.98	-0.45	0.65		-0.19	0.41	-0.47	0.64				

Note. The prosocial tendencies measure (PTM) was measured at 3 time points during the semester. Differences in degrees of freedom and sample size are the result of missing item data. A 2-level MLM model was used to test for the effects of volunteer status at time 1 and change over the semester. Volunteering status was dummy coded (non-volunteers [NV/Intercept] as comparison group) and entered uncentered at level 2 of the model. * = $p < .05$; ** = $p < .01$; *** = $p < .001$. NOVOL: Non-volunteer, VOL: Volunteer not affiliated with service-learning, SLNOVOL: participating only in service-learning program. SLVOL: participating in service-learning and other forms of volunteering.

Discussion

The primary purpose of this study was to examine the impact of service-learning and volunteering experiences compared to non-volunteering students over the course of an academic semester. Our hypotheses were based on previous findings that service-learning and volunteering students were more engaged in their community prior to starting volunteering (Cruce & Moore, 2007). The structure of this study allowed us to address methodological limitations of previous service-learning research, including a lack of comparison groups (van Goethem et al., 2014) and reports of volunteer self-selection based on prior prosociality (Meyer et al., 2019). Overall, our results point to key academic, prosocial, and empathic differences between student volunteers (identical to results in Chapter 2), but almost no change among volunteering status groups compared to non-volunteering students. Our results highlight initial characteristics of students who serve identifying underlying individual prosocial and psychological factors connected to a student's decision to volunteer, but limited impact based on service-learning or volunteering experiences. These results raise important questions about the effect of service-learning and volunteering experiences to produce the kinds of meaningful change typically described in the research literature and advanced by proponents of service-learning (e.g., see Butin, 2010), but not apparent based on our analysis.

We found very limited changes over time as a result of volunteering. SLNOVOL volunteers demonstrated significant reductions in perspective taking and significant increases in anonymous prosocial attitudes compared to non-volunteers. SLNOVOL and VOL, however, reported decreased anonymous prosocial attitudes. It is possible these changes reflect influences of students' volunteer and classroom experiences. However, the lack of change found is inconsistent with previous service-learning research. Lack of significant change could be

attributed to regression to the mean after controlling for student's baseline scores on outcome measures. Researchers have noted difficulty assessing the quality of service-learning data because many studies do not include pre- and post-test results, representative recruitment, or validated measures (van Goethem et al., 2014). Therefore, it is difficult to contextualize our results based on the identified limitations of broader service-learning research. Our results suggest that volunteering and service experiences during the semester may not have the same positive transformative benefits that proponents of service-learning suggest, but the short assessment period and incongruent results suggests the need for more rigorous follow-up research.

Several meta-analyses discussed in the introduction suggest that service-learning does foster prosocial change, however, the studies used to assess change are not always high quality, nor do they typically include a comparison group (Hébert & Hauf, 2015). A similar issue was discussed in Chapter 2 and raised by Yorio and Ye (2012) who found that institutional structure and research methodology influenced the results or impact of service-learning programs. Taken together, these points suggest that the actual impact of service-learning may be overestimated or could potentially be attributed to either volunteering more generally or some other construct not assessed. Our data suggests that an optional program at our institution did not produce short term benefits, but further research and replication is required.

Characteristic differences at the start of the semester were consistent with Chapter 2 and results found in Meyer et al., (2019)'s finding of students self-selecting into service-learning. We included in our examination students who were only engaged in service-learning and reported no other volunteering actions, an understudied group of service-learners identified in Chapter 2. Students in this study engaged in volunteering with different (sometimes higher and sometimes

lower) levels of prosocial and psychological characteristics, which appears to reflect the degree to which they are engaged in their communities and their academics. What is clear from our data in this study and Chapter 1 is the role of student prosocial characteristics and empathy when determining who participates and why. Highly engaged students appear to seek out additional opportunities to express their more altruistic helping behaviours, while less empathic students may need additional support or reduced barriers to participate in service-learning (suggesting different motivational trajectories).

Previous studies have mainly recruited highly engaged students, often requiring additional effort or applications to participate as a service-learner (See Meyer et al., 2019; Thomas et al., 2021). The structure of this study allowed us to differentiate these students (volunteering and service-learners) from less engaged group drawn from the non-volunteering comparison group (service-learning only students). Other research with higher entry barriers likely skews the results, because the typical highly engaged volunteer will differ on most standard outcomes (e.g., GPA, prosocial helping behaviour, empathy, well-being) compared to non-volunteers, as discussed in the general introduction. This means that researchers need to account for greater individual variation among service-learners and volunteers when measuring outcomes of programs designed to increase prosocial volunteering behaviour and that these expected increases may not be due to the program itself, but the inclusion of already highly prosocial students.

Our traditional conceptualization of service-learning requires a shift since students are entering for different underlying prosocial or psychological motives and are characteristically different from each other based on their level of community involvement, academics, in addition to prosociality and empathy. We found that more engaged service-learners reported more

empathy, but for less engaged or novice service learners, empathy was, in fact, lower than each other comparison group. As mentioned, empathy is often a predictor of prosocial behaviour (Batson, 2010) and therefore we suggest service-learning volunteers are not a homogenous group, but are more diverse in terms of prosocial actions, empathic motivations, and well-being. All of which influence how their decision to participate prior to starting in service-learning and the impact of service-learning on their prosocial/empathic attitudes. Accounting for individual differences service-learning and volunteering students can help researchers, as well as administrators better understand the needs of students seeking these opportunities.

However, while our results identified differences among students who elect to participate in service-learning, we cannot fully account for program impacts or the capacity to instill change among participating students. It is possible that changes are unlikely to be captured or exhibited by students over such a short timeframe. For example, Bowman et al., (2010) conducted a longitudinal study looking at predictors of wellbeing and volunteering behaviours 13 years post university graduation. They found that volunteering and service-learning participation in university predicted several elements of wellbeing (e.g., purpose, mastery, growth), prosocial behaviours, and increased volunteering (Bowman et al., 2010). Our study may not have allowed for enough time for the experiences of volunteering to be consolidated or internalized as part of student's identity and additional follow-up is required to determine the presence of any longer-term effects.

There are many factors that influence and shape students' identity, psychological wellbeing, and prosocial tendencies which would not be captured by this study. Participation in social clubs, other commitments not volunteering related, personal life issues, and school itself. These factors could contribute positively or negatively to students' outcomes regardless of

participation in service-learning or volunteering. For example, anxiety and stress related to student's course load or even based on exams or other academic demands could inhibit the positive benefits of volunteering. Personal issues, such as moving away from family, losing a job, ending or starting a relationship all influence students' capacity to focus and reflect, as well as their psychological and prosocial outcomes. Furthermore, it is also possible that the experience of service-learning is not transformative based on the "dose" of volunteering, i.e., how many hours completed, it is possible that more hours participated and for longer could produce benefits reported in other research (especially considering research demonstrated smaller effects; see Yorio and Ye, 2012). Finally, the experience volunteering may not have been transformative in the way that promotes of service-learning envisioned. Not all experiences helping others will be personally challenging, nor will they be discordant with a volunteer's worldview, in some cases students could be participating in organizations they are familiar with meaning growth has already occurred or the experience is not one that promotes change. These reasons, the variability of volunteers and volunteer experiences, could account for the low effect size found in the MLM analysis. Future studies should attempt to reduce this variability by tracking factors that influence participation and the quality of the volunteer experience itself.

Program effects and change is a key feature of service-learning and based on our results, it is unclear if the program can lead to change over and above volunteering or even non-volunteering students in the same class. This is an element that needs further assessment, replication, and an examination over a broader array of students/classrooms.

Limitations and Future Directions

Our findings, despite differing from previous research, speak to the complexity of service-learning research and distinguishing the role of volunteering more generally from

expected program effects. There are several important limitations that should be considered with regards to our results. First, our sample and volunteering categorization resulted in a small number of SLNOVOL participants, reducing statistical power available in our sample. MLM is a robust statistical analysis and less susceptible to variations based on lower group sample sizing, however our smaller sample and group size means that this study may be underpowered. However, future research should attempt to recruit a greater number of students in this category. Recruitment was also limited to developmental psychology courses and our sample was predominantly social science, science, and health science students. Our results could reflect specific course related results or reflect specific attributes of students who participate in developmental courses (e.g., greater faculty emphasis on volunteering). Without recruiting a broader range of students from different courses, our results should be generalized to all service-learners or other students with caution.

The structure of our study likely impacted our ability to detect change. We assessed students over one semester and found limited to no change compared to other students. It is possible that change requires a longer follow-up period as experiences become internalized. It is also possible that our measures were not sensitive enough to detect change in students, given the stability of our measures (e.g., test-retest reliability). Furthermore, given the number of highly engaged and prosocial students in our sample (i.e., those who were already volunteering), it is unlikely that service-learning experiences would have the same transformative impact since these are already highly prosocial students. Other programs may recruit less engaged students or provided more intensive experiences (e.g., Gutierrez et al., 2012; Jones & Abes, 2004). In our sample, the vast majority reported volunteering in high school as part of their education requirements, meaning they have had more opportunities to internalize a prosocial volunteer

identity (important component of sustained volunteerism; Flouri & Sarmadi, 2016) compared to students from jurisdictions without high school volunteering. In our sample, SLVOL and VOL reported the highest average GPA, comprising the majority of participants in our study, reinforcing the idea that most volunteers were motivated and engaged. In other words, we may have experienced a ceiling effect in terms of academic, prosocial, and psychological development among students. This line of research should be replicated among a broader array of students, assessing change over a longer period to determine if our results are accurate or an outlier compared to the broader literature.

Conclusion

Service-learning is conceptualized and advocated as a high-impact learning strategy designed to enhance student learning, foster prosocial attitudes, and increase civic engagement through transformative experiences (Butin, 2010; Kilgo, 2015). However, our results suggest that service-learning is not as effective as proponents state because service-learning programs tend to attract the already prosocial and civically engaged students (rather than issues with program delivery). Service-learning is likely an opportunity for prosocial students to enact their prosocial values, but this does not necessarily lead to the radical transformation hoped for by proponents.

Service-learning is expanding into more and more institutions. The research appears positive, however lacks a more nuanced accounting of student differences, even within the service-learning programs. Most students reported volunteering in other capacities, but a smaller, and previously overlooked group of service-learners reported no other volunteering commitments. This differentiated them from the larger group of service-learners and volunteers in general. This is the group likely to benefit the most from service-learning experiences, but, to our knowledge, has never been formally identified. Knowing that service-learning and

volunteering can overlap and the importance of initial student characteristics, can help service-learning programs tailor their delivery to better address the challenges faced by or reduce barriers for less established volunteers. Reducing barriers and fostering volunteering experiences among the less engaged (e.g., SLNOVOL) students may be the element that brings about significant change. The highly engaged will find ways to express their prosocial values, but the students who are on the fence or less inclined (but still open) are those that will benefit exponentially from the experience of serving others.

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Chapter 4

Looking Beyond Altruism to Careers and Understanding: University Students' Self- and Other-Oriented Volunteer Motivations in Relation to Wellbeing

Abstract

Volunteering is an activity supported by other-oriented (e.g., helping others) and self-oriented (e.g., building a CV) motives, that produces benefits for the community and the volunteer. From a moralistic perspective, altruism and selfish motives may be opposed, while from a psychological perspective, nurturing self-development is important, particularly for university students. Although volunteering is known to increase psychological wellbeing in other-oriented volunteering, nevertheless, little is known about wellbeing in the case of self-oriented volunteering. Two-hundred and seventy undergraduates filled out the Volunteer Function Inventory, the Prosocial Tendency Measure, and the Psychological Wellbeing Scale. Regression analyses found that career and understanding motives were associated with wellbeing in both volunteers and non-volunteering students. This is the first study to examine the self-oriented (e.g., status, career, alleviate guilt) and other-oriented (e.g., altruism, expression of values) volunteer motivations in relation to well-being, and implications for researchers and practitioners are discussed.

Keywords: Prosocial orientation; volunteering motivations; well-being; altruistic values

Looking Beyond Altruism to Careers and Understanding: University Students' Self- and Other-Oriented Volunteer Motivations in Relation to Wellbeing

Volunteering is an action directed at helping others, and thereby produces benefits for the community served; however, volunteering can also help the volunteer, through building skills and social networks (Couton & Gaudet, 2008) and through increased psychological wellbeing (Bowman et al., 2010). Research examining volunteering and other forms of prosocial behavior from the perspective of moral and civic development has often sharply contrasted with more altruistic (e.g., a proclivity to assist others even at cost) and selfish motives (e.g., helping when that help is recognized and rewarded by other). Typically, more altruistic motives are lionized and associated with more refined development, whereas selfish motives are seen, at least tacitly, if not openly, as lower, and even suspect (Carlo et al., 2005). As Walker (2014) remarks, drawing on the work of philosopher Owen Flanagan (1991), not all self-oriented aspirations are equal, nor is a wholly altruistic psychological subject realistic. From a psychologically realistic perspective, such as one supported by the perspective of the Volunteering Functions Inventory (Clary, Snyder, Ridge, et al., 1998), volunteering is driven by both other-oriented motives (e.g., helping for its own sake) and by more self-oriented motives (e.g., to alleviate guilt, for status, or to build up one's CV; Stukas et al., 2016). Crucially, some of these self-oriented motives relate to positive development, such as those involve the development of one's understanding of the world and one's place in it.

Volunteering, therefore, is not a purely self-sacrificing or altruistic act, but is dependent on different underlying motivations. However, volunteering that is undertaken for self-oriented reasons is not well understood. Questions around self-oriented volunteering are especially relevant to university students, as volunteering can lead to long-lasting benefits for students,

including increased psychological wellbeing (Okun & Kim, 2016), career experience (Handy et al., 2010), and improved academics (Haski-Leventhal et al., 2019) and volunteering in university can foster long-term volunteering behaviours (Bowman et al., 2010). Self-oriented values that involve vocational development and understanding of the world vocationally are particularly important for university students, for whom career and understanding motives can be healthy outcomes of development through college and university (Gage & Thapa, 2012; MacNeela, 2008).

Understanding how university students sustain volunteering through a challenging life period is important and at present the psychological benefit of volunteering, wellbeing, is only known to be associated with other-oriented volunteering motivations (e.g., Stukas et al., 2014; Thoits & Hewitt, 2001). As alluded to above, the lack of evidence for a connection between self-oriented motives and wellbeing may reflect a widespread implicit bias towards debasing self-oriented motives as “selfish”. Opportunities available in university could increase prosocial motivation due to the developmental changes associated with the school experience (such role changes have been demonstrated to increase prosocial action; see Kroll & Vogel, 2018), but it is unclear if the benefits of volunteering, specifically increased wellbeing, are present for students acting on other-oriented drives such as altruism or values compared to self-oriented motives such as advancing their career or protecting their ego.

Although we predict that wellbeing is associated with volunteering, nevertheless, the wellbeing of self-oriented volunteers could differ from this expected relationship because of an incongruence between motives (self-oriented) and actions (helping others through volunteering). It is possible that students who endorse self-oriented motives, such as career motivations, will demonstrate similar outcomes as those students who endorse value/other-oriented tendencies or

motives, but little data exists comparing these constructs. We assume that prosocial students will volunteer for altruistic or value-driven reasons and will report higher reported wellbeing, however it is also possible that this relationship differs for students who act prosocially for self-oriented conceptions of volunteering. This denotes a major gap in the literature regarding volunteering motivations and actions.

Volunteering Functions and Motivations to Volunteer

The functional theory of volunteering outlines different motivations or drives that reflect a person's psychological needs and their decision to volunteer (Clary, Snyder, Ridge, et al., 1998; Stukas et al., 2016). This is broadly constructed along a self-or-other oriented dimension. Self-oriented volunteers are believed do so to increase their own knowledge, help their career, for personal development, to be social, or to enhance perception of their self-worth (Clary, Snyder, Ridge, et al., 1998; Penner & Finkelstein, 1998). Other-oriented volunteering is more limited in its expression, meaning that only volunteering as an expression of values is considered an altruistic or other-oriented action (Cornelis et al., 2013). Individuals are more likely to volunteer when their motive or function aligns with an opportunity to volunteer, thus fulfilling the goal consistent with their internal drives and fostering wellbeing (Fletcher & Major, 2004). This process then produces a cycle where drive-aligned volunteering leads to greater future volunteering, increasing the benefits experienced by the volunteer (Haski-Leventhal et al., 2019)

Volunteering as an expression of values is associated with higher wellbeing, as well as greater volunteering commitments and engagement. However, this relationship is not necessarily apparent for those high in self-oriented motives, which appear connected to lower satisfaction with volunteering experiences (Stukas et al., 2014). This is further illustrated in Nelson et al., (2016), who demonstrated a connection between acts of kindness towards others (including

community service) and positive well-being, but this connection did not appear for those who performed self-focused actions (e.g., treating self with meals/massages). Each motivation exists in relation to the volunteer's psychological wellbeing, but there is little data on the effect of self-oriented volunteering and wellbeing beyond the research outlined above (Nelson et al., 2016; Stukas et al., 2014).

Prosocial Tendencies and Volunteering

Volunteering is one form students use to express their prosocial tendencies, and like motivations, can be enacted for motives other than altruism (e.g., status or praise; Carlo et al., 2005). Volunteering is often viewed as an intentional act to benefit others, but with benefits to the volunteer; prosocial tendencies, therefore, can be delineated along self-other oriented dispositions (Briggs et al., 2010). Prosocial tendencies are associated with greater helping behaviours, including volunteering and future likelihood of volunteering (Kroll & Vogel, 2018). Prosocial behaviour includes elements of altruism, as well as several other elements associated with prosocial action, reflecting personal preference, style, and predicting type of action (e.g., spontaneous helping, planned volunteering; Eisenberg et al., 2014). Like volunteering motivations, students enact their prosocial tendencies for other or self-oriented reasons, where more altruistically oriented students tend to endorse altruistic values, empathy, and higher level prosocial moral reasoning (Eisenberg et al., 2014). Public prosociality is a contrasting style of prosocial behaviour which is enacted for status or self-enhancement (Carlo et al., 2005). Public tendencies are generally self-oriented, and negatively correlated with altruistic prosocial tendencies (e.g., helping others without expectation of reward; Carlo & Randall, 2002).

Prosocial helping is generally predictive of volunteering and associated with other-oriented values motivations (Finkelstein & Brannick, 2007). Highly prosocial students are more

likely to seek out volunteering or community service opportunities (Meyer et al., 2019), donate their time, contribute greater hours, and more likely to continue to volunteer beyond their initial commitment (Penner, 2002). However, prosocial research mainly conceptualizes prosociality on two dimensions, typically through short or spontaneous helping actions (such as those found in prosocial toddler research (Warneken & Tomasello, 2007), sporadic helping behaviours (e.g., helping a lost student; Finkelstein et al., 2005; Finkelstein & Brannick, 2007), or self-focused kindness (Nelson et al., 2016). Therefore, self-oriented prosocial actions have not yet been disentangled helping behaviours, meaning that little information is known about the relationship between prosocial tendencies, volunteering functions, and wellbeing.

Altruistic prosocial tendencies are believed to be an important motivator driving helping or volunteering behaviours (Finkelstein et al., 2005). However, self-oriented prosocial tendencies have been largely absent from prosocial volunteering studies, overlooking findings that suggest people will help others to gain approval (Carlo et al., 2005; Carlo & Randall, 2002). For example, many students report volunteering for career reasons or simply because they were asked (Handy et al., 2010; Marks & Jones, 2004), as opposed to more altruistic or value driven reasons. Practically speaking, the outcome is similar – helping others – but the reasons underlying this behaviour are contradictory based on common conceptualizations of prosocial behaviour and likely connected to positive or negative wellbeing or functional motivations.

Post-secondary Volunteering

University students engage in community service more than non-university students through occasional or episodic volunteering (Marks & Jones, 2004; Smith et al., 2010) and volunteers can be distinguished by the degree they endorse self (e.g., career) vs. other oriented motives (Smith et al., 2010). Student volunteering motivations are diverse, sometimes based on

individual values or for more self-oriented reasons like career advancement (Wilson, 2000; Stukas et al., 2014). Types of motivations could be influential based on the volunteers' current developmental period, environmental factors, or recent changes in their life leading to more values driven, ego protective, or even more career focused volunteering (Brayley et al., 2014; Gage & Thapa, 2012; Yoshioka et al., 2007). Career motivations among students appears higher compared to non-student populations, likely stemming from greater flexibility with time and the importance of CV building as a student (Gage & Thapa, 2012).

Students still hold multiple motivations leading to the same action of volunteering, but certain motives, like career, may be more salient to students (Clary, Snyder, & Stukas, 1998; Pearl, 2017; Stukas et al., 2014). Similarly, students vary in their style of prosocial tendencies, reflecting their values and disposition (Carlo et al., 2003; Eisenberg et al., 2014), which is predictive of volunteering (Carlo et al., 2005). Essentially, motivations and prosocial tendencies underly students' decisions to volunteer, but these factors are not the same for every student who volunteers, but in many cases the effect of volunteering is expected to be the same (i.e., positive prosocial development; Janoski et al., 1998). It is possible that helping others for career or status could lead to internalized prosocial values, even if helping for gain does not fit with traditional conceptualizations of helping others – to enact altruistic values, but the belief persists that volunteering itself will eventually transform people into an altruistic ideal.

Motivational and Prosocial Gender Differences

Previous studies have found gender differences based on reported motivational and prosocial tendencies among students and volunteers. For example, men tend to endorse more self-oriented motivations and prosocial tendencies compared to women (Carlo et al., 2003; Stukas et al., 2014). Women tend to report higher scores on prosocial and volunteering

motivations, except for public prosocial tendencies (Chacón et al., 2017; Fletcher & Major, 2004; Xiao et al., 2019). Gender differences appear consistent within the literature and our study will attempt to account for these differences in our study, however, this does not comprise the focus of this study.

Present Study

This study aims to address this gap in the literature by examine the relationship between altruistic/public prosocial tendencies, volunteering motivations, and overall wellbeing. No study to date has looked at the relationship between self-oriented prosocial tendencies (the desire to help others to increase status or gain recognition/reward from others), with volunteering motivations. Like volunteering motivations, prosocial behaviour appears to serve a function (either psychological or social), meaning that despite motivations or tendencies that are not altruistic, students will still volunteer. The act of participating becomes the mechanism of internalization of volunteer identity, even if a person is less prosocial to start (Janoski et al., 1998). A developed identity as a volunteer is associated greater volunteerism (Finkelstein et al., 2005). Therefore, we can expect some variation in our results in terms of endorsement of self-oriented motives, rather than purely altruistic and other-oriented motives, reflective of students attempts enact their internal functions.

Hypotheses

1. Public prosocial tendencies (self-oriented) will be associated with self-oriented volunteering motivations. Altruistic prosocial tendencies (other-oriented) will be associated with other-oriented volunteering motivations (values, understanding)

2. Public prosocial tendencies and self-oriented volunteering motivations will be negatively correlated with wellbeing. Altruistic prosocial tendencies and other-oriented volunteering motivations will be positively correlated with wellbeing scores.
3. Volunteers will report higher altruistic prosocial tendencies and values motivations compared to non-volunteers.
4. Altruistic prosocial tendencies and values motivations (e.g., other-oriented) will predict higher wellbeing scores and public/self-oriented motivations will predict lower wellbeing scores dependent on volunteering status.
5. Gender differences will be consistent with previous studies looking at prosocial and motivational scores. We expect that women will self-report higher scores on volunteering and prosocial tendencies and values motivations compared to men.

Method

Participants

Participants in this study were recruited at a large Canadian university from students enrolled in introductory social sciences courses who are required to participate in on-line or in-person research studies as part of their course requirements, receiving course credit as compensation. Overall, 291 students participated in our study. Twenty-one were removed from the sample because of incomplete surveys, inattentive responding, or response sets (based on visual inspection of the data), leaving a study sample size of 270. Participants in our sample were predominantly female (73%). Approximately 65.40% were in their first year of study and 24.60% in their second year. Participants were asked to self-report their primary ethnicity with just under half (48.33%) reported European origin ethnicity, 25.24% Asian origins, 14.50% Arabic, 13.96% African or Caribbean origin, 1.25% Hispanic, and 0.72% indigenous (14.50%

did not specify primary ethnicity). Approximately 40.23% of participants reported arts/social science as their primary faculty, followed by health science (25.58%), and science (24.58%), with the remaining participants drawn from a variety of other faculties (10.62%).

Procedure

Students in our study signed up through an on-line research recruitment system used at the university. Participants provided informed consent, then administered questionnaires on-line through Qualtrics (web-based survey hosting and administration service). Participants were able to register and participate in our study at any point during the academic semester. They were provided with a brief overview of the purpose of our study and could decide whether they wished to participate. Our study was open to any student, regardless of their current volunteering status. Participants completed a brief survey (less than 15 minutes) containing volunteering information, prosocial orientation, volunteering functions, and psychological wellbeing. Measures were provided in French and English given the large number of French or bilingual students on campus. Participants received course credit as compensation for their time. This study was approved by the university research ethics board.

Measures

Demographics. Students provided demographic data as part of the mass testing system in place at the university. Students provided information regarding their academic status, major, GPA, gender, and ethnicity.

Volunteering Behaviours. Students provided information on their volunteering status, including if they are current volunteers, organization, type of work done as a volunteer, and hours volunteered per week. They were also asked about any recent past experiences volunteering, including the age they first began to volunteer.

Volunteering functions inventory (VFI; Clary et al., 1998) - a 30-item self-report measure of volunteering motivations. Volunteering is viewed as a consistent behavioural outcome that satisfies individual psychological needs. The motivational function served by volunteering is divided into six subscales: values (fulfilling altruistic or concern for others), understanding (seek out knowledge and learning experiences), social (gain social status, reward, or spend time with friends), career (gain skills or opportunities related to career development), protective (reduce own negative affect and internal anxiety), enhancement (to grow psychologically by volunteering). The values and understanding subscale are classified as other-oriented, while social, career, protective, and enhancement are classified as self-oriented. The VFI demonstrated good internal consistency among each subscale (α ranged from .82 (protective) - .85 (career)).

Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002) - a 23-item Likert scale self-report measure of prosocial disposition and behaviours. The PTM originally contains 6 subscales, however, for the purpose of this study we only included public and altruistic prosocial tendencies chosen as proxies for self-oriented and other-oriented prosocial tendencies. *Public* is a self-oriented tendency defined as helping to receive praise or reward or helping to be seen by others. *Altruistic* is an other-oriented tendency defined as self-less helping or helping without benefit to oneself. Internal consistency in this study was good for the public subscale ($\alpha = 0.85$) and acceptable for the altruism subscale ($\alpha = 0.79$) ranging from good to excellent.

Psychological Wellbeing Scale (PWB; Ryff & Keyes, 1995). The PWB is a 54-item self-report measure of wellbeing. The measure assesses wellbeing across 6 domains: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth that are summed for an overall wellbeing score (Ryff & Keyes, 1995). The

PWB in this study demonstrated good overall internal consistency ($\alpha = 0.87$).

Results

Data were analyzed using SPSS v27. All data were assessed for univariate and multivariate outliers, skewness, and normality. Inattentive respondents were removed (see above). Overall, VFI, PTM, and PWB scales were within the normal range for skewness and kurtosis. Two wellbeing scores were more than 3.25 standard deviations away from the mean; therefore, analyses were conducted with variables adjusted and unadjusted by moving outliers to within 3.25 standard deviations while maintaining rank. We found no differences between results; therefore, we left our data unadjusted.

Volunteer Descriptives

One-third of participants identified themselves as current volunteers ($n = 80$), while the remaining 2/3's reported no current volunteering ($n = 190$). Current volunteers reported volunteering for approximately 4.73 hours per week ($SD = 4.30$ hours). Most participants reported some form of previous volunteering experience, i.e., approximately 80% completed 40 hours of mandatory volunteering service in high school (mandated by provincial curriculum as a high school graduation criteria). Of the participants not currently volunteering, 29.20% reported volunteering in the past 6 months, 21.20% in the past year, 22.10% in the past 2 years, and 27.40% reported their last volunteering experience was more than 2 years in the past. Students average age they began volunteering was 13.93 years ($SD = 2.79$), just prior to entering middle/high school.

Main Analysis

Ranking of motivations is often used to assess the relative importance volunteers give to each function. In our sample, and consistent with previous studies, women ranked *values* ($m =$

3.40, $SD = 0.75$), *understanding* ($m = 3.36$, $SD = 0.80$), and *career* ($m = 3.11$, $SD = 0.80$) as the highest rated function. Women ranked *enhancement* ($m = 2.87$, $SD = 0.85$), *social* ($m = 2.40$, $SD = 0.81$), and *protective* ($m = 2.39$, $SD = 0.88$) as the lowest. Men, in comparison, ranked *understanding* ($m = 2.96$, $SD = 0.83$), *values* ($m = 2.83$, $SD = 0.83$), and *career* ($m = 2.80$, $SD = 0.83$) as the highest functions. Men ranked *enhancement* ($m = 2.53$, $SD = 0.79$), *social* ($m = 2.19$, $SD = 0.74$), and *protective* ($m = 2.03$, $SD = 0.78$) as the lowest. For both groups, values, understanding, and career were the top three motivations, while enhancement, social and protective were consistently ranked the bottom three. This is consistent with Gage and Thapa (2012), who found that college students listed career as a prominent motivator compared to non-student samples. Prosocial tendencies were similarly ranked and consistent for both groups, with altruistic orientation (other-oriented) ranked the higher than public (self-oriented).

Hypotheses 1 and 2 were tested using bivariate correlation analyses to assess associations between volunteering functions subscales, prosocial tendencies, and total psychological wellbeing scores (Table 1). We found a significant relationship between public and altruistic prosocial tendencies regardless of volunteering status and consistent with previous research (Carlo & Randall, 2002; Xiao et al., 2019). According to our results, we found a positive relationship between altruistic prosocial orientation with values motives for both groups. We also found a positive relationship between altruistic prosocial orientation and endorsement of the values motives for volunteers and non-volunteers. Altruistic orientation was negatively correlated with protective, social, and enhancement scales of the volunteering functions inventory. As predicted, we found a positive relationship between public prosocial orientation and enhancement/protection motives of the volunteering functions inventory. We found a

positive relationship between values and career motives. The strength of this relationship was medium for volunteers and large for non-volunteers.

We found that non-volunteers and volunteer groups varied in their reported within each group (see Table 1). Our correlational analysis identified significant negative correlation of public/wellbeing scores and a significant positive correlation with altruism/wellbeing. Public orientation was negatively associated with values motives but demonstrated neither construct showed any connection to wellbeing. Career motives, however, were positively associated with values motives and wellbeing among volunteers. Furthermore, we found a negative relationship between career motives and altruistic orientation among non-volunteers only. We followed up with an independent samples t-test to assess potential differences between volunteering and non-volunteering students, however, there were no significant difference between volunteers and non-volunteers.

Table 1

Bivariate correlation analysis of Prosocial Tendencies, Volunteering Functions, and Psychological Wellbeing by Volunteering Status.

	Public	Altruism	Protective	Values	Career	Social	Understanding	Enhancement	Wellbeing
Public (s)	1	-0.77**	0.06	-0.31**	0.10	0.18	-0.22	0.03	-0.19
Altruism (o)	-0.70**	1	0	0.39**	-0.02	0.01	0.25*	-0.06	0.23*
Protective (s)	0.28**	-0.19*	1	0.42**	0.21	0.47**	0.35**	0.73**	-0.13
Values (o)	-0.10	0.18*	0.54**	1	0.36**	0.38**	0.71**	0.45**	0.12
Career (s)	0.13	-.24**	0.47**	0.51**	1	0.32**	0.57**	0.48**	0.30**
Social (s)	0.29**	-0.21**	0.57**	0.49**	0.44**	1	0.29*	0.43**	-0.08
Understanding (o)	0.01	0.02	0.55**	0.74**	0.69**	0.48**	1	0.50**	0.21
Enhancement (s)	0.26**	-0.23**	0.75**	0.62**	0.59**	0.63**	0.71**	1	-0.02
Wellbeing	-0.29**	0.26**	-0.15*	0.10	0.03	-0.12	0.10	-0.05	1

Note. Top half of table (white) represents Volunteering students results; Bottom half (grey) represents Non-Volunteering students

results. * $p < 0.05$; ** $p < 0.01$. PTM = Prosocial Tendencies Measure. VFI = Volunteering Functions Inventory. PWB = Psychological

Wellbeing Scale. $N_{novol} = 185$ (PTM), 190 (VFI, PWB). $N_{vol} = 78$ (PTM), 80 (VFI, PWB).

Finally, we conducted a multiple regression analysis to test the predictive effect of prosocial tendencies and volunteering motivations on wellbeing. We included current volunteering status and gender to ensure that any variation was accounted for in our model and to ensure that hypotheses 3 and 4 were addressed. Understanding motives and career motives were both significantly positively correlated, and the strength of this relationship was large. These two variables appeared to overlap in terms of variance, suggesting they were multicollinear. Tolerance and VIF scores were within an acceptable range, but inclusion of these variables influenced each other's regression beta values. Understanding and career motives are typically viewed as separate constructs, but scale items from understanding and career appear conceptually similar, both capturing students drives towards knowledge acquisition and career skills (e.g., career: "Volunteering will help me to succeed in my chosen profession"; understanding: "Volunteering lets me learn things through direct, hands-on experience").

To best assess model fit, we ran the full model, with understanding/career alternatively excluded, and with understanding and career summed. Each regression model consistently found that the variables included statistically predicted wellbeing scores $F(9, 252) = 4.33, p < 0.001, R^2 = 0.134$ (see Table 2). Only altruism, protective, and career were significant. Altruism (measured by the PTM) and protective (a volunteering function variable) were consistent significant predictors of wellbeing in each model tested. Results for altruism and protective variables are presented based on model 3 (summed understanding and career), the model of best fit. Altruism was a positive predictor of wellbeing. Protective was a significant negative predictor of wellbeing (Table 2). When understanding was removed, career motives were a significant positive predictor of wellbeing. Understanding alone bordered the cut-off for significance but did not meet the threshold for statistical significance. Both variables summed created a variable that

positively predicted wellbeing and best improved model fit accounting for 13.4% of the variance. Our models indicated no effect of volunteering status and or gender at predicting wellbeing in our sample.

Table 2

Linear regression model predicting wellbeing using prosocial tendencies and volunteering motives

		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>CI</i>
	Gender	1.89	3.38	0.04	0.56	0.58	-4.77; 8.55
	Volunteer Status	2.21	3.00	0.04	0.74	0.46	-3.70; 8.13
PTM	Public	-0.58	0.57	-0.09	-1.02	0.31	-1.70; 0.54
	Altruism	1.07	0.53	0.18	2.03	0.04 *	0.03; 2.10
VFI	Protection	-5.99	2.46	-0.22	-2.44	0.02 *	-10.83; -1.15
	Values	0.23	2.67	0.01	0.08	0.93	-5.04; 5.49
	Social	-1.86	2.23	-0.06	-0.84	0.41	-6.24; 2.53
	Enhancement	1.72	2.88	0.06	0.60	0.55	-3.96; 7.4
	Understanding and Career	3.39	1.38	0.22	2.46	0.02 *	0.67; 6.11

Note. $F(9, 252) = 4.33, p < 0.001, R^2 = 0.134$). PTM = Prosocial Tendencies Measure; VFI =

Volunteering Functions Inventory. Volunteering status either volunteering or non-volunteer.

Understanding and Career variable summed. Wellbeing outcome assessed using Ryff's wellbeing scale total score. * $p < .05$.

Discussion

This study is one of the first to examine the relationship between other-oriented and self-oriented volunteering motivations, and the impact of self-other drives on students' wellbeing. Previous research established the connection between volunteering motivations, including other-oriented, e.g., values or altruism, on elements of wellbeing, demonstrating that other-orientation predicts broader wellbeing among volunteers (see Stukas et al., 2016). Our study appears consistent with these findings but expands our knowledge of motivations by also including

motives and tendencies enacted for personal benefit or status, which are important psychological dispositions that influence how and why people help (Carlo et al., 2005). Our study also identified the unique importance of career motivations, which appear positively connected to wellbeing.

Students who endorse more altruistic prosocial tendencies are generally motivated to volunteer as an expression of their values (Stukas et al., 2014) and, according to our data, less likely to endorse self-oriented motivations and report positive psychological wellbeing. Whereas students who endorse public prosocial tendencies (for praise/recognition; Carlo et al., 2005) or more self-oriented motivations like protective, are more likely to volunteer to assuage guilt or reduce their own discomfort to boost their esteem or enhance their status. However, consistent with our hypothesis, students higher in public prosocial tendencies experience lower wellbeing.

Wellbeing is believed to be an important mechanism for internalizing volunteering behaviours, i.e., role identity as a volunteer, leading to the positive benefits of volunteering (Finkelstein et al., 2005; Nelson et al., 2016). In our study, we found that self-motives such as protective (to assuage guilt) were associated with public prosocial tendencies (status seeking), consistent with our predictions about these two constructs, and both were associated with lower wellbeing. Protective motivations, specifically, was a negative predictor of wellbeing, meaning that higher protective scores indicated lower wellbeing. Protective motivations are based on a desire to alleviate personal distress or guilt through helping others, therefore reports of lower wellbeing are consistent with this conceptualization.

The connection between career motives, protection motives, and wellbeing are consistent with our expectations and further highlight that some students are prone to help others to benefit their career or to alleviate their own feelings of guilt or distress. Unfortunately, the structure of

our study does not allow us to assess the causal impact of self-oriented motives and public prosociality on negative wellbeing, but our data suggests that intentions to volunteer for status, gain, or for relief of negative affective states are not conducive to positive wellbeing – adding to our knowledge of volunteering attitudes and building on the results of Nelson et al.'s (2016) study on volunteering and flourishing.

The impact of career motivations to predict wellbeing in our sample, conceptually, provides an interesting perspective on the changing role of motives and tendencies based on developmental milestones (i.e., entering young adulthood) and current life stages or circumstances (i.e., student seeking job experience). Our study demonstrated a positive connection between career and wellbeing, despite careers' status as a self-oriented variable. Furthermore, the career function was positively associated with understanding function (volunteering to gain knowledge) and both summed predicted wellbeing outcomes. Career as a positive predictor of wellbeing among students would be consistent with Carlo et al.'s, (2003) claim that prosocial moral reasoning is connected to human development, as well as Dury et al.'s (2015) findings of changing career motives among older retired adults. This is also likely the case for the understanding motive, which at an item level captures the overall goal of attending post-secondary – to expand one's worldview and gain knowledge or understanding (Stukas et al., 2016).

The connection between understanding and career functions on wellbeing make sense when considered in the context of Ryff's wellbeing scale, which includes elements like purpose and personal growth – two elements that conceptually fit with items measuring career and understanding. It is reasonable to expect that this finding is a unique characteristic of our student sample, where career motivations and a desire to learn appear to be higher than non-student

populations (Gage & Thapa, 2012; Smith et al., 2010) and suggest that participant development and characteristics should be accounted for when measuring prosocial behaviour and motivations to volunteer. Furthermore, lower wellbeing is identified as a negative predictor of academic achievement (Bücker et al., 2018). Some research also suggests that distress is a barrier to prosocial behaviour (Carlo et al., 1999). It is possible that students in our sample with lower wellbeing are not focused on career or understanding motives because they are occupied with stress or depressive symptoms common among students over the academic semester (making career/understanding goals less of a priority; Barker et al., 2018).

The underlying reason for volunteering or helping others can shift depending on a person's development, life stage, and their current work/school status (Carlo et al., 2005; Gage & Thapa, 2012). Volunteering motivations conceptualized in the volunteering functions inventory (VFI; Clary et al., 1998) were created to assess broad motivations and is a frequently used measure. However, the VFI does not necessarily account for differences between groups or cohorts of volunteers (Brayley et al., 2014). The most commonly endorsed motivation is values (volunteering to fulfill an innate need or desire to help others) and is the most clearly associated with volunteering across samples and groups (Brayley et al., 2014; Moore et al., 2014).

Our results did not suggest differences between volunteers and non-volunteers on outcome measures. This null finding is surprising given previous research demonstrating that volunteers are typically higher on other-oriented motivations and positive wellbeing. However, certain correlations were present for volunteers but absent among non-volunteers (and vice-versa) when visually examining on our correlation analysis. It is possible that given the episodic nature of volunteering characteristic of young adults (Smith et al., 2010) and that so many in our sample have recent/substantive volunteer experience, that many are only temporarily not

volunteering (especially considering they were sampled during the academic semester and assuming many were busy studying). It is also possible that the student experience could provide other routes for students to increase or decrease wellbeing, for example, increasing by providing a sense of purpose or mastery (submitting papers or completing courses) and decreasing through increased stress and lack of sleep. The effect of school attendance could increase variability among our sample, especially given students were recruited throughout the semester.

The inclusion of non-volunteering students raises an interesting question about how non-volunteering students answered questionnaires compared to volunteers. It is possible that non-volunteering students answered different or at least interpreted the questionnaires differently, specifically about motivations since the prosocial tendencies measure is about help more generally. Motives to volunteer could differ whether one is volunteering, however, our data found no differences between volunteers and non-volunteers. This suggests that non-volunteers report motives that are somewhat consistent despite not engaging in any community service at the time they were assessed. One interesting result is the lack of correlation between career and wellbeing among non-volunteers, which could suggest other factors not identified influencing the connection between non-volunteers' motives and wellbeing. Additional research is required.

Our data highlighted minor gender differences in terms of the relationships between prosocial tendencies and volunteering motivations. Our findings suggest men underreport motivations or are less motivated to volunteer compared to women. This is consistent with previous studies using the prosocial tendencies measure and volunteering functions inventory (Carlo et al., 2003; Stukas et al., 2014). Woman reported higher scores on all items except for public prosocial tendencies (men scored higher), a finding consistent with previous volunteering

functions research (Chacón et al., 2017; Fletcher & Major, 2004) and prosocial tendencies research (Xiao et al., 2019).

This study demonstrates the complexity underlying prosocial and volunteering motivations leading to volunteering action. Many students endorse functions that are not purely altruistic, or value driven when engaging in community service. For some, humanitarian concerns or altruistic principles may play less of a role early in the volunteering process, but instead by more self-focused reasons, such as advancing their career, earning recognition, and assuaging internal guilt. Therefore, students may be less motivated initially by values until they have a chance to act and reflect on those values. This study was cross-sectional study so we were unable to examine how the relationship between prosocial orientations and volunteering functions changes for volunteers, but previous research suggests we should expect that the act of volunteering (when aligned with student's functional drives) to lead to stronger altruistic values.

Limitations

Our sample size consisted primarily of undergraduate students most of whom were participating in primarily introductory psychology courses. Our study was open to any student regardless of their volunteer status. Most students reported past volunteering experiences, however only 30% of our sample reported currently volunteering. We intended to expand our recruitment to other volunteers, including students participating in the university service-learning program, however the COVID-19 pandemic prevented us from collecting this data given the university shut-down and the fact that most volunteer activities ceased for most of the pandemic response. This provided us with an interesting opportunity to examine non-volunteers and volunteers but limited our ability to conduct more in-depth analysis of the how prosocial

tendencies and motivations influence types of volunteering, work conducted volunteering, and to compare volunteering groups (e.g., service-learners).

Differences found in our study could be influenced by the volunteer experience itself, meaning that students who are volunteering may have different perspectives or motive attributions while currently volunteering (the reality could seem more like work and less an expression of values). These attributions could reflect current wellbeing states (negative wellbeing leading to a desire for recognition or acute guilt over lack of action) and values could reflect students' belief about why they should volunteer. It is also possible that among volunteers, value motives or even self-oriented enhancement motives become less salient once the drive is fulfilled, however, this issue is beyond the scope of the current study. Though it is possible that differences between groups could reflect how students interpreted questions with or without current volunteering experience to guide their responses, which future research should attempt to address further.

Conclusion

Our results provide important contextual information about who volunteers and why. Traditional views of volunteering tend to emphasize the altruistic elements of community service; however, our study identifies how different motivations, some more "selfish" in nature, can still predict positive wellbeing, in this case career, among university students. This is necessary information for administrators and instructors seeking to increase participation in community service by emphasizing opportunities that align with students sense of altruism or career goals, and even to alleviate guilt. When tendencies and motives are out of alignment, for example some mandatory volunteering programs lead to adverse effects on some highly prosocial students (removing agency; Stukas et al., 1999), this produces a system that does not

foster long term commitments to prosocial action (a goal of many programs; Janoski et al., 1998). If programs are better attuned to student's underlying drives, then prosocial behaviours are more likely to become internalized and a sense of altruism or values take hold, increasing the likelihood of volunteering action in the future (Finkelstein & Brannick, 2007).

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Chapter 5
General Discussion

Summary and Main Findings

Overall, I aimed, with this thesis, to assess university students who participated in *volunteering* and *service-learning*, comparing these students to *non-volunteering* students. My research examined the characteristics of students by their form of participation and the impacts of volunteering on psychological, prosocial, and motivational outcomes. My thesis is comprised of three research chapters based on two studies conducted over a four-year period at the University of Ottawa. The first study provided the data for Chapters 2 and 3 and included students who enrolled in service-learning at the University of Ottawa. The second study, outlined in Chapter 4, was originally intended to expand on the questions and issues raised in Chapters 2 and 3, including a focus on motivations for volunteering and the relationship between motives, prosocial orientation, and wellbeing. However, the onset of the COVID-19 pandemic meant I was unable to recruit (and test) service-learners more broadly (discussed in detail below), limiting recruitment to volunteers/non-volunteers. Despite this set back, I identified several novel findings, with implications both theoretical and practical, some of which were not apparent when I initially submitted my research plan as a proposal.

My research initially started with a narrow focus on the service-learning program at the University of Ottawa. The overarching goal being to address issues apparent in the service-learning research literature (outlined in the introduction, i.e., lack of comparison groups, validated measures, self-selection; see Hart et al., 2014; van Goethem 2014). Specifically, I aimed to determine similarities and differences between service-learners, volunteers, and non-volunteering students. This began by focusing on students enrolled in developmental psychology courses (as reported in Chapter 2 and Chapter 3). Chapter 2 presented data comparing volunteers (VOL), non-volunteers (NOVOL), and service-learners with other volunteering engagement

(SLVOL). I identified a fourth group of service-learners with no volunteer engagement (SLNOVOL) distinct from the three other groups. VOL and SLVOL students reported the highest GPAs, desire for personal growth, and demonstrated higher levels of empathy compared to NOVOL and SLNOVOL. The results suggest that many students in service-learning are higher achieving, more prosocial, and more engaged based on the degree that they volunteer, especially in comparison to less engaged service-learners (SLNOVOL).

Chapter 3 expanded on Chapter 2 by focusing on change over the semester within and between 4 identified volunteering groups. The main goal of Chapter 3 was to examine the impact of service-learning, volunteering, and non-volunteering experiences of students over the semester on psychological, prosocial, and academic outcomes. Overall, the results identified academic, prosocial, and empathic differences between student volunteers (identical to the results in Chapter 2), but almost no change over the semester between or within groups. SLNOVOL volunteers reported decreased perspective taking, while SLNOVOL and VOL reported decreased anonymous prosocial attitudes over the semester and compared to NOVOL.

Chapter 4 examined the relationship between other-oriented and self-oriented volunteering motivations, and the effect of self-other drives on wellbeing. Participants were recruited more broadly from the universities on-line research recruitment system. In Chapter 4, I presented results that support past findings and demonstrated other-oriented motives predicting positive wellbeing. Although, certain self-oriented motives (e.g., understanding; career) demonstrated similar positive benefits to wellbeing (which was unexpected). This contrasted with additional self-oriented motives (e.g., protective), which were negatively associated with wellbeing in line with previous research that demonstrated the lack of psychological benefit associated with certain motives (Stukas et al., 2016). The results of Chapter 4 are consistent with

findings demonstrating other-oriented motives predicted positive wellbeing among volunteers (see Stukas et al., 2016), but Chapter 4 is novel in that the study included public prosocial tendencies, which are psychological dispositions that influence helping behaviour (Carlo et al., 2005). Students in the study appeared less likely to endorse certain self-oriented motivations and report positive psychological wellbeing, while students who endorse public prosocial tendencies (for praise/recognition; Carlo et al., 2005) or protective and enhancement motives reported lower wellbeing. These unique findings are discussed in below in the context of moral personality development.

Theoretical Implications

Conceptualization of the Volunteer Experience. The findings presented in this thesis generally support traditional conceptions of both volunteers and service-learners as highly engaged prosocial students. As in prior research, service-learners, specifically SLVOL from Chapter 2 and 3, had, in general, more prosocial characteristics, and were more engaged academically (Bowman et al., 2010; Warren, 2012). Also supporting at least some prior research outlined in the general introduction and noted in Chapter 2, these service-learners did not differ greatly from engaged volunteers and did not seem to change over and above volunteers, at least over a semester (Chapter 3).

The conceptualization of service-learners as uniformly engaged and prosocial misses another smaller and differently motivated group of service-learners (SLNOVOL). The most prominent novel finding of this thesis (outlined in detail in Chapter 2) is not so much an issue of statistical significance, but one of categorization. As part of this study, students were asked to self-identify as volunteers, service-learners, or both. Many students in Chapter 2 enrolled in service-learning while also volunteering, compared to a smaller group of students who only

participated in service-learning. These service-learning (SLNOVOL) students have yet to be identified in the research literature. This is novel because previous research did not make this distinction between volunteer status groups and generally does not use comparison groups. For example, Thomas et al., (2021) conducted a study on service-learning that only included participants who were identified as exemplars in their school community and these students were provided with placements that were intentionally challenging. Meyer et al., (2019) required participants apply for the specific course offering service-learning and ended up recruiting higher achieving prosocial students. Chang et al., (2014) studied medical students on a voluntary weeklong trip to a border town in the United States with Mexico. However, no comparison was provided, and only self-ratings of knowledge or change were assessed. The three above mentioned studies are illustrative of the issues present in the research and provide a contrast to the findings of this thesis. Namely, that many students participate in service-learning because they are highly prosocial and engaged students, while others do so with less engagement and as relative novices in terms of volunteering.

SLNOVOL students reported lower scores on academic, psychological, and prosocial development, including academic achievement and empathic traits, but endorsed higher levels of fulfilling personal relationships, and personal growth. Yet, despite these low scores, SLNOVOL students still participated in service-learning, suggesting that reasons of self-selection cannot fully account for why students elect to participate in service-learning. Less engaged SLNOVOL students also demonstrated quantitative differences from other groups in the sample, generally characterized by lower scores on empathy, the lowest scores on GPA, lower wellbeing, and age first volunteered older than other groups (NOVOL, VOL, SLNOVOL). Differences were not as prominent as expected, but interesting none-the-less because the how service-learning is

typically branded as a transformative pedagogical strategy (Butin, 2010). Service-learning is promoted by some as a radical program of transformation and by others a high impact pedagogical practice (Kuh et al., 2008), one where students who enter leave changed as more engaged students, more community oriented, and advocates of justice (Gutierrez et al., 2012). The presence of highly engaged and more novice volunteers in this sample suggests the role of service-learning is far more individualist and contextual than previously suggested. Service-learners, by and large, are not inexperienced volunteers, but predominantly highly prosocial and driven students seeking out additional experiences. Therefore, how big of an effect can this program have on the stated goals of fostering prosocial identity and connection with their community when most students appear already connected. This is speculation based on the results, meaning that some students in the SLVOL group may have had experiences that were radical and transformative and the reflection component specific to service-learning may have done more to internalize ideas of service compared to other experiences.

One explanation that could account for the presence of these two service-learning groups is that for some students, service-learning is a “low-cost” prosocial option, which attracted those who exhibit lower moral personality. Moral personality, linked with prosocial action, overlaps with many of the concepts outlined in this thesis document. Moral personality and identity are intertwined, characterized by sympathy for others, self-regulation, and values (Padilla-Walker & Fraser, 2014). Moral personality leads to helping others in a variety of ways but depends on the interaction between a person’s moral identity and whether the action is high-cost or low-cost in terms of time, commitment, and outcomes. SLNOVOL may be lower on moral identity as indicated by their lower scores on empathy compared to SLVOL and VOL students. For these students, service-learning may appear as a low-cost prosocial option due to its lower barrier to

entry, such as already being enrolled in the course, institutional support to find and facilitate volunteer placements, and commitments of only 5 hours per week during the semester.

Volunteering in general is considered a high-cost action because of the time commitments, work to find placement, and effort involved (Padilla-Walker & Fraser, 2014). The CSLP (Community Service-Learning Program) at the university helps reduce barriers to entry potentially making service-learning a low-cost option in the eyes of students who have not developed a more integrated moral identity, thus attracting more novice service-learners.

Chapter 4 presents a unique view of prosocial behaviour, tied to volunteering motivations, with a specific focus on self-and-other oriented attitudes. Chapter 4 was conducted broadly among students enrolled in courses where ISPR participation is required. We intended to recruit service-learning students at the University of Ottawa in partnership with the CSLP (who agreed to solicit student participation among their currently engaged service-learners). However, the COVID-19 pandemic forced us to abandon this plan because of provincial lockdown measures that effectively ended volunteering for at least several months.

The results of Chapter 4 suggest, at least in one reading of the findings, that self-oriented attitudes and motives are associated with lower well-being. Stated simply, “selfish” motives, in this case career and understanding, are associated with positive well-being for students. These two constructs would typically be branded as self-interest but represent an important driver for student volunteering and a contribution to positive wellbeing. What emerged from the data in study 4 is that some self-oriented prosocial behaviours and motivations are not inherently selfish, nor is the view that other-oriented actions are solely altruistic given that students endorse multiple (in some ways competing) motivations for their prosocial actions. This is a relevant issue because volunteering for self-oriented motives, while still a prosocial act, may not lead to

the same internalization as doing so for other-oriented reasons if associated with low-wellbeing. Self-focused motives/orientations in Chapter 4 were otherwise associated with lower well-being, such as protective motives and public orientation. In contrast, other-oriented motives and prosocial altruistic attitudes were associated positive well-being. Low well-being is typically counter indicative of prosocial behaviours including helping others (Thoits & Hewitt, 2001) and does not appear to be a pathway to “flourishing” associated with a prosocial internalized identity (Nelson et al., 2016). Volunteering to alleviate guilt, characteristic of the protective function, is one motive that is consistently associated with lower-wellbeing here and in other research (e.g., Chacón et al., 2017). Helping others to reduce guilt or negative feelings towards the self does not reduce wellbeing and therefore could act as a barrier to future or consistent volunteering that would be present more consistently among other-oriented volunteers. Overall, these findings are consistent with functional theories of volunteering where specific drives or motives lead to positive psychological outcomes and greater volunteering behaviour, but also suggests that social practice theory (i.e., volunteering experiences beget more volunteering) does not fully account for the process of internalized volunteer values, accounting mostly for experiences driven by other-oriented drives.

I have outlined the argument for why we could expect that self-oriented motives do not produce the same positive prosocial and psychological outcomes as other-oriented motives. However, this assumes that self-oriented motives are all the same, somehow inferior, are less desirable, and simply “selfish”. Often this view is presented in contrast to other-oriented motives which are seen as altruistic or moral. The issue with this view is best summarized by Walker (2014): “when moral concerns are central to identity and motivation, then the pursuit of those moral concerns becomes essential to the self and is thereby self-enhancing” (p. 514). From this

view, conceptualizing motives as altruistic or selfish is a false dichotomy because pursuing prosocial action to satisfy any need becomes selfish and the positive wellbeing one gets does not increase the moral value of an action. Moral identity research provides a useful frame for conceptualizing the connection between these two conflicting motives: agency (self-interest) and communion (other-interested or relatedness). Moral development occurs through the integration within a person of agency in service of communion with or for others, meaning actions are taken so that individuals are better able to help others, a concept termed enlightened self-interest (Walker, 2014). From this view, self-oriented actions (done out of self-interest) that leads to helping others (despite helping oneself) are a necessary part of moral development.

Most university students reflect a unique developmental period (Arnett, 2016) and, in Chapter 4, students demonstrated a unique combination of what Walker (2014) would term self-interest. Career motives, other-oriented motives and orientations (e.g., values, altruism), and a mix of both (e.g., understanding) are all linked to positive wellbeing. This finding suggests that certain motives are contextual (in this case university students) and serve as a positive predictor of wellbeing, which can lead to greater flourishing based on these experiences. In short, the distinction between self-other motives is not, based on this data and this population of study, useful.

The data from Chapter 4 and the results outlined from other studies are not definitive and the conclusions drawn are somewhat circumstantial. The direction and relationship between self-oriented and lower wellbeing scores fit with expected results and literature. Unfortunately, the pandemic meant that I could not collect longitudinal data to assess the causal impact of self-oriented motives and public prosociality on negative well-being. Other studies suggest that lower well-being, lower self-esteem, and increased stress are all negative predictors of student

volunteering (Carlo et al., 1999; Handy & Cnaan, 2007). My assumption is that the connection between negative well-being and self-oriented motives or attitudes could represent a barrier to action and continued fostering of prosocial identity, thus working against the goals of service-learning programs.

Impact of Service-Learning and Volunteering. The results of Chapter 3, surprisingly, suggest no significant changes or impacts of volunteering over the semester among any of the volunteering status groups, including service-learners. It is very possible the “dose” of service-learning was not enough, i.e., students could require more intensive volunteering experiences, where service-learning students were only required to volunteer 5 hours per week up to a maximum of 30 hours for the semester. Volunteers (VOL) and volunteering service-learners (SLVOL) reported the highest average hours volunteered each week, which speaks to their level of prosocial engagement and service-learning only (SLNOVOL) students reported the lowest – important to note that these differences were not significant due to significant variability among volunteers. No study to date has assessed whether service-learning or volunteering requires a certain number of hours before effects are demonstrated. Although several studies have demonstrated that prosocial motivations and intentions to volunteer predict time spent volunteering (greater intention/motives leads to more hours spent volunteering; Greenslade & White, 2005; Penner, 2002). This relationship appears reciprocal (Dury et al., 2015; Janoski et al., 1998), which could mean that the dose of service-learning is not enough to effect identity change or increase values as a volunteer. Three months, therefore, could be too short a time to expect that changes to role identity, traits, and prosocial attitudes would be enough to be captured by outcome measures. For example, Bowman et al. (2010) measured change after over a decade post-graduation and found significant influences (that study also had a larger sample

size). The experiences volunteering likely require additional experiences and more time for students to reflect and internalize these experiences into newer more prosocial identities (Finkelstein & Brannick, 2007).

The lack of significant change in Chapter 3 also speaks to the complexity of assessing the impact of volunteering or service-learning among students, given the large number of factors involved (e.g., personal, psychological, institutional). These factors all influence a student's decision to volunteer, their time commitments, in addition to school obligations. Service-learning specifically tends to demonstrate small effects due to the abundance of confounding factors (see Warren 2012; Yorio & Ye, 2012), meaning that measures or experiences themselves were not enough to capture change or perhaps other variables are more salient to students (e.g., career benefits).

The few effects over time found in Chapter 3 could be a result of regression towards the mean or even type 1 error (which will be discussed in the limitations). Another interpretation is that service-learning and volunteering may not provide meaningful change as described by proponents of these programs (see Butin, 2010), nor within such a short assessment period. As mentioned in the introduction, service-learning research tends to suffer from methodological issues (e.g., lack of pre- and post- testing, representative recruitment, or validated measures; van Goethem et al., 2014), therefore, it is difficult to contextualize the results of Chapter 3 against such data. The results cast doubt on the positive or transformative benefits that proponents of service-learning suggest, but due to the short assessment period and incongruent results caution should be used when interpreting these results.

Institutional Characteristics and Taking Part. The issue of sampling and institutional factors speaks to key issues raised by Brandenberger (1998), who questioned how students'

characteristics interplay with their institutions. The institution is more relevant than ever as a vehicle for the promotion of prosocial and volunteering behaviour through service-learning programs (Putnam & others, 2000; Warren, 2012). I have argued that many studies have treated students as a homogenous group, specifically within service-learning programs. However, the institutional structure and goals of service-learning lead to samples that overrepresent prosocially engaged students. This likely reduces the apparent impact of volunteering, which is a possible explanation for Chapter 3. Students who are less engaged or established as volunteers are, thereby, missing from the discussion of service-learning. There is considerable variability among students, despite other seemingly homogenous aspects, on prosocial attitudes and psychological characteristics. Better understanding the needs and characteristics of students who serve (or who opt out) will help researchers and administrators better target students seeking these opportunities (even if they are less inclined to volunteer). This will reduce barriers to entry for students who are considering serving in their community and allow universities to better structure volunteering programs ensuring positive, prosocial effects from community service.

The above paragraph discussed the institutions effect on the student; however, the institution also influences how and what research can be done. In other words, the method in which service-learning (or volunteering programs) are offered will influence how researchers can assess program impacts. For example, randomized control trials (e.g., Leung et al., 2012) are a possibility when students are assigned service or volunteering (i.e., Figures 1b and 1c), but implementing mandatory volunteering or service at a service-optional institution would require a major shift in institutional structure. In contrast, institutions offering optional service-learning create a unique opportunity for researchers, namely, to examine service-learners with different experiences compared to volunteering or among students who are non-volunteers (see Gutierrez

et al., 2012; Meyer et al., 2019). Furthermore, optional programs can lead to issues with self-selection, if there is a barrier to entry, e.g., application process, expense, or time commitment (see Gutierrez et al., 2012), whereas optional programs with lower entry barriers or additional institutional support may attract less engaged students (as found in Chapter 2) who might otherwise not participate.

The institution-research practice link was a factor underlying certain research decisions for my dissertation. The research ethics board placed limits on academic data we could collect, namely objective grades for the course rather than self-reports of students' GPA. As a result, my data could not be connected to students' performance in the course and could not account for recent changes or for more rigorous assessment of students' academic performance by volunteering status. This is one example of the overlooked role of institutions effecting service-learning and volunteering programs.

I have also outlined issues with research methods and practices that suggest issues with assumptions made by proponents of service-learning (see Chapter 1: General Introduction). There are many reasons that could account for the lack of significant effects reported in Chapter's 2 and 3, but none are meant to suggest that service-learning is ineffective. Service-learning is a valuable program with a goal of expanding the classroom, challenge students, and provide real world experience. I will echo Butin's (2010) critique here, despite my profound disagreement with his characterization of quantitative methods. The full effect of service-learning (and volunteering experiences more generally) cannot be fully captured by numbers, surveys, and numerical data. The experiences of students in the course and in their community likely goes beyond the surveys they completed. In this sense, Butin's critique holds merit. Furthermore, the fact that so many students volunteer, and in many cases volunteer for multiple

organizations, demonstrates the importance of these opportunities for students. Had this dissertation included qualitative methods, I expect that the impact of volunteering or service-learning experiences would be prominent in the responses provided by students. Students, based on their participation rates are seeking out ways to challenge themselves, enact their values (whether prosocial or career focused), and try new experiences (for the novice volunteers). Just because it is difficult or quantify or capture fully students' experiences serving others is not an argument against the validity of quantitative methods. The results of Chapter 2 and 3 reinforce the complexity of student experiences volunteering and the lack of findings could suggest that benefits touted for service-learning and volunteering are not as clear cut as some proponent's state. Furthermore, the context of student participation and their experiences are required to better understand the determinants and impacts of volunteering behaviour.

Practical Implications

Volunteer and Service-learning Recruitment. This section will attempt to integrate some of the broader issues raised in the introduction, such as volunteer participation, recruitment, and promotion, with the results presented in each study (e.g., self-selection issues and non-volunteering service-learners). The identification of a new, less engaged, or prosocial group of student volunteers (SLNOVOL) has important implications for volunteer recruiters and service-learning program administrators. This group differs from the larger and more prosocial group of highly engaged students, who are generally the focus of recruitment. SLNOVOL students appear to have less volunteering experience, lower scores on academics, but higher in personal relationships. Unfortunately, I was unable to assess motivations among this group of students as part of Chapter 4. However, it appears that this new group is, though smaller, a still substantial proportion of student volunteers. Little is known about this group and administrators should

consider the unique needs and motivations that would better support or encourage SLNOVOL students to participate in community service. This group could benefit from more intensive recruitment efforts that promote the benefits of volunteering, but also emphasize the lower entry barriers or cost to participation. The typical service-learner is highly engaged and prosocial, therefore, would be likely to seek out service-learning or volunteering opportunities in general. Administrators may be required to shift or focus more efforts if they wish to expand recruitment to students who will benefit from these experiences the most.

Promoting Prosocial Behaviour and Volunteering Action. This thesis provides several novel findings that can better inform researchers and service-learning administrators seeking to increase participation in the community and improve efforts to foster prosocial attitudes by focusing on differing student motivations, accounting for novice volunteers, and self-selection effects of the highly prosocial and motivated students. One key implication of the findings presented above, is that university students present unique and cohort specific motivations/desires to engage in volunteering or participating in service-learning. This cohort effect means that student volunteers differ compared to older adults on motivations, prosocial action, and even determinants of well-being. For example, volunteering tends to increase among parents whose children attend school and again once older adults retire. The motivations to engage in these actions differ, meaning that values or a desire to help others may be more prevalent (Okun & Schultz, 2003; Turcotte, 2015), whereas among student's career ambitions or increasing their knowledge of the world is a primary motivation. Most university students enter a unique developmental period that is impactful on student development (Arnett, 2016), despite engaging in volunteering for less altruistic reasons. Chapter 4 pushes against assumptions in the literature that volunteering as a moral prosocial action solely intended to help others. Service-

learning programs promote this ideal explicitly and the goal underlying these programs is to foster a long-standing commitment to civic engagement, justice, and community service (Butin, 2010). However, the data presented above suggest that this is an overly idealized view of student volunteering.

Furthermore, Chapter 4 identified the unique role of career motivations to predict wellbeing in that is specific to the student sample. This provides a more complicated view on the connection between motives and tendencies based on developmental factors (i.e., entering young adulthood) and experiences unique to being a student (i.e., seeking career experience or entry into a career). Chapter 4 identified a positive connection between career and wellbeing, despite the self-oriented categorization of career motives. Career motives were also associated with understanding motives (volunteering to gain knowledge). The results suggest that student motives to volunteer, career aspirations and a desire to learn, are higher than non-student populations (Gage & Thapa, 2012; Smith et al., 2010), a cohort effect that researchers should account for when testing the prosocial and motivational predictors of volunteering behaviour. The findings presented in the Chapter 4 support Arnett's conceptualization of university students as emerging adults, who's goal of attending post-secondary is to expand one's worldview and gain knowledge or understanding (Arnett 2016).

Student volunteering programs need to account for the variability in students' attitudes and motives, to ensure that volunteering experiences are aligned with functions. When attitudes and motives are out of alignment, in the case of mandatory volunteering programs, a contrary effect occurs that diminishes the likelihood of future volunteering even among the highly prosocial students (Stukas et al., 1999). A system not aligned and that fails to consider the unique individual characteristics of student volunteers runs the risk of failing to foster prosocial action.

If programs are better attuned to students drives, then prosocial attitudes are more likely to become internalized and that prosocial value more likely to be acted upon in the future (Finkelstein & Brannick, 2007), ensuring students the best opportunity to become engaged in their community.

Limitations

There are several important limitations to note for Chapter 2 and 3 (Chapter 4 discussed below). The sample in Chapter 2 and 3 contained a relatively small number of SLNOVOL participants compared to other groups, reducing power in my analysis. Recruitment for Chapters 2 and 3 were limited to developmental psychology courses, rather than the service-learning program more generally or even other service-learning courses (although, service-learners came a variety of disciplines other than psychology in this study). Finally, the study did not include volunteering motivations measures.

The change in provincial government and subsequent policy changes aiming to promote the economic benefits and impacts of volunteering, rather than a focus on values/justice, led to a change in operation focus for the CSLP at the University. This institutional and culture change undoubtedly had an impact on student who volunteers, their motivations, and perceived effects. As a result, my data may not be directly comparable to future research on this topic and could negatively impact the consistency or findings of the data. This issue primarily impacted Chapter 4 study data, in addition to the generalizability of the entire dissertation.

Limitations for Chapter 4 include standard issues pertaining to the participant sample, which consisted of undergraduate students in introductory psychology courses. However, participation in the study was open to any student regardless of their volunteer status. Most

students reported past volunteering experiences, however only 30% of the sample reported currently volunteering.

The lack of granular information about students' past volunteering experience is an important limitation for all chapters in this thesis. Students provided information on their early volunteer experiences, if they volunteered in high school, but not detailed information about their more recent experiences volunteering (e.g., frequency, hours, type of service), nor did students provide information on short-term vs. long-term commitments. Students also were not asked to provide data on their experiences of volunteer experiences during the study period, which, in previous research accounted for differences in outcomes, including prosocial change (Horn, 2012). Future research should consider assessing past experiences volunteering leading up to the study period. This would provide more nuanced data on seemingly less engaged volunteers, as well as data on the frequency or duration of student volunteering or service-learning. Furthermore, student experiences volunteering is an important dimension that is believed to drive change, especially within the service-learning literature (e.g., Chapman & Morley, 1999). In the sample, it is unknown if student experiences challenged their worldview or advanced their knowledge sufficiently to produce change. For example, engaging in volunteer research or data entry at an organization would likely provide a different, less identity challenging experience than volunteering in situations where students are confronted with new or novel challenges (e.g., poverty, health, and marginalization).

Future Directions

The identification of a new and novel group of service-learners in Chapter 2 (SLNOVOL) requires replication and further study. This group appears to be less prosocial, academic, and volunteer less compared to other service-learners in the study. Service-learning

programs and volunteering research would benefit from a deeper focus on SLNOVOL students, including a greater history of their volunteering experiences, motivations to volunteer, and experiences volunteering through service-learning. Future research should include qualitative data methods to better capture students' description of their experiences and the presence of similar themes in their narratives.

One key message for researchers is that service-learning as a strategy to enhance prosocial behaviours cannot be viewed in isolation from the broader social, institutional, and even policy decisions that influence how students participate in their community. The differential effects of service-learning will depend on the structure of service-learning offered. Future research looking at these programs and volunteering generally need to account for students' characteristics at entry into service. This is a major gap that undermines effective research into these programs. It also limits the ability of programs to effectively target student populations. The highly engaged and prosocial students will always find ways to express their attitudes, especially through volunteering. The more novice and less engaged students require different supports and encouragement to participate, but their willingness to participate is evidenced by the smaller but not insignificant number among participants. Integrating additional theories of behaviour could help clarify the role of intentions or motivations (i.e., SDT; Bidee et al., 2013), specifically with regards to volunteering behaviors. Additionally, future research should focus on the experiences of service-learners and volunteer, i.e., whether the experience was positive or negative, on outcomes, given the literature suggesting the role of the experience itself in shaping prosocial identity.

An interesting element of this dissertation is that some of the results will not be fully replicable and will not be easily comparable by virtue of events that occurred over the period of

data collection for the two main studies. There has been a shift in policy among service-learning programs in Ontario since starting this research. At the start of this project, service-learning was promoted to help the community and included a greater focus on social justice issues. The goals were more civic minded. However, provincial education policies changed when the progressive conservative government was elected in 2018. The government mandated that university programs demonstrate an economic benefit for students. The provincial government identified several metrics to assess whether institutional effectiveness meets this goal by measuring the income of graduates, increasing experiential learning opportunities, number of students employed in their field, and institutional graduation rates. Universities were required to demonstrate adherence to the criteria, with funding tied to these outcomes (Crawley, 2019). As a result, the service-learning program at the University of Ottawa merged with other similar services and their behavioural targets shifted from more prosocial, civic, and justice oriented to more career minded. This was a change that occurred during data collection for this thesis, leading to a cultural shift influencing how volunteering or service-learning is promoted on campus. It is therefore difficult to say what the full impact is on the data and how the currently collected data will be comparable to any future data.

Furthermore, the COVID-19 pandemic forced volunteering activities to cease across the country and among students as campuses closed. Therefore, Chapter 4 was limited to only volunteers and non-volunteers, unlike Chapters 2 and 3. Volunteering has still not returned in any similar capacity at the point of submission of this dissertation. This will have broad and profound impacts on students seeking to expand their career skills, challenge themselves, and express their prosocial skills. It also means that establishing long-term volunteering patterns (a goal of service-learning and volunteering programs) will be affected by students lack of

volunteering experience (also true among high school students who are required to volunteer as part of their curriculum). As Bowman et al., (2010) identified, volunteering and service-learning in university predicts wellbeing and future volunteering behaviour among adults. It is difficult to say how pausing volunteering opportunities will impact students in the short and long-term, therefore this will remain an important consideration for researchers assessing students for many years to come.

There are pragmatic reasons for this policy and the change at the centre that go beyond this thesis. However, this change could undermine the impact and effectiveness of these programs to encourage engaged volunteering students and foster prosocial and wellbeing attitudes. By shifting to an overt focus on career motives, these policies and programs are tapping into motives that are primarily (and traditionally viewed as) self-focused, which could reduce the effectiveness through an emphasis on self-interested elements of helping others (for status, gain, and reward). Students engaged in this kind of volunteering would not typically be expected to experience increased meaning, wellbeing, and flourishing. However, the results presented above suggest that this may not be true for university students and by shifting to a focus on self-oriented motives, service-learning will attract students not typically engaged in volunteering. These issues require additional exploration and replication, including recruitment of a wider body of student volunteers. Volunteering and service-learning are largely absent from student life currently, but opportunities to serve others will return, meaning there will always be a role for students to help in their community.

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Appendix A: Assessment Measures and Characteristics by Chapter

Chapter 2/3

Construct	Subscales	Measure
Prosocial Characteristics	Perspective Taking	IRI
	Empathic Concern	IRI
	Altruism	PTM
	Anonymous	PTM
	Public	PTM
	Dire	PTM
	Emotional	PTM
	Compliant	PTM
Psychological Wellbeing	Purpose	PWB
	Positive relationships with others	PWB
	Personal growth	PWB
	Competence	PWB
	Mastery	PWB
	Self-Acceptance	PWB
Academic	Grade Point Average	GPA

Chapter 4

Prosocial Characteristics	Altruism	PTM
	Public	PTM
Motivational Characteristics	Values	VFI
	Career	VFI
	Understanding	VFI
	Protective	VFI
	Enhancement	VFI
	Social	VFI
Psychological Wellbeing	Total Score	PWB

Note. IRI = Interpersonal Reactivity Index; PTM = Prosocial Tendencies

Measure; PWB = Psychological Wellbeing Scale; VFI = Volunteering

Functions Inventory

Appendix B: Interpersonal Reactivity Index (IRI)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page:

A (DOES NOT DESCRIBES ME WELL) B- C- D- E (DESCRIBE ME VERY WELL)

1. I daydream and fantasize, with some regularity, about things that might happen to me.
2. I often have tender, concerned feelings for people less fortunate than me.
3. I sometimes find it difficult to see things from the "other guy's" point of view.
4. Sometimes I don't feel very sorry for other people when they are having problems.
5. I really get involved with the feelings of the characters in a novel.
6. In emergency situations, I feel apprehensive and ill-at-ease.
7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.
8. I try to look at everybody's side of a disagreement before I make a decision.
9. When I see someone being taken advantage of, I feel kind of protective towards them.
10. I sometimes feel helpless when I am in the middle of a very emotional situation.
11. I sometimes try to understand my friends better by imagining how things look from their perspective.
12. Becoming extremely involved in a good book or movie is somewhat rare for me.
13. When I see someone get hurt, I tend to remain calm.
14. Other people's misfortunes do not usually disturb me a great deal.
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

16. After seeing a play or movie, I have felt as though I were one of the characters.
17. Being in a tense emotional situation scares me.
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.
19. I am usually pretty effective in dealing with emergencies.
20. I am often quite touched by things that I see happen.
21. I believe that there are two sides to every question and try to look at them both.
22. I would describe myself as a pretty soft-hearted person.
23. When I watch a good movie, I can very easily put myself in the place of a leading character.
24. I tend to lose control during emergencies.
25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.
27. When I see someone who badly needs help in an emergency, I go to pieces.
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Appendix C: Prosocial Tendencies Measure (PTM)

Below are sentences that might or might not describe you. Please indicate how much each statement describes you by using the scale below.

Does Not Describe Me at All	1
Describes Me a Little	2
Somewhat Describes Me	3
Describes Me Well	4
Describes Me Greatly	5

1. I can help others best when people are watching me.
2. It makes me feel good when I can comfort someone who is very upset.
3. When other people are around, it is easier for me to help others in need.
4. I think that one of the best things about helping others is that it makes me look good.
5. I get the most out of helping others when it is done in front of other people.
6. I tend to help people who are in a real crisis or need.
7. When people ask me to help them, I don't hesitate.
8. I prefer to donate money without anyone knowing.
9. I tend to help people who are hurt badly.
10. I believe that donating goods or money works best when I get some benefit.
11. I tend to help others in need when they do not know who helped them.
12. I tend to help others especially when they are really emotional.
13. Helping others when I am being watched is when I work best.
14. It is easy for me to help others when they are in a bad situation.

15. Most of the time, I help others when they do not know who helped them.
16. I believe I should receive more rewards for the time and energy I spend on volunteer service
17. I respond to helping others best when the situation is highly emotional.
18. I never wait to help others when they ask for it.
19. I think that helping others without them knowing is the best type of situation.
20. One of the best things about doing charity work is that it looks good on my resume.
21. Emotional situations make me want to help others in need.
22. I often make donations without anyone knowing because they make me feel good.
23. I feel that if I help someone, they should help me in the future.
24. I often help even if I don't think I will get anything out of helping.
25. I usually help others when they are very upset.

Appendix D Psychological Well-Being (PWB)

The following set of statements deals with how you might feel about yourself and your life.

Please remember that there are neither right nor wrong answers. Circle the number that best describes the degree to which you agree or disagree with each statement.

(1 – Strongly Disagree; 2 – Disagree; 3 – Disagree slightly; 4- Agree Slightly; 5- Agree; 6- Strongly Agree)

1. Most people see me as loving and affectionate.
2. I am not afraid to voice my opinion, even when they are in opposition to the opinions of most people.
3. In general, I feel I am in charge of the situation in which I live.
4. I am not interested in activities that will expand my horizons.
5. I live life one day at a time and don't really think about the future.
6. When I look at the story of my life, I am pleased with how things have turned out.
7. Maintaining close relationships has been difficulty and frustrating for me.
8. My decisions are not usually influenced by what everyone else is doing.
9. The demands of everyday life often get me down.
10. I don't want to try new ways of doing things—my life is fine the way it is.
11. I tend to focus on the present, because the future always brings me problems.
12. In general, I feel confident and positive about myself.
13. I often feel lonely because I have few close friends with whom to share my concerns.
14. I tend to worry about what other people think of me.
15. I do not fit very well with the people and the community around me.

16. I think it is important to have new experiences that challenge how you think about yourself and the world.
17. My daily activities often seem trivial and unimportant to me.
18. I feel like many of the people I know have gotten more out of life than I have.
19. I enjoy personal and mutual conversations with family members or friends.
20. Being happy with myself is more important to me than having others approve of me.
21. I am quite good at managing the many responsibilities of my daily life.
22. When I think about it, I haven't really improved much as a person over the years.
23. I don't have a good sense of what it is I'm trying to accomplish in my life.
24. I like most aspects of my personality.
25. I don't have many people who want to listen when I need to talk.
26. I tend to be influenced by people with strong opinions.
27. I often feel overwhelmed by my responsibilities.
28. I have a sense that I have developed a lot as a person over time.
29. I used to set goals for myself, but that now seems a waste of time.
30. I made some mistakes in the past, but I feel that all in all everything has worked out for the best.
31. It seems to me that most other people have more friends than I do.
32. I have confidence in my opinions, even if they are contrary to the general consensus.
33. I generally do a good job of taking care of my personal finances and affairs.
34. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.
35. I enjoy making plans for the future and working to make them a reality.

36. In many ways, I feel disappointed about my achievements in my life.
37. People would describe me as a giving person, willing to share my time with others.
38. It's difficult for me to voice my own opinions on controversial matters.
39. I am good at juggling my time so that I can fit everything in that needs to be done.
40. For me, life has been a continuous process of learning, changing, and growth.
41. I am an active person in carrying out the plans I set for myself.
42. My attitude about myself is probably not as positive as most people feel about themselves.
43. I have not experienced many warm and trusting relationships with others.
44. I often change my mind about decisions if my friends or family disagree.
45. I have difficulty arranging my life in a way that is satisfying to me.
46. I gave up trying to make big improvements or change in my life a long time ago.
47. Some people wander aimlessly through life, but I am not one of them.
48. The past has its ups and downs, but in general, I wouldn't want to change it.
49. I know that I can trust my friends, and they know they can trust me.
50. I judge myself by what I think is important, not by the values of what others think is important.
51. I have been able to build a home and a lifestyle for myself that is much to my liking.
52. There is truth to the saying that you can't teach an old dog new tricks.
53. I sometimes feel as if I've done all there is to do in life.
54. When I compare myself to friends and acquaintances, it makes me feel good about who I am

Appendix E: Volunteering Functions Inventory (VFI)

1. Volunteering can help me to get my foot in the door at a place where I would like to work.	1	2	3	4	5	6	7
2. My friends volunteer.	1	2	3	4	5	6	7
3. I am concerned about those less fortunate than myself.	1	2	3	4	5	6	7
4. People I'm close to want me to volunteer.	1	2	3	4	5	6	7
5. Volunteering makes me feel important.	1	2	3	4	5	6	7
6. People I know share an interest in community service.	1	2	3	4	5	6	7
7. No matter how bad I've been feeling, volunteering helps me to forget about it.	1	2	3	4	5	6	7
8. I am genuinely concerned about the particular group I am serving.	1	2	3	4	5	6	7
9. By volunteering I feel less lonely.	1	2	3	4	5	6	7
10. I can make new contacts that might help my business or career.	1	2	3	4	5	6	7
11. Doing volunteer work relieves me of some of the guilt over being more fortunate than others.	1	2	3	4	5	6	7
12. I can learn more about the cause for which I am working.	1	2	3	4	5	6	7
13. Volunteering increases my self-esteem.	1	2	3	4	5	6	7
14. Volunteering allows me to gain a new perspective on things.	1	2	3	4	5	6	7
15. Volunteering allows me to explore different career options.	1	2	3	4	5	6	7
16. I feel compassion toward people in need.	1	2	3	4	5	6	7
17. Others with whom I am close place a high value on community service.	1	2	3	4	5	6	7
18. Volunteering lets me learn things through direct, hands on experience.	1	2	3	4	5	6	7
19. I feel it is important to help others.	1	2	3	4	5	6	7
20. Volunteering helps me work through by own personal problems.	1	2	3	4	5	6	7
21. Volunteering will help me to succeed in my chosen profession.	1	2	3	4	5	6	7
22. I can do something for a cause that is important to me.	1	2	3	4	5	6	7
23. Volunteering is an important activity to the people I know best.	1	2	3	4	5	6	7
24. Volunteering is a good escape from my own troubles.	1	2	3	4	5	6	7
25. I can learn how to deal with a variety of people.	1	2	3	4	5	6	7
26. Volunteering makes me feel needed.	1	2	3	4	5	6	7
27. Volunteering makes me feel better about myself.	1	2	3	4	5	6	7
28. Volunteering experience will look good on my rrsun &	1	2	3	4	5	6	7
29. Volunteering is a way to make new friends.	1	2	3	4	5	6	7
30. I can explore my own strengths.	1	2	3	4	5	6	7

Appendix F: Certificate of Ethics Approval

File Number: H10-16-18

Date (mm/dd/yyyy): 01/16/2017



Université d'Ottawa **University of Ottawa**
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Certificate of Ethics Approval

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Stuart	Hammond	Social Sciences / Psychology	Supervisor
Robert	Hill	Social Sciences / Psychology	Student Researcher

File Number: H10-16-18

Type of Project: PhD Thesis

Title: Taking part: The relation between Community Service Learning and student traits, experience and development

Approval Date (mm/dd/yyyy)

01/16/2017

Expiry Date (mm/dd/yyyy)

01/15/2018

Special Conditions / Comments:

N/A

Appendix F: ISPR Modification Ethics Approval



Université d'Ottawa University of Ottawa

Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Health Sciences and Science Research Ethics Board

APPROVAL OF MODIFICATIONS

October 19, 2018

Robert Hill
[REDACTED]

Stuart Hammond
School of Psychology
Faculty of Social Sciences
University of Ottawa
136 Jean-Jacques Lussier
Ottawa, ON K1N 6N5

RE: Taking part: The relation between Community Service Learning and student traits, experience, and development (H 10-16-18)

Dear Mr. Hill and Professor Hammond,

The Health Sciences and Science Research Ethics Board has examined your request for ethics approval of the following modifications to your research project:

- Participants will be recruited using ISPR system and Dr. Hammond's students are no longer recruited.
- Participants recruited through ISPR will receive course credit as compensation. Those who participate in the second survey that takes place outside ISPR system will participate in a draw to win one of five \$50 gift certificates.
- Researchers will measure any change in psychological, academic, and moral developments over the course of two semesters among students who volunteer through CSL, those who volunteer outside CSL and those who do not volunteer in any capacity.
- Two questionnaires are added.
- Four questionnaires are removed.
- [REDACTED] and [REDACTED] join the research team as research assistants.

Your request has been accepted. The certificate of ethics approval granted on January 16, 2018 and valid until January 15, 2019 covers these modifications.

During the course of the study, any further modifications to the protocol or forms may not be initiated without prior written approval from the REB. You must also promptly notify the REB of any adverse events that may occur.

If you have any questions, please do not hesitate to contact me at extension [REDACTED].

Sincerely yours,

[REDACTED]
[REDACTED]

Protocol Officer for Research Ethics

For [REDACTED] Chair of the Health Sciences and Sciences REB

Appendix G: Power Analysis Calculations

Power calculations were conducted using G*Power software version 3.1.9.6.

Chapter 2

Estimated power for a one-way ANOVA with four groups (SLVOL, SLNOVOL, VOL, NOVOL). Total sample size required for power ($1-\beta = .80$, $\alpha = .05$, with an estimated effect size of 0.20; Conway et al., 2009) is $N = 248$ ($n = 62$).

Chapter 4

Estimated power for a multiple linear regression analysis with four groups (SLVOL, SLNOVOL, VOL, NOVOL) and 9 predictor variables. Total sample size required for power ($1-\beta = .80$, $\alpha = .05$, with an estimated effect size of 0.20) is $N = 88$.

Power calculations based on recommendations outlined by Cohen (1992).

Cohen, J. (1992). A power primer. *Psychological bulletin*, 112(1), 155.

Appendix H: Confidence Intervals for Each Post-hoc Comparison from the ANOVA Presented in Chapter 2

Tukey HSD Post-hoc comparison table for each category. This table included to provide confidence intervals for each analysis not presented in Chapter 2.

Subscale	Category		Mean Diff	SE	a	Confidence Interval	
						Lower	Upper
Empathic Concern	NOVOL	VOL	0.12	0.69	1.00	-1.66	1.91
		SLNOVOL	3.90 *	1.17	0.01	0.87	6.92
		SLVOL	-0.20	0.85	1.00	-2.40	2.01
	VOL	NOVOL	-0.12	0.69	1.00	-1.91	1.66
		SLNOVOL	3.77	1.17	0.01	0.74	6.80
		SLVOL	-0.32	0.85	0.98	-2.53	1.89
	SLNOVOL	NOVOL	-3.90 *	1.17	0.01	-6.92	-0.87
		VOL	-3.77 *	1.17	0.01	-6.80	-0.74
		SLVOL	-4.06 *	1.27	0.01	-7.39	-0.80
	SLVOL	NOVOL	0.20	0.85	1.00	-2.01	2.40
		VOL	0.32	0.85	0.98	-1.89	2.53
		SLNOVOL	4.09 *	1.27	0.01	0.80	7.39
Perspective Taking	NOVOL	VOL	-0.04	0.67	1.00	-1.78	1.71
		SLNOVOL	2.62	1.14	0.10	-0.34	5.58
		SLVOL	-1.44	0.83	0.31	-3.60	0.72
	VOL	NOVOL	0.04	0.67	1.00	-1.71	1.78
		SLNOVOL	2.66	1.14	0.10	-0.30	5.62
		SLVOL	-1.40	0.83	0.34	-3.57	0.76
	SLNOVOL	NOVOL	-2.62	1.14	0.10	-5.58	0.34
		VOL	-2.66	1.14	0.10	-5.62	0.30
		SLVOL	-4.06 *	1.24	0.01	-7.28	-0.84
	SLVOL	NOVOL	1.44	0.83	0.31	-0.72	3.60
		VOL	1.40	0.83	0.34	-0.76	3.57
		SLNOVOL	4.06 *	1.24	0.01	0.84	7.28
Personal Distress	NOVOL	VOL	-0.54	0.88	0.93	-2.82	1.75
		SLNOVOL	1.48	1.49	0.75	-2.38	5.35
		SLVOL	1.06	1.09	0.77	-1.76	3.88
	VOL	NOVOL	0.54	0.88	0.93	-1.75	2.82
		SLNOVOL	2.02	1.49	0.53	-1.85	5.89
		SLVOL	1.59	1.09	0.46	-1.23	4.42
	SLNOVOL	NOVOL	-1.48	1.49	0.75	-5.35	2.38
		VOL	-2.02	1.49	0.53	-5.89	1.85
		SLVOL	-0.43	1.62	0.99	-4.63	3.78
	SLVOL	NOVOL	-1.06	1.09	0.77	-3.88	1.76
		VOL	-1.59	1.09	0.46	-4.42	1.23
		SLNOVOL	0.43	1.62	0.99	-3.78	4.63

IRI

			Mean Diff	SE	α	Upper	Lower	
Public	NOVOL	VOL	-0.29	0.38	0.87	-1.28	0.70	
		SLNOVOL	-0.50	0.65	0.87	-2.19	1.19	
		SLVOL	0.36	0.48	0.88	-0.87	1.59	
	VOL	NOVOL	0.29	0.38	0.87	-0.70	1.28	
		SLNOVOL	-0.21	0.66	0.99	-1.92	1.50	
		SLVOL	0.64	0.49	0.55	-0.62	1.91	
	SLNOVOL	NOVOL	0.50	0.65	0.87	-1.19	2.19	
		VOL	0.21	0.66	0.99	-1.50	1.92	
		SLVOL	0.86	0.72	0.64	-1.01	2.72	
	SLVOL	NOVOL	-0.36	0.48	0.88	-1.59	0.87	
		VOL	-0.64	0.49	0.55	-1.91	0.62	
		SLNOVOL	-0.86	0.72	0.64	-2.72	1.01	
	Anonymous	NOVOL	VOL	-0.51	0.65	0.87	-2.19	1.18
			SLNOVOL	2.44	1.11	0.13	-0.42	5.30
			SLVOL	-0.35	0.83	0.97	-2.49	1.78
VOL		NOVOL	0.51	0.65	0.87	-1.18	2.19	
		SLNOVOL	2.95 *	1.13	0.05	0.03	5.86	
		SLVOL	0.15	0.85	1.00	-2.05	2.36	
SLNOVOL		NOVOL	-2.44	1.11	0.13	-5.30	0.42	
		VOL	-2.95 *	1.13	0.05	-5.86	-0.03	
		SLVOL	-2.79	1.24	0.11	-5.99	0.40	
SLVOL		NOVOL	0.35	0.83	0.97	-1.78	2.49	
		VOL	-0.15	0.85	1.00	-2.36	2.05	
		SLNOVOL	2.79	1.24	0.11	-0.40	5.99	
Dire		NOVOL	VOL	-0.40	0.35	0.65	-1.30	0.50
			SLNOVOL	0.41	0.59	0.90	-1.12	1.93
			SLVOL	0.10	0.43	1.00	-1.02	1.21
	VOL	NOVOL	0.40	0.35	0.65	-0.50	1.30	
		SLNOVOL	0.81	0.60	0.53	-0.74	2.36	
		SLVOL	0.50	0.44	0.67	-0.65	1.65	
	SLNOVOL	NOVOL	-0.41	0.59	0.90	-1.93	1.12	
		VOL	-0.81	0.60	0.53	-2.36	0.74	
		SLVOL	-0.31	0.65	0.96	-2.00	1.37	
	SLVOL	NOVOL	-0.10	0.43	1.00	-1.21	1.02	
		VOL	-0.50	0.44	0.67	-1.65	0.65	
		SLNOVOL	0.31	0.65	0.96	-1.37	2.00	
	PTM Emotional	NOVOL	VOL	-0.50	0.44	0.66	-1.63	0.62
			SLNOVOL	-0.46	0.74	0.92	-2.38	1.46
			SLVOL	-0.01	0.54	1.00	-1.41	1.39
VOL		NOVOL	0.50	0.44	0.66	-0.62	1.63	
		SLNOVOL	0.04	0.75	1.00	-1.91	1.99	
		SLVOL	0.49	0.56	0.82	-0.95	1.93	
SLNOVOL		NOVOL	0.46	0.74	0.92	-1.46	2.38	
		VOL	-0.04	0.75	1.00	-1.99	1.91	
		SLVOL	0.45	0.82	0.95	-1.67	2.57	
SLVOL		NOVOL	0.01	0.54	1.00	-1.39	1.41	
		VOL	-0.49	0.56	0.82	-1.93	0.95	
		SLNOVOL	-0.45	0.82	0.95	-2.57	1.67	
Compliant		NOVOL	VOL	0.10	0.23	0.97	-0.49	0.69
			SLNOVOL	-0.32	0.39	0.84	-1.33	0.68
			SLVOL	0.14	0.28	0.96	-0.60	0.87
	VOL	NOVOL	-0.10	0.23	0.97	-0.69	0.49	
		SLNOVOL	-0.43	0.40	0.70	-1.45	0.60	
		SLVOL	0.03	0.29	1.00	-0.72	0.79	
	SLNOVOL	NOVOL	0.32	0.39	0.84	-0.68	1.33	
		VOL	0.43	0.40	0.70	-0.60	1.45	
		SLVOL	0.46	0.43	0.71	-0.65	1.57	
	SLVOL	NOVOL	-0.14	0.28	0.96	-0.87	0.60	
		VOL	-0.03	0.29	1.00	-0.79	0.72	
		SLNOVOL	-0.46	0.43	0.71	-1.57	0.65	
	Altruism	NOVOL	VOL	0.07	0.42	1.00	-1.01	1.15
			SLNOVOL	0.35	0.71	0.96	-1.47	2.18
			SLVOL	0.39	0.52	0.88	-0.95	1.72
VOL		NOVOL	-0.07	0.42	1.00	-1.15	1.01	
		SLNOVOL	0.28	0.72	0.98	-1.57	2.14	
		SLVOL	0.32	0.53	0.93	-1.06	1.69	
SLNOVOL		NOVOL	-0.35	0.71	0.96	-2.18	1.47	
		VOL	-0.28	0.72	0.98	-2.14	1.57	
		SLVOL	0.03	0.78	1.00	-1.98	2.05	
SLVOL		NOVOL	-0.39	0.52	0.88	-1.72	0.95	
		VOL	-0.32	0.53	0.93	-1.69	1.06	
		SLNOVOL	-0.03	0.78	1.00	-2.05	1.98	

			Mean Diff	SE	a	Upper	Lower
Self-acceptance	NOVOL	VOL	-1.39	1.14	0.62	-4.34	1.56
		SLNOVOL	-2.33	1.97	0.64	-7.41	2.76
		SLVOL	-1.55	1.40	0.69	-5.18	2.08
	VOL	NOVOL	1.39	1.14	0.62	-1.56	4.34
		SLNOVOL	-0.94	2.00	0.97	-6.11	4.23
		SLVOL	-0.16	1.45	1.00	-3.91	3.59
	SLNOVOL	NOVOL	2.33	1.97	0.64	-2.76	7.41
		VOL	0.94	2.00	0.97	-4.23	6.11
		SLVOL	0.78	2.16	0.98	-4.81	6.36
	SLVOL	NOVOL	1.55	1.40	0.69	-2.08	5.18
		VOL	0.16	1.45	1.00	-3.59	3.91
		SLNOVOL	-0.78	2.16	0.98	-6.36	4.81
Autonomy	NOVOL	VOL	0.13	0.96	1.00	-2.36	2.62
		SLNOVOL	2.60	1.62	0.38	-1.60	6.80
		SLVOL	-0.15	1.21	1.00	-3.29	2.98
	VOL	NOVOL	-0.13	0.96	1.00	-2.62	2.36
		SLNOVOL	2.47	1.65	0.44	-1.81	6.74
		SLVOL	-0.28	1.25	1.00	-3.52	2.96
	SLNOVOL	NOVOL	-2.60	1.62	0.38	-6.80	1.60
		VOL	-2.47	1.65	0.44	-6.74	1.81
		SLVOL	-2.75	1.81	0.43	-7.43	1.93
	SLVOL	NOVOL	0.15	1.21	1.00	-2.98	3.29
		VOL	0.28	1.25	1.00	-2.96	3.52
		SLNOVOL	2.75	1.81	0.43	-1.93	7.43
Competence	NOVOL	VOL	-1.19	1.01	0.64	-3.82	1.43
		SLNOVOL	-1.48	1.71	0.82	-5.89	2.93
		SLVOL	-1.23	1.25	0.76	-4.45	2.00
	VOL	NOVOL	1.19	1.01	0.64	-1.43	3.82
		SLNOVOL	-0.29	1.73	1.00	-4.77	4.20
		SLVOL	-0.03	1.28	1.00	-3.35	3.29
	SLNOVOL	NOVOL	1.48	1.71	0.82	-2.93	5.89
		VOL	0.29	1.73	1.00	-4.20	4.77
		SLVOL	0.26	1.88	1.00	-4.60	5.11
	SLVOL	NOVOL	1.23	1.25	0.76	-2.00	4.45
		VOL	0.03	1.28	1.00	-3.29	3.35
		SLNOVOL	-0.26	1.88	1.00	-5.11	4.60
PWB Personal Growth	NOVOL	VOL	-1.66	0.79	0.16	-3.72	0.39
		SLNOVOL	-1.80	1.33	0.53	-5.25	1.65
		SLVOL	-2.58 *	0.98	0.05	-5.11	-0.03
	VOL	NOVOL	1.66	0.79	0.16	-0.39	3.72
		SLNOVOL	-0.14	1.35	1.00	-3.64	3.36
		SLVOL	-0.90	1.01	0.81	-3.51	1.71
	SLNOVOL	NOVOL	1.80	1.33	0.53	-1.65	5.25
		VOL	0.14	1.35	1.00	-3.36	3.64
		SLVOL	-0.76	1.47	0.96	-4.57	3.04
	SLVOL	NOVOL	2.57 *	0.98	0.05	0.03	5.11
		VOL	0.90	1.01	0.81	-1.71	3.51
		SLNOVOL	0.76	1.47	0.96	-3.04	4.57
Positive Relationships with Others	NOVOL	VOL	-1.35	1.02	0.55	-3.99	1.28
		SLNOVOL	-5.15 *	1.71	0.02	-9.59	-0.72
		SLVOL	-1.27	1.25	0.74	-4.50	1.96
	VOL	NOVOL	1.35	1.02	0.55	-1.28	3.99
		SLNOVOL	-3.80	1.75	0.13	-8.32	0.71
		SLVOL	0.08	1.29	1.00	-3.27	3.43
	SLNOVOL	NOVOL	5.15 *	1.71	0.02	0.72	9.59
		VOL	3.80	1.75	0.13	-0.71	8.32
		SLVOL	3.88	1.89	0.17	-1.01	8.77
	SLVOL	NOVOL	1.27	1.25	0.74	-1.96	4.50
		VOL	-0.08	1.29	1.00	-3.43	3.27
		SLNOVOL	-3.88	1.89	0.17	-8.77	1.01
Purpose	NOVOL	VOL	-1.92	0.87	0.13	-4.18	0.35
		SLNOVOL	-2.67	1.48	0.27	-6.48	1.15
		SLVOL	-2.19	1.09	0.19	-5.02	0.64
	VOL	NOVOL	1.92	0.87	0.13	-0.35	4.18
		SLNOVOL	-0.75	1.50	0.96	-4.64	3.13
		SLVOL	-0.27	1.13	1.00	-3.19	2.65
	SLNOVOL	NOVOL	2.67	1.48	0.27	-1.15	6.48
		VOL	0.75	1.50	0.96	-3.13	4.64
		SLVOL	0.48	1.64	0.99	-3.76	4.72
	SLVOL	NOVOL	2.19	1.09	0.19	-0.64	5.02
		VOL	0.27	1.13	1.00	-2.65	3.19
		SLNOVOL	-0.48	1.64	0.99	-4.72	3.76

Note. * indicates significance at $p < 0.05$. Sample size for each group: $n_{SLVOL} = 46$, $n_{VOL} = 91$, $n_{SLNOVOL} = 20$, $n_{NOVOL} = 109$. NOVOL = Non-Volunteers; SLNOVOL = Service-Learning Only Volunteers; VOL = Volunteers (Non-Service-Learning); SLVOL = Service-Learning and Other Volunteers. IRI = Interpersonal Reactivity Index; PWB = Psychological Well-Being; PTM = Prosocial Tendencies Measure.