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## A Quasi-Experimental Study of the Impact of Virtual Service-Learning on College Students' Development of Compassion and Motivation for Service

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*A Quasi-Experimental Study of the  
Impact of Virtual Service-Learning  
on College Students' Development  
of Compassion and Motivation for  
Service*

## **Biography**

*Alma was born and raised in San José, California. She comes from a family of 3 siblings that lived in a modest house. Her parents immigrated to the United States to work hard to improve their quality of life. Her father works in maintenance and her mother as a teacher assistant. Alma hopes to take the opportunity to continue her study of the influence of early service-learning experiences on college students' motivation for enrolling in a service-learning course and intending to serve. Her dream is to teach at a local college to help her family and community. She finds the time to enjoy meditating, knitting, and walking her cocker spaniel.*

## ***A Quasi-Experimental Study of the Impact of Virtual Service-Learning on College Students' Development of Compassion and Motivation for Service***

### **Abstract**

The purpose of this research is to explain the impact of virtual service-learning (vSL) on college students' development of compassion and motivation for service. The goal of the study is an effort to gain insight into the effect of several factors (the age of prior community service experience, academic motivations for self-selecting to enroll in a service-learning (SL) course, academic motivations for choosing virtual service-learning) on expectations and rating greater frequency for feeling compassion along with more motivation for virtual service-learning in the future. The benefits of virtual-service learning to acquire compassion will focus on a desire to help and concern for others that may not be like oneself, combined with valuing social justice and the relationship of helping others. Data was collected in two stages from the College Student Pre-Service-Learning Survey at the beginning of the Fall 2020 semester and the College Student Post-Service-Learning Survey at the end of the Fall 2020 semester from students in Child and Adolescent Development (ChAD) 60, a GE course with a virtual service-learning requirement. Additionally, the College Student Service-Learning Survey was administered Time 1 at the beginning of the semester and Time 2 at the end of the semester to students in ChAD 70, a similar GE course with overlapping content, but no service-learning requirement. Results explain the development of compassion over time and inform recommendations for improving the quality of virtual service-learning. This research can inform everyday feelings of concern and interactions with others for helping students achieve their fullest potential.

## Introduction

Service-learning has become a widely used practice in higher education because of the opportunity it provides to connect academic offerings with personal experience for real-world application intended to meet the need for civic engagement. With the spread of COVID-19, classes have moved online, requiring those who engage in service-learning to perform virtual service-learning. Despite this, little is known about whether virtual service-learning has the same impact on one's level of compassion. This project hopes to fill that gap by focusing on the question: What is the effect of virtual service-learning participation on college students' compassion when controlling for gender, race, age, and/or year of study?

As of the Fall 2020 semester at San José State University (SJSU), virtual service-learning has become an emerging research interest in regard to COVID-19 impacting students' experiences by the way they engage with and help others. Helping others by dedicating time to children in poverty through vSL can alleviate the suffering of families impacted by unemployment and loss of income related to COVID-19. In service, students are connecting with underserved children by helping them read. Students who participated in virtual service-learning during this uncertain time may have intended to do so because they recalled prior service experience in a face-to-face context as adolescents. Research suggests that service experiences in adolescence leads to higher levels of civic engagement later in life (Middaugh, 2017, p. 1). Service in high school is a strong predictor of whether college students will perform service (Metz, McLellan & Youniss, 2003, p. 199); this raises the question of whether and how vSL has the same impact on college students' motivation for future service. Currently, research is lacking in examining how vSL college students are motivated to solve real-world problems by communicating in real-time.

Studying compassion as a growing quality that can be nurtured by service-learning for intellectual, moral, and social development is rooted in the notion that as a feeling, it is necessary for being human and for one's community. Service-learning is beneficial for developing compassion by instilling valuable humanistic lessons for shaping socialization, including concern for others. According to Metz, McLellan, & Youniss (2003), social cause service participation showed to be positively related to concern for

social issues and taking action to serve in the future. Compassion is an emotional response to be sympathetic, which creates an authentic desire to remedy distress and offer help to people in need (Brown, 2013). However, this definition of compassion is missing an approach for measuring compassion by feeling. The definition of compassion used for this project focuses on the concept of having concern for others' needs. Compassion calls for people to understand each other, especially when in need—not just those who are most similar to us. From Schantz's (2007) concept analysis, terms such as “caring,” “empathy,” “sympathy,” and “compassion” are used synonymously, promoting erroneous assumptions compromising the validity of findings. Compassion can be described as a system of feelings shared by a community as a tool for expressing and representing an aspect of the world. Compassion represents “an internalized motivation for doing good” (Schantz, 2007, p.50). Compassion is essential for students to stay motivated, gain support from family and friends, and develop a relationship with the children they serve. More than a sentiment, compassion is “making justice and doing works of mercy” (Schantz, 2007, p. 50). Disagreement has led to devaluing sympathy as a sentiment and promoting empathy as a professional approach.

Like language, compassion is an innate human capacity to socially connect and communicate. Compassion depends on aging and experience to evolve over time. It develops over a time scale of feelings used for communicating a thought that may be known to others by another word. We come to hold compassion by relating to society, understanding social issues, and giving back to the community. Similarly, Youniss, McLellan and Yates' (1997) theory of civic development establishes what is known about engendering civic identity which includes a sense of agency, social responsibility, and moral awareness in sustaining the community's well-being. As a related construct to compassion, acting out of moral obligation for social responsibility through service benefits the common good impacting disadvantaged or marginalized members of society.

Essentially, involvement in community service projects promotes an individual's civic identity “...[teaching] youth that their individual and collective actions make a difference by producing effects that have an impact on the high school and wider local community” (Youniss, McLellan & Yates, 1997, p. 624). Therefore, every act of concern has a ripple effect

of touching many lives. By participating in service-learning, college students can feel that through collective action, individuals can make a difference in the lives of others. This feeling is in a state of activity within the individual and community for developing compassion. Service fosters understanding and social solidarity, or interdependence among individuals in a social group. By feeling compassion, individuals take collective action for social justice. Supporting a developmental process in the formation of citizenship, studies reported a link between a youth's participation in community service projects to civic engagement 15 or more years later in adulthood by these same persons. Data shows that students are more likely to join community organizations than adults who were nonparticipants in high school (p. 620).

### **What is virtual service-learning? Why is it beneficial?**

As defined on San José State University's Center for Community Learning & Leadership website (2020), service-learning—also known as community learning—refers to providing “students with the opportunity to experience and apply what they are studying in class [to analyze community issues] through service in the community” (“Community Learning,” para. 1). Virtual service-learning is a space created to minimize transmission of COVID-19 for continuing service-learning. Fundamentally, virtual service-learning is “a pedagogical practice” through Internet connectivity with the value of transforming the student to be thoughtful and committed to a social issue. Students have opportunities for self-reflection of experience and application of course material through indirect contact with those served. With Zoom, it is possible to continue to do meaningful service-learning with specific instruction and reflection to enrich the learning experience and have students think about their relation to society in the real-world. Individuals from different geographical locations gather in a context of connection using a technological device to communicate via Zoom for social support. Technology supports an emerging language community sharing a group identity through their circumstances. Through the modernization of service-learning, students can conveniently use Zoom to serve remotely with designated partners. Limited partners are offering services to care for the safety of the underserved as well as to keep in touch with the community. Communication is different in virtual service-learning. The mode for using

language is Zoom. Students are using spoken language synchronously with written posts in chat and touchscreens for communicating thoughts in the virtual environment with a short time lag. Still, children are acquiring language when students help them read.

This study will use a quasi-experimental research design to study the effect of independent variables (participation in virtual service-learning and age of prior service experience) on student compassion and motivation for future service. In reviewing studies to compare and contrast service-learning with virtual service-learning, Garca-Gutierrez et al. (2017) mention that service-learning is not accepted as “any type of practice or learning that is community based or experiential” (p. 237). Instead, they take the approach of defining service-learning in higher education, in essence, as a service of support actively led by students connected to learning content. The concept of vSL is also defined by this perspective, but as a different modality. In vSL, “the participation of subjects and development of the project are technologically mediated” both in learning and providing a support service (Garca-Gutierrez, Ruiz-Corbella, & del Pozo Armentia, 2017, p. 237). For distance higher education, vSL is defined as a methodology that combines the learning of content, skills, and values with serving the community also encompassing SL projects.

Research says the general benefits of SL are promoting an individual’s civic identity and commitment to viewpoints propelling them to act years later. One of the benefits of service-learning is that it has been found to be positively associated with increased compassion scores (Plante, 2016). It has been assumed that “...service involvement during college contributes in several positive ways to student development” (Chesbrough, 2011). These benefits are most likely to occur when the service experience is meaningful and relevant to a students’ need to feel connected to what they care about and to what matters to them in a group that they belong to.

Focusing on what is already known about organized group participation during the formative stage of adolescence, service develops civic identity leading to benefits into adulthood remaining committed to viewpoints propels them to act 25 years later. By taking action, a student learns to develop a concern for others and appreciate the interconnectedness of society. From studies of high school students serving for a year at a soup kitchen for the homeless, youth experiences connected them to a process to

develop consciously assessing their responsibility, "...focusing not only on their fortunate position relative to homeless persons but equally often as potential actors in reforms needed to redress poverty and homelessness" (Youniss, McLellan & Yates, 1997, p. 625).

My question about vSL asks: Will these benefits continue in a virtual education setting? Is there a developmental linkage between choosing vSL influenced by prior experience and motivation to more likely do virtual or face to face community service in the future shaping compassion in a long-lasting form?

Virtual service-learning is significant because it is mutually beneficial for the college student, underserved children or adolescents, families, and the community to spend time in interactions of contact with positive behavior for support and intervention. vSL is advantageous for meeting the real needs of the child as articulated by community partners during the COVID-19 pandemic. It is a medium to sustain helping others and maintain ties with groups in a time when changes are being made to meet the health and safety of the community. vSL may be a viable alternative to substitute and functionally improve service-learning because it allows for significant task redesign to maximize learning.

### **What is the relationship between virtual service-learning and compassion?**

Research has found service-learning to be associated with positive outcomes, including increased academic adjustment and social support (Middaugh, 2017, p.1; (Metz, McLellan, & Youniss, 2003, p. 188). It is expected that virtual-service learning will also be associated with positive outcomes. According to Plante and Halman's (2016) empirical work from a longitudinal study at Santa Clara University about nurturing compassion development among college students, compassion can continue to grow while in college. The study examined changes in compassion over the course of students' four years, from 2011-2013—beginning when undergraduate students entered as first-year students until they graduated as seniors. Of the sample of 491 Santa Clara University students (n=491), 63.5% were females (n=312), while males (n=177) counted for 36.0% [missing, n=2]. Participants identifying as White (64.0%) made up the largest racial group, followed by Asians (22.0%), Mexican/Chicano



(14.3%), Other Latino (6.7%), and Black (4.3%). The university's annual CIRP Freshman Survey and College Senior Survey were used to measure compassion.

By pairing responses from both surveys, within-subjects comparisons were made as a method of measuring changes in compassion. Compassion was operationalized and measured using the Santa Clara Brief Compassion Scale. Additionally, the freshman survey asked for the racial/ethnic composition of one's neighborhood/social circle, the activities they participated in during high school, reasons for attending college, the type of high school they attended, and their intentions regarding their activities while at the university. Like the freshman survey, the senior survey used the compassion scale previously mentioned and included questions regarding demographic data (i.e., academic major, college GPA, etc.), "behaviors in college (i.e., activities, involvement, etc.), personal values, attitudes, and future personal and professional goals" (p. 167). Participation in community-based service-learning along with other predictors that may account for an additional 10% variance in compassion levels were assessed at time of admittance to time of graduation. Researchers have assessed predictors of compassion among graduating seniors, suggesting that exposure to other cultures and perspectives may play a role in cultivating compassion.

During Lovetter-Colyer's (2014) longitudinal study at the University of San Diego on cultivating compassion, more than 500 undergraduate students found that participation in voluntary community service was one characteristic of undergraduate students positively associated with changes in average compassion (i.e., increasing in compassion). However, community service-learning incorporated into academic classes was negatively correlated with compassion change (i.e., decreasing in compassion). Despite this, in several cross-sectional studies students at Santa Clara University, findings show that participation in community-based service-learning—even community service as a requirement for an academic course—was positively associated with increased compassion scores (Plante, 2016). Due to empirical results from recently published research—for example, Lovette-Colyer (2014)—Plante and Halman's hypothesis was that female, "left-leaning" political beliefs, participation in community-based service-learning, attendance of religious

services, and diversity training would be associated with increases in compassion scores.

In general, Pak (2018) examines the role of service-learning in classes which provide cultural students with a unique place for support that differs from a classroom setting. Service-learning links race with a sense of belonging or “the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group” in the diversity of different cultural groups (Introduction section, para. 1). In Pak’s study, students compared a SL project with other types of projects/assignments in other classes. The questionnaire asked students to rate opportunities in the areas of community engagement, development of academic skills, and interactions with peers and faculty in an end of the semester survey. Of the thirteen students that rated on a continuum from “strongly agree” to “strongly disagree,” the strength of developing patience, compassion, and empathy, 62% strongly agree and only one student neither agrees nor disagrees. Most of the students agreed or strongly agreed that the SL project helped them develop meaningful interactions with people. They also indicated that the SL experience led to greater compassion and empathy in working with the community.

Since there is a need for greater connection between a university’s academic offerings and the civic engagement of students, the virtual service-learning experience presents the opportunity to link quality constant reflection with transformative impact. For civic engagement, universities are developing an approach to social responsibility by relying on social innovation that promotes the individual, not only economic needs (Garca-Gutierrez, Ruiz-Corbella, & del Pozo Armentia, 2017). In studying the development of civic engagement in distance higher education, Garca-Gutierrez, Ruiz-Corbella, & del Pozo Armentia (2017) wrote about an innovative virtual service-learning experience at the Universidad Nacional de Educación a Distancia (UNED) that made use of 2.0 technologies. The design planned for students enrolled in distance higher education is for SL projects in a virtual environment to develop ethical and civic competence, as well as an understanding of their career. Educators intend to use technology to bring individuals and communities closer with an awareness of the personal responsibility each assumes to each other, even if geographically distant.

The vSL project was designed as a modality of an SL project based on a virtual exchange involving 4 professors and 5 Spanish students from UNED's Faculty of Education enrolled in fourth-year Social Education. Professors and students connected with 1 professor and 30 African students from the Ecole Normale Supérieure (ENS) of Porto Novo (Benin) over the course of a semester to conduct the project. The community partner was ENS (Benin) Department of Spanish Languages. Each group of students (a total of thirty-five from the two institutions) created interview outlines, planned and agreed upon a schedule for sessions, and technology to be used (Skype, Whatsapp, and email). UNED students developed service objectives for ENS students. Through online interviews and meetings, African students practiced their Spanish with native speakers to improve oral proficiency for students with less opportunities for mobility. The Spanish students gained a deeper understanding of the subjects they were studying from an intercultural perspective (Garca-Gutierrez, Ruiz-Corbella, & del Pozo Armentia, 2017). With an opportunity to develop a virtual connection and the exchange necessary for solidarity, research on vSL focuses on responding to the social and economic needs of the virtual educational environment (Garca-Gutierrez, Ruiz-Corbella, & del Pozo Armentia, 2017). Equity in virtual learning environments is about having compassion from service-learning participants reach students with socioemotional and economic needs.

Although there are not many studies about the impact of virtual SL on compassion, there have been some studies that examine the impact of the virtual environment on levels of compassion. In the news article, "Compassion fatigue is an unexpected challenge for teachers during distance learning," it was noted that students may feel difficulties more deeply than before, experiencing symptoms of anxiety and depression. Students are dealing with emotional stress that may impact academic motivation to perform virtual service-learning and the help they are able to provide to children. To stay motivated, students keep interest and pleasure in doing service. Thus, it is possible that virtual SL may not have the same positive benefits for compassion as seen in studies of face-to-face SL. Moreover, the relationship between virtual service-learning participation and college students' compassion gives meaning to the experience of higher education. Factors in college students' socialization in

service learning may contribute to a positive outcome with greater compassion. The learning experience with social support and making connections for equal access and treatment influence students to feel like they belong to a group identity.

## **Motivation**

Compassion is a feeling that can motivate social interactions based on reciprocity—social-emotional exchanges—to serve for a social issue to build community by experience, identity, and relationships. Positive behavior patterns of compassion and motivation are acquired through sensitivity in service to a level and used for expressing care and understanding. Research has found that motivations to serve vary by gender, year of study, and amount of service and may impact outcomes (Chesbrough, 2011, p. 702). Based on this, student academic motivations to enroll in a service-learning course are to be examined. Motivation for selecting to enroll in a service-learning course and choosing to do virtual service-learning can potentially influence or change expectations and outcomes. Virtual service-learning may lead to greater compassion in life for a heightened awareness of social problems, practicing kindness, and acting out of concern for individuals in need. Desiring to adjust to the university through community involvement may be influential for choosing to do vSL. Virtual service-learning can motivate responsible behavior. Motivations to serve later in life are valuing social justice, committing to a social problem, or addressing a need in the community. Early service-learning experiences at a specific age may relate to levels of compassion pre- and post-service learning, considering the number of hours served, motivation, gender, and race.

Foreseen challenges in virtual service-learning, like compassion fatigue, may have influenced choosing the alternative activity and could lead to lower spectrum ratings of feeling compassion. A lack of interaction in serving children may affect the timing of compassionate development by delaying it. Participants can catch up to peers acquiring a sophisticated level of compassion by regularly practicing their capacity for compassion for various purposes.

## **What still needs to be known about the relationship between virtual service-learning and compassion? Why?**

A ChAD 60 classroom ethnography based on partnerships with schools in urban settings can be conducted to indicate thematic elements in students' own words of feeling compassion in virtual service-learning. Data from a larger sample size may validate an independent sample t-test of average compassion score between vSL and no vSL participants for interpretation. Compassion can be measured as motivation for choosing to do vSL—desire to contribute and feel strongly about a social issue affecting children and/or adolescents. More still needs to be known about the challenges in developing compassion. One challenge is maintaining motivation for service starting at a young age, or commitment to viewpoints, to continue to motivate for choosing years later to enroll in a service-learning class and/or intending to do vSL.

### **Methods**

My research question is: What is the effect of choosing to participate in virtual service-learning on college students' compassion when controlling for age of first service experience? The supporting questions are: Why is virtual service-learning a way to developing compassion? Does virtual service-learning participation motivate students to serve in the future? Does virtual service-learning lead to greater compassion in life?

The hypothesis proposed is that college students' participation in virtual service-learning will result in increased scores on a survey for measuring compassion. Additionally, those who have greater gains in compassion will have maintained motivation for service from their first service experience to choosing to enroll in a vSL class and participating in vSL. They will also be more motivated for future service. If virtual service-learning participation has an effect, the experimental group should show a greater change in the extent to which they feel compassion towards others than the comparison group.

### **Study Design**

The quasi-experimental design studied the impact of virtual service-learning on college students' development of compassion and motivation for future service. Participants from intervention and comparison groups

were identified by a study-specific ID to match pre- and post-test responses. Assignment to groups was not random and the two groups were not equivalent. Comparing the groups' pre-test scores established equivalency between groups and controlled for initial differences from background measures (gender, race, age, and year of study). Comparing changes in score from pre-test to post-test between groups tested the hypothesis. Having compared individual ChAD 60 students amongst themselves (vSL and alternative) and between ChAD 70—the comparison group—I studied how academic motivation for participating in virtual service-learning affected compassion and motivation for future service. The virtual service-learning experience of ChAD 60 students was compared to the learning experience of ChAD 60 students choosing the alternative activity for better or worse to make improvements.

#### *Intervention Group (VSL)*

ChAD 60 students choosing vSL participation were the intervention group. In the virtual service-learning experience assignment, participants were required to reflect on their own developmental learning in a peer interview, as well as the future impact of the experience in enhancing their understanding of social issues by exposure and their contribution in supporting the community. Students were required to complete at least a total of 20 hours in the semester working with children in a virtual space at home with a partner organization approved by SJSU.

#### *Comparison Groups*

##### *Alternative*

ChAD 60 students that chose the alternative activity containing video and written work were a comparison group.

##### *No SL*

ChAD 70 - Lifespan Development in the 21st Century; students not participating in vSL were a comparison group.

## **Procedures**

To recruit undergraduate student participants from more than one online section of each ChAD 60 and ChAD 70 for both stages of data collection, emails were sent to faculty (five ChAD 60 faculty and five ChAD 70) of respective courses close to the beginning and end of the semester. Emails asked to share an invitation for consent from students to participate in both 15-minute online surveys depending on the class they were enrolled through Qualtrics by following an anonymous link. The College Student Pre-Service Learning Survey was sent out after ChAD 60 students had decided whether they intended to participate in vSL or choose the alternative. The College Student Post-Service-Learning Survey was administered close to the end of the semester. The College Student Service-Learning Survey (Time 1) was sent out at the beginning of the semester and Time 2 at the end of the semester to ChAD 70 students.

Five ChAD 60 and two ChAD 70 professors agreed to help. The size of the classroom of a large section was approximately 120 students and a small section approximately 30 students. Two ChAD 60 professors had large sections. The rest had approximately 30 students. One ChAD 70 professor had two sections of ChAD 70, each with 30 students. Another also had a small section.

## Participants

ChAD 60

Table 1: Demographic background by percent of participants from the ChAD 60 pre-survey and post-survey

%	Pre	Post	Matched
Gender	Male - n=26, missing n=18: 7.7%  Female - n=26, missing n=18: 92.3%  Non-Binary - n=26, missing n=18: 0.0%  Decline to state - n=26, missing n=18: 0.0%	(Cis)Female - n=8, missing n=12: 100.0%  (Cis)Male - n=8, missing n=12: 0.0%  Trans or Non-Binary - n=8, missing n=12: 0.0%  Other - n=8, missing n=12: 0.0%	(Cis)Female - n=3: 100.0%  (Cis)Male - n=3: 0.0%  Trans or Non-Binary - n=3: 0.0%  Other - n=3: 0.0%
Age	Range 18-24 (average 18.7 years)	Range 18-24 (average 19.5 years)	Range 18-19 (average 18.3 years)



<p>Ethnicity</p>	<p>White or Caucasian - n=26, missing n=18: 7.7%</p> <p>Black or African American - n=26, missing n=18: 7.7%</p> <p>Asian/Asian-American - n=26, missing n=18: 19.2%</p> <p>American Indian or Alaska Native - n=26, missing n=18: 0.0%</p> <p>Hispanic or Latino - n=26, missing n=18: 57.7%</p> <p>Filipino - n=26, missing n=18: 3.9%</p> <p>Middle Eastern or North African - n=26, missing n=18: 0.0%</p> <p>Native Hawaiian - n=12, missing 8: 0.0%</p> <p>Other Pacific Islander - n=12, missing 8: 0.0%</p> <p>Other - n=26, missing n=18: 3.9%</p> <p>Check all - n=12, missing n=8: 0.0%</p>	<p>White or Caucasian - n=12, missing 8: 25.0%</p> <p>Black or African American - n=12, missing 8: 8.3%</p> <p>Asian/Asian American - n=12, missing 8: 16.7%</p> <p>American Indian or Alaska Native - n=12, missing n=8: 0.0%</p> <p>Hispanic or Latino - n=12, missing 8: 25.0%</p> <p>Filipino - n=12, missing 8: 0.0%</p> <p>Middle Eastern or North African - n=12, missing 8: 0.0%</p> <p>Native Hawaiian - n=12, missing 8: 8.3%</p> <p>Other Pacific Islander - n=12, missing 8: 8.3%</p> <p>Other - n=12, missing n=8: 8.3%</p>	<p>White or Caucasian - n=3: 0.0%</p> <p>Black or African American - n=3: 33.3%</p> <p>Asian/Asian American - n=3: 33.3%</p> <p>American Indian or Alaska Native - n=3: 0.0%</p> <p>Hispanic or Latino - n=3: 33.3%</p> <p>Filipino - n=3: 0.0%</p> <p>Middle Eastern or North African - n=3: 0.0%</p> <p>Native Hawaiian - n=3: 0.0%</p> <p>Other Pacific Islander - n=3: 0.0%</p> <p>Other - n=3: 0.0%</p>
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Year of study	Freshman - n=26, missing n=18: 61.5%	Freshman - n=8, missing n=12: 62.5%	Freshman - n=3: 66.7%
	Sophomore - n=26, missing n=18: 23.1%	Sophomore - n=8, missing n=12: 0.0%	Sophomore - n=3: 33.3%
	Junior - n=26, missing n=18: 11.5%	Junior - n=8, missing n=12: 25.0%	Junior - n=3: 0.0%
	Senior - n=26, missing n=18: 3.9%	Senior - n=8, missing n=12: 12.5%	Senior - n=3: 0.0%

Participants for the pre-test came from a sample of (n=26) at San José State University from ChAD 60 during Fall 2020. Participants identifying with a race/ethnicity could check all that applied. Hispanic or Latino comprised the largest ethnic group (57.7%), followed by Asian (19.2%). More than half of the participants were freshmen (61.5%), while 3.9% were seniors. Among participants, the age being targeted was 18+ years with 18.7 years as the average. The majority were female. Data was missing for 18 participants.

Approximately four hundred twenty students were invited to participate. From the ChAD 60 participants, 44 responded to the College Student Pre-Service Learning Survey from Qualtrics. From the intervention condition, there were 18 participants. From the comparison, there were 13 participants. 20 responded to the College Student Post-Service-Learning Survey with 11 participants from the intervention and 4 from the comparison. From the ChAD 70 participants, 28 responded to the pre-test, while 15 responded to the post-test. Even if a participant did not complete the pre-test, they could still complete the post-test. Participants could skip questions. Of the students invited to participate, x ChAD 60 participants were matched, whereas I expected at least 120 students to participate (60 vSL students and 60 no SL students).

According to the enrollment census taken each term providing details by the SJSU Office of Institutional Research, in Fall 2020, 1,027 students were counted from all undergraduate studies colleges. On average,

an undergraduate student was 22.4 years, ranging from under 19 to 35-59 lower by 3.7 years among targeted participants. Besides ethnicity from this studies' survey, students' identifier options for ethnicity from the census added Hispanic/Latinx (26.4%), Two or More Races (3.4%), Non-Resident Alien (2.6%), and Unknown (4.8%). Compared to demographic characteristics of SJSU undergraduates for Fall 2020, this study included American Indian or Alaskan Native (0%), Black or African American (3.5%), Asian (49.4%), Native Hawaiian or Other Pacific Islander (1%), and White (9.3%)—not in this order. Mostly Asians enrolled, followed by Hispanic/Latinx, differing from this study where Hispanic or Latino are the majority. There were 9 more females (50.4%) enrolled than males (49.6%).

## Measures

To collect data, participants were assigned a different version of a survey as observational units used to study the effect of age of first service experience on vSL participation. From there, I considered the effect of vSL participation on feeling compassion. Also, motivation for choosing to do vSL was considered.

The College Student Pre- and Post-Service-Learning Surveys were assigned to the intervention group and comparison group under the alternative activity. The College Student Service-Learning Time 1 and Time 2 Surveys were assigned to the comparison group under no service-learning. Only one respondent's responses from the pre-test and post-test were matched to make comparisons as a method for measuring changes in compassion from the student that participated in vSL.

Three dependent measures were used in this study; two were scales, and one was a single-item measure. Compassion was operationalized as a system of feelings with five items: feeling sympathy, a desire to help individuals in need, concern for children and families in need, and care for others. Compassion was measured as a construct using a six-point Likert scale for rating on a continuum from *always* to *never*. For example, the participant was asked to please rate the frequency by which they felt the following statement: "I feel I care for others who may not be like me" with the option to select *never*, *very rarely*, *rarely*, *occasionally*, *very frequently*, or *always*. This measure was administered both at the pre- and post-test.

The motivation rating scales for selection of service involvements included academic motivation adopted from Chesbrough's (2011) version designed to measure motivation toward service. This measure indicated the extent to which each motivation was influential for college students to make choices. Selection to enroll was only administered at pre-test while several motivations for doing vSL in the future were at post-test. Choosing to do virtual service-learning or the alternative activity for the semester were administered at pre- and post-test. Participants used rating scales ranging from 1 for *Not at all* to 5 for *A great deal*. Thirty-one items measured the following dimensions of motivation: personal (e.g., "potential to make an impact," "friend involvement"), social, (e.g., "value the relationship of helping others") academic (e.g., "adjust to the university by community involvement," career (e.g., follow a calling), and altruistic (e.g., "value social justice").

Expecting participation in virtual service-learning leading compassion was assessed by students' responses on a 5-point scale from *definitely yes* to *definitely not* to compare to the actual compassion score in the pre-test. Overall, satisfaction with the vSL experience was measured on a 7-point scale from *extremely dissatisfied* to *extremely satisfied with a satisfactory experience being engaging and helpful, not exhaustive, or causing anxiety*. Frequency of trouble completing vSL because of technical difficulties on the participant's end or from the child was rated by selecting between *never* to *very frequently* on a 6-point scale. Technical difficulties may include delays or time lags with silence, malfunctioning camera, and/or unstable Internet connection. Trouble completing vSL because of the child's attendance was also rated on the same 6-point scale. Trouble staying motivated to complete vSL as a problem that may bother participants because of lessened interest or support was rated by selecting between *not at all* to *a great deal*. Likelihood to continue vSL from the semester possibly differs from *extremely likely* to *extremely unlikely* on a 7-point scale. Another question assessed the likelihood of doing community service or service-learning with children and youth in the future that may indicate expected commitment to viewpoints propelling them to continue to act years later by using the same scale ranging *extremely likely* to *extremely unlikely*.

In addition to the compassion scale, all surveys asked for demographic and background measures. Background control variables included gender (n=2 male and n=24 female participants), race/ethnicity, age, and year of study (n= 16 freshman, n= 6 sophomore, n=3 junior, and n= 1 senior participants).

Participation in vSL, along with other predictors that may account for variance in compassion scores, were assessed. The College Student Pre-Service Learning Survey included 21 questions. Students were asked if they had done community service before. Students who performed service were then asked to self-report their age of first service experience. Hours of service were self-reported to compare to actual number of hours of service completed for the semester in the post-test for determining commitment to making progress towards the assigned requirement. Due to the impact of COVID-19, the service-learning students ended up completing variable numbers of hours or completed an alternative assignment, so questions included comparing those who completed full hours, to those who completed partial hours or an alternative assignment in addition to the comparison group under no service-learning.

The College Student Pre-Service Learning Survey included 21 questions regarding whether respondents did community service before, self-reporting the age of first service experience, academic motivation for selecting to enroll in a SL course, academic motivation for choosing to do vSL or the alternative assignment that semester, expected number of hours of vSL for the semester, and their expectation for vSL leading to the development of compassion.

The College Student Post-Service-Learning Survey asked 33 questions. Ratings for the extent to which academic motivations were influential for choosing to do vSL or the alternative assignment for the semester were asked again. Participants could select the partner organization they volunteered with (i.e., Coaching Corps, Grail Family Services - Yes we can Read!, Martin Luther King, Jr. Library, or Reading Partners). Actual number of hours of vSL completed for the semester were self-reported as a marker whether students completed the required 20 hours or not. Participants were asked about their satisfaction with the experience, the frequency of technical difficulties from participant and child, the frequency of trouble completing SL because of the child's attendance, and

their rating of trouble staying motivated. In their own words, students' responses to connecting effectively with children served on Zoom may comment on reading that invites conversation and interaction. Participants could also report on what motivated them to finish vSL, how vSL participation benefited them and the child served, how vSL allowed them the opportunity to solve a real-world problem, and how likely they are to continue service. For example, a benefit to a participant may be fostering a desire to help and concern for others that may not be like oneself. A benefit to a child may be the relationship with the reader, or participant. Towards the end, likelihood to do community service or service-learning with children and youth in the future, motivation for doing SL in the future, and their expectation for vSL leading to compassion.

The College Student Service-Learning Survey (Time 1) included 14 questions regarding whether they did community service before, self-reporting the age of first service experience, familiarity with vSL, and their expectation for vSL leading to compassion. The College Student Service-Learning Survey (Time 2) asked 16 questions focused on whether the comparison group had previously participated in community service or service-learning, likelihood to do community service or service-learning with children and youth in the future, motivation for doing SL in the future, and their expectation for vSL leading to compassion.

### Data Analysis

Table 2: Average scores for motivations for choosing to do vSL by a scale of 1 to 5 (1=Not at all, 2=Little, 3=Somewhat, 4=Much, 5=A great deal)

	vSL
Prior2 T2 - Prior service experience	n=7; missing 2: 3.71
Goal T2 - Fulfill a personal goal	n=8; missing 1: 3.50
Remedy - Help remedy a social issue affecting children	n=8; missing 1: 3.50
Leadership T2 - Gain leadership skills to add to resume	n=8; missing 1: 2.88
Responsibility T2 - Act out of moral obligation for social responsibility	n=8; missing 1: 3.00

Table 3: Average scores for motivations for choosing to do the alternative by a scale of 1 to 5 (1=Not at all, 2=Little, 3=Somewhat, 4=Much, 5=A great deal)

	Not vSL
Children T2 - Don't like working with children	n=1; missing 1: 1.00
Comfortable T2 - Not comfortable in a virtual educational setting	n=1; missing 1: 2.00
Access T2 - Lack access to a technological device or the Internet	n=1; missing 1: 2.00

Interest3 T2 - Interested in watching videos	n=2: 4.00
Learning - Enhance learning	n=1; missing 1: 2.00

Table 4: Average scores for motivations for choosing to do service-learning in the future by a scale of 1 to 5 (1=Not at all, 2=Little, 3=Somewhat, 4=Much, 5=A great deal)

	vSL	Not vSL
Justice - Value social justice	n=8; missing 1: 3.63	n=2: 3.50
Commitment - Commitment to a social issue	n=8; missing 1: 3.63	n=1; missing 1: 3.00
Remedy - Remedy a need in the community	n=8; missing 1: 3.75	n=1; missing 1: 2.00
Contribution - Make a contribution to society to help others in need	n=7; missing 2: 4.29	n=1; missing 1: 3.00
Relationship - Value the relationship of helping others	n=7; missing 2: 4.57	n=2: 4.50
Past - Past service experience	n=7; missing 2: 3.86	

Most of the participants rated that the motivation that was most influential for choosing to do vSL is prior service experience (see Table 2).



In comparison, this is a stronger motivation than the less common fulfilling a personal goal, helping to remedy a social issue, or acting out of moral obligation for social responsibility, or gaining leadership skills to add to a resume in descending order. Table 3 shows that one person chose the alternative because they were not interested in watching videos. Among those who answered in Table 4, the most common motivation for choosing to do service-learning in the future was valuing the relationship of helping others, but still valuing social justice.

There are not sufficient numbers for data because COVID-19 caused delays in students starting vSL, resulting in very few students participating. Also, some participants chose not to answer each question, so data was missing. With less than 10 participants as a sample size, average scores for choosing to do vSL or the alternative, as well as for choosing to do service-learning in the future among vSL and no vSL, participants from the post-survey were not sufficient power to detect statistically significant differences.

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