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Students' Vocational Choices and Voluntary Action: A 12-Nation Study

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Abstract Previous research on student involvement suggested that business and engineering students manifest lowest rates of voluntary action. Similarly, it was thought that social science students are the most involved in voluntary action, with students of natural sciences and humanities in the middle. However, there were very few studies that empirically compared these assertions. Furthermore, these assertions were not investigated from cross-cultural perspectives. Based on a study of students in 12 countries ($N = 6{,}570$), we found that even when controlling for background variables, social science students are actually less engaged in voluntary action than other students. Engineering students are higher than expected on voluntary action while students of humanities are the most involved in voluntary action. When studying these differences in the 12 selected countries, local cultures and norms form different sets of findings that suggest that there is no universal trend in choice of academic field and voluntary action.

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Résumé Une recherche déjà effectuée sur l'engagement des étudiants a montré que les étudiants en affaires et en ingénierie sont peu intéressés à travailler bénévolement. Parallèlement, il a été montré que les étudiants en sciences humaines sont le plus impliqués dans le bénévolat et que les étudiants en sciences naturelles et en lettres se situent entre les deux Cependant, on ne disposait que de très peu d'études pour comparer de telles affirmations. En outre, ces affirmations n'ont pas été examinées dans une perspective multiculturelle. En se basant sur une étude portant sur des étudiants issus de douze pays différents (N=6,570), nous avons trouvé que même en contrôlant les variables de formation, les étudiants en sciences humaines sont en fait moins engagés dans le volontariat que d'autres étudiants. Les étudiants en ingénierie sont plus impliqués dans le volontariat qu'on ne le pensait, tandis que les étudiants en lettres sont les plus impliqués dans l'action volontaire. En étudiant ces différences dans les douze pays qui ont fait l'objet d'une enquête, les cultures locales et les normes fournissent un ensemble différent de faits suggérant qu'il n'existe pas de tendance universelle quant au choix des matières académiques et l'action volontaire.

Zusammenfassung Frühere Untersuchungen zur Studentenbeteiligung gaben zu erkennen, dass Studenten aus den Bereichen Betriebswirtschaft und Ingenieurwesen am wenigsten in ehrenamtlicher Arbeit involviert sind. Zugleich nahm man an, dass Studenten aus dem Bereich Sozialwissenschaft am ehesten ehrenamtliche Tätigkeiten übernehmen würden, gefolgt von Studenten aus den Bereichen Natur- und Geisteswissenschaften. Allerdings gab es nur sehr wenige Untersuchungen, die einen empirischen Vergleich dieser Überzeugungen vornahmen. Des Weiteren wurden diese Standpunkte nicht unter der Berücksichtigung kulturübergreifender Perspektiven untersucht. Beruhend auf einer Untersuchung von Studenten in 12 Ländern (N=6.570) kamen wir zu dem Schluss, dass selbst bei kontrollierten Hintergrundvariablen Sozialwissenschaftsstudenten tatsächlich weniger ehrenamtlich engagiert waren als andere Studenten. Studenten aus dem Bereich Ingenieurwesen sind mehr in ehrenamtlichen Tätigkeiten involviert als angenommen, und Studenten aus dem Bereich Geisteswissenschaften engagieren sich am meisten. Bei der

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Untersuchung dieser Unterschiede in den 12 Ländern führen die einzelnen Kulturen und Normen zu unterschiedlichen Ergebnissen, die darauf schließen lassen, dass kein allgemeiner Trend bei der Wahl des akademischen Bereichs und dem ehrenamtlichen Engagement vorliegt.

Resumen Anteriores investigaciones sobre la participación de los universitarios indicaban que los estudiantes de empresariales y de ingeniería presentaban un porcentaje de acción voluntara menor. Igualmente, se pensaba que los estudiantes de ciencias sociales eran los más comprometidos con las acciones voluntarias, y que el centro lo ocupaban los estudiantes de ciencias naturales y humanidades. No obstante, la realidad es que muy pocos estudios han contrastado empíricamente estas afirmaciones. Es más, ni siquiera se han investigado desde una perspectiva intercultural. Basándonos en un estudio realizado en estudiantes de 12 países (N=6,570), hemos descubierto que incluso cuando se comparan las variables de educación, los estudiantes de ciencias sociales participan incluso menos en trabajos de voluntariado que otros estudiantes. Los estudiantes de ingeniería participan más como voluntarios de lo que se esperaba mientras que los de humanidades son los más comprometidos en la acción voluntaria. Si examinamos estas diferencias en los 12 países estudiados, vemos que las culturas y las normas locales conforman un conjunto de resultados diferente que sugieren que no hay una tendencia universal que relacione la carrera universitaria con el trabajo voluntario.

Keywords Students · Vocational choice · Educational choice · Volunteering · Voluntary action · Cross-cultural research

Introduction

Although volunteering is important for service provision, building civic society, and enhancing the community, it is especially important among students in universities and colleges as they are perceived as the future backbone of society. Volunteering by students is essential to perpetuate the future civic society, as these students assume the roles of future leaders and take positions as politicians, lawyers, physicians, educators, and residents in the community.

The Cooperative Institutional Research Program (CIRP) Freshman Survey, undertaken in the last two decades, annually studied volunteering trends among thousands of American freshman students (Astin and Sax 1998). Based on the longitudinal results, Astin and Sax found that participation in voluntary work during the undergraduate years enhances students' academic development, life skills development, and sense of civic responsibility. In addition, volunteering can enhance students' job experience, help them choose the right vocation, and improve students' resumes and opportunities as they leave the university and seek jobs.

The National and Community Service Trust Act, passed by the Clinton administration in 1993, encourages young people to perform needed services in their communities for pre- and post-college benefits (O'Brein 1993). The Act

emphasizes the value of service-learning in academic institutions for faculty, students, and the community (Parker-Gwin 1996). A key incentive of the initiative is the opportunity to earn a few thousands dollars for educational expenses (Winniford et al. 1997). However, volunteering encouraged, even coerced by the university or paid for, will not be regarded as volunteering in its narrow definition (Cnaan et al. 1996).

Similar initiatives have emerged in other countries, especially in Western Europe. In the last five years, for example, the British government has encouraged students to volunteer through the Higher Education Active Community Fund. Most universities in the United Kingdom have a volunteer bureau and encourage students to volunteer, partly due to a much greater emphasis on employability in universities (Hall et al. 2004). Organizations such as "Student Volunteering England" encourage a long-term commitment for British students (www.studentvol.org.uk). In addition, the Russell Commission Report (2005), focused on voluntary action for youth in Britain, suggested ways to encourage volunteering among young people and students.

Student volunteering is not only in the best interest of the community and students; it is also in the interest of academic institutions. When students engage in a variety of voluntary activities, the social and cultural life on campus and community is enhanced, and the university gains prestige. Historically, academic institutions have been concerned about how to prepare students for the world outside the classroom (Parker-Gwin 1996). This is the last phase in people's development in which society can recruit them and socialize them to become prosocial members. By developing programs in which students volunteer for the community, as well as by providing courses that enhance service learning, faculty have shown their concern for both the community and the students, and encouraged community involvement (Puckett et al. 2007). Service-learning courses have become a common trend around the world in the last decade (Berry and Chisholm 1999); such courses combine academic study and volunteer service. A survey conducted by Berry and Chisholm (1999) found them in 23 nations, including South and North America, Canada, Australia, Europe (East and West), Asia, and the Middle East.

Involvement of higher education institutions was also manifested through the establishment of Campus Compact, a coalition of colleges and universities in the U.S. dedicated to advancing civic and community engagement. Campus Compact was established in 1985 to foster civic values and responsibility among students and to contribute to community welfare (Harward and Albert 1994; Parker-Gwin 1996). Membership of American universities and colleges in the Campus Compact has grown from 305 institutions in 1992 to 1,100 in 2007, which is a quarter of all American academic institutions (Campus Compact 2007; Sax 2004).

It is important for university policy-makers, as well as for the community and civil society organizations, to understand the perceptions, motivations, and characteristics of student volunteers (through service learning or by more narrowly defined volunteerism), as they are not only an important pool of volunteers in the present, but also the future of civil society tomorrow. While an endless number of studies used volunteers to test numerous hypotheses, student volunteers were rarely the focus of inquiry, and no studies examined them from a cross-cultural

perspective. As Winniford et al. noticed in 1997, minimal attention has been paid to volunteering in colleges and universities. In the past decade, only a small body of knowledge on student volunteering has emerged, with the exception of the longitudinal work by Astin and Sax in the past two decades (Astin 1993; 1998; Astin and Sax 1998; Sax 2004). Even more surprising is the fact that very few studies attempted to study specific subgroups of student volunteers, for example, with respect to academic discipline. We lack knowledge of the possible relationships between academic discipline, by original choice or by socialization to the profession, and volunteer behavior and perceptions about volunteering.

This paper presents the findings from 12 countries regarding students' habits of voluntary action engagement, either through service learning or of their free will and initiative. In each country, 300 or more students from different faculties were sampled and answered questionnaires. The data can shed light on student volunteering, and on the connection between vocational choice (expressed in students' major) and volunteering as well as donating money in a cross-cultural context.

Student Volunteering

Volunteering is defined as giving time freely and without any financial reward to help people or a cause (Cnaan et al. 1996; Wilson 2000). The national rate of volunteering for college-age adults (19–24 year olds) in the United States was 20% in 2003, up from 18% the previous year (Helms 2004). In 1990, 26% of undergraduate students said they were involved in volunteer or community service activities. However, Sax (2004) claimed that data from the Freshman Survey show that in 2002, some 82% of college freshmen volunteered for their community during their last year in high school. Although some of them volunteered only episodically, a full 70% of the student volunteers did so weekly. Sax (2004) explained that the rise of volunteering in college is related to the service learning opportunities, the National Community Service Act, and to more high-schools requiring community service for graduation. Most of the studies on student volunteering were undertaken in the United States, and to the best of our knowledge there is no data comparing student volunteering rates around the world. As a result, studies on student volunteering outside the U.S. still have to rely on the American example (see Hall et al. 2004). For example, in Canada 33% of young people (aged 15–24) volunteer (Jones 2000), but the volunteering rate for students is unknown.

Most of the studies on student volunteers focused on characteristics of the volunteers. The ongoing surveys reveal that student volunteers have similar characteristics to volunteers in general (O'Brein 1993). As in the rest of the population, female students volunteer more than males. In addition, older students, aged 30 or older, volunteered more than students in their twenties, a finding which matches what we know of the regular population, that people in the age of 30–55 volunteer more than people in their twenties (Wilson 2000). In general, students who participate in community service work are more likely to come from a higher socio-economic background (O'Brein 1993). The most important factor related to

volunteering in college was whether the student volunteered during high school (Astin and Sax 1998). Former volunteering experience was also found to be a predictor of further volunteering in general (Wilson 2000). Fitch (1987) also showed that previous volunteering predicted volunteering through college years, in addition to parental influence: 78% of students who volunteered had parents who volunteered.

Through the CIRP Freshman Survey, Astin and Sax (1998) found other predisposing factors to volunteering in college: leadership ability, involvement in religious activities, commitment to participating in community action programs, tutoring other students during high school, and being female. The only negative predictor of becoming a volunteer during college was the importance that the student gave to making more money as a reason for attending college. Hence, we may hypothesize that economic and business students will demonstrate the lowest rates of volunteering. Sax (2004) showed that community involvement was related to only one measure of the college environment: the commitment to social activism among the students' peers. Attending a college where other students are highly committed to social activism tends to encourage students' own involvement in their community. As such, we hypothesize that social science students will demonstrate the highest rates of volunteering.

As discussed above, most of the literature on student volunteering is American-based. A cross-cultural perspective is sorely missing despite its importance to understanding the environmental context of volunteering in general and that of students in particular. Previous cross-cultural studies showed that people in different countries have different perceptions on volunteering and its definitions (Handy et al. 2000; Meijs et al. 2003). Local cultures, political climate, governmental policy, history, and norms can all impact the trends of volunteering in a country. As Anheier and Salamon (1999) explained, volunteering is a cultural and economic phenomenon, and it is part of the way societies are organized and allocate social responsibilities, and how much participation they expect from citizens. The authors showed that in different countries and different political regimes people volunteer at different rates and for different causes. For example, in Europe over 1995–1997, about a third of the adult population volunteered in some countries (Belgium, Denmark, and Finland), about half in other countries (Holland and UK), while below 15% volunteered in former communist countries (East Germany, Slovakia, and Bulgaria, with only 7% in Hungary). In other developed countries rates vary from very low in Japan, to 20% in Australia and Israel, and 50% in the U.S. In some countries the causes for which people volunteer (such as sports in Australia) markedly affects the gender and age distribution of the volunteering population.

Vocational Choice

Holland (1966, 1973) presented the vocational choice theory, asserting that there are different types of personalities which fit well with different vocations and work environments. The theoretical rationale is the assumption that vocational choice is

an expression of personality, and that interests are personality inventories. Holland explained that in Western culture, most people can be categorized as one of six types: Realistic, Investigative, Artistic, Social, Enterprising, or Conventional (RIASEC), and that "each type is the product of characteristic interaction among the variety of cultural and personal forces, including peers, biological heredity, parents, social class, culture and the physical environment" (Holland 1973, p. 2).

Obviously, vocational choice is related to educational choice—that is, the major students choose in college. In many cases nowadays, people cannot pursue certain vocations without the necessary education: as much as one's personality is fit to be an engineer, some training and education are first necessary. As Trusty et al. (2000, p. 463) wrote: "educational choices and vocational choices are inherently connected and it seems valid to view educational choices as a means for implementing vocational choices." Educational choice is influenced by other factors as well, such as past achievements, abilities, intelligence, socio-economic status, and gender (Trusty et al. 2000), but it is indeed related to personality type and personal ambitions.

Trusty et al. (2000) divided some university majors according to Holland's personality types: R-type major fields include areas such as medical technology and forestry. I-type majors could be engineering, medicine, and science. A-type majors include literature, journalism, and arts. Examples for S-type majors are education, nursing, social work, sociology, and psychology. E-type majors would be business, economics, and law. Finally, C-type majors include accounting, secretarial, and business support.

Research in recent years has focused on different factors that may lead people to volunteer such as: socio-demographic background (Pearce 1993; Wilson 2000); social resources (such as income, education, and social networks; see Wilson and Musick 1998); psychological motivation (Cnaan and Goldberg-Glen 1991); the functions volunteering fulfils (Clary et al. 1996); volunteers' rewards (Cnaan and Amrofell 1994; Cnaan and Cascio 1998); and psychological traits (Herman and Usita 1994). The dominant status approach to volunteering (Smith 1994) strongly suggests that society's volunteers come from those well-educated and those in the middle and upper classes. However, vocational choice (and its indication of personality) was never studied in its relation to volunteering.

Only a few studies looked into the relationship between undergraduate major and the tendency to volunteer (Astin 1993; O'Brein 1993; Sax 2004). However, they all showed that students who majored in engineering were the least likely to volunteer, followed by students who majored in business and fine arts (humanities). Sax (2004) explained that a student's major was an environmental factor that influenced students' commitment to social activism: students who major in engineering are less likely to develop a personal commitment to social activism as almost no one in their academic environment is actively engaged in it. Furthermore, these deleterious effects of engineering for volunteerism persist in the years after college. If the culture and the norms in schools of engineering do not support volunteerism, new students will comply. Astin (1993) also found that majoring in engineering is

associated with an increased interest in materialism and conservatism and a decline in concern for the larger society.

We suggest in this paper that vocational choice that is manifested in one's field of study (educational choice) may also be a relevant factor in understanding who will become involved in voluntary action. Educational choice is an expression of one's personality but may also be part of one's socialization. When joining a collective made up of future members of the vocation, certain behaviors are reinforced and the socialization process emphasizes certain levels of social responsibility versus free riding. People's group affiliation, in this case a vocational milieu or educational circle, plays an important role in developing the norms and values of both the group and the individual (Bargal 1981; Terry et al. 1999). Studies on socialization to professions, such as in education and health care (Crow 2007; Kritikos et al. 2003; Mendoza 2007), show that people learn the skills and abilities and acquire the needed education and training to become professionals, but they also learn the common values and expected behavior of their colleagues.

Hypotheses

Based on the literature review, we expect individual vocational/educational choice to impact students' level of voluntary action engagement. We define voluntary action engagement (or voluntary action) as a combination of three factors: whether people volunteer, frequency of volunteering, and their donation of money.

We expect that certain people choose educational fields that are matched with their prosocial behavior and, furthermore, once introduced to a group of like-minded students and faculty, the relevant behaviors will be socially reinforced. Based on the connection between field of study and prioritizing one's self-interest, we expect that social science students will be the most concerned with other people's welfare and those studying business and engineering the least, with students in the natural sciences and humanities falling somewhere in between. Thus, we hypothesize:

H1: Students in business or engineering will demonstrate the lowest rates of voluntary action (fewer of them will volunteer, as a group they will volunteer less frequently, and fewer will donate money to charitable causes) as compared to other students. Additionally, we hypothesize that social science students will demonstrate the highest rates of voluntary action with humanities and the natural sciences students ranked in-between.

H2: Even after controlling for gender, age, class, and religious aspiration, students who are registered in business or engineering will demonstrate the lowest rates of voluntary action as compared with social science students, who will demonstrate the highest rates of voluntary action. Humanities and the natural sciences students will be ranked in-between.

H3: Vocational choice will have a different influence on voluntary action in all studied countries. That is, we hypothesize that the relationships between educational choice and voluntary behavior will be different in the 12 studied countries. The reason

is that the social-psychological processes described above explaining reinforcement of major field norms should operate differently across national contexts.

Methods

Procedures

Since the aim of the research was to study voluntary action engagement and perceptions among students in a cross-cultural context, data were collected in 12 different countries: Belgium, Canada, Croatia, England, Finland, Holland, India, Israel, Japan, South Korea, United Arab Emirate (UAE), and the United States. These countries were chosen to present Western and developed countries as well as Eastern and developing ones. They were also chosen due to our ability to collect data there, and obviously some countries and cultures are not presented here, such as African or South American countries.

In each country, one of the research team-members distributed questionnaires to university students. We aimed at a stratified sample that includes equal numbers of students from the following academic disciplines: social sciences (such as: sociology, social work, and psychology), natural sciences (such as: biology, physics, and chemistry), business and economics, humanities (such as: literature, history, and philosophy), engineering (all types including: chemical, structural, and civil), and others (not included in this study).

Data were collected in the 2006–2007 academic year. In all, 7,508 students completed surveys; altogether some 6,570 (87.5%) reported their academic major to be one of the five studied disciplines (the distribution of countries and academic disciplines is shown as part of Table 2). Students that marked "other" in their academic discipline or did not reply were omitted from the sample. Each local researcher had the freedom to choose from his or her academic institution or to sample from a few universities. Consequently, in some counties certain disciplines are underrepresented as the chosen universities did not offer certain areas of study.

Although surveys were not distributed randomly, the very high number of respondents can support the validity of the data. In some country samples certain academic disciplines were seriously underrepresented. For example, in Canada, Finland, and Japan there were very few engineering students, mostly because the studied universities did not have engineering schools. In Japan and Holland there were very few natural science students. The number of students per discipline ranged between 882 and 1,941. In addition, although we aimed for an equal number of surveys in each country, some, such as Japan, managed to collect more than needed, and others, such as Israel and the U.S. had fewer. Yet, with at least 300 surveys from each country, national trends can be studied.

Instrument

A 21-item survey was designed for the purpose of the current study. It combined known questionnaires such as the motivation to volunteer questionnaire (Cnaan and

Goldberg-Glen 1991) and benefits and rewards of volunteering (Gidron 1978). Seven items were related to voluntary action engagement (e.g., to which kinds of organizations, frequency of volunteering, and donation of money) and five items to volunteering through school or university. Socio-demographic factors (age, gender, year of education, family income, and program attended in the university) were also collected. In addition, we asked the students to assess the level of importance of the following issues: earning money, helping the community, or acting according to one's faith (the last item was used as a measure of the subjects' religiosity). All questions were either factual or those used in previous studies on volunteering.

As it was an international study, the questionnaire had to be translated and adapted to the local language and culture. In some cases, it was very difficult to translate the questionnaire culturally. For example, we asked if people volunteered through religious organizations, such as churches. However, in Israel, not only do most people not attend church, but also, in most cases, synagogues usually do not play a social role and do not encourage volunteering. The English version of the questionnaire was used in Canada, UAE, England, India, and the U.S. In all other countries the questionnaire was translated, piloted, and reviewed by a panel of experts.

Participants

Of the 6,570 students who reported to be enrolled in one of the five studied academic areas, 46.2% were male, and 53.8% were female. However, gender was significantly unequal between the 12 studied countries ($\chi^2 = 354.7$, df $= 11$, $p < .001$): in India, 64.9% were males, while in Finland 74.9% were females. Significant differences were found between the five academic programs regarding gender ($\chi^2 = 425.7$, df $= 4$, $p < .001$): the highest percentage of males was found in engineering (77.3%) and the highest percentage of females in the humanities (64.2%).

As for their family income/status, 20.2% indicated that their family belonged to a low-income class; 66.6% belonged to a middle-income class; and 13.1% belonged to a high-income class. These results significantly varied among countries ($\chi^2 = 792.4$, df $= 22$, $p < .001$). The highest rates of students reporting their family as a high-income class was found in Holland (49%), the United States (38.9%), and Israel (38%). The highest rates of low-income were reported in Japan (22.9%) and Finland (22.4%), followed by South Korea (18.6%). Significant differences were found between the five academic programs regarding family income/status ($\chi^2 = 85.0$, df $= 8$, $p < .001$): more students in business and humanities (approximately 24% in each) reported high-income class than in other disciplines.

The mean age of the students was 22 years (median = 21 years), whereas 90% were 25 years old or younger. Significant differences were found between the 12 countries (F $= 123.2$, df $= 11$, $p < .001$). In Israel, the mean age was higher (25.7) due to obligatory 2–3 years of military service, followed by Finland (24.8). The youngest mean age (under 21 years) was found in UAE, Belgium, Japan, and the U.S. The age differences between the five academic programs amounted to less than one year.

Results

The goal of the current study was to understand the relationship between volunteering and vocational/educational choice with a special interest in cross-national comparisons. We thus analyzed the relationship between choice of the five disciplines (social sciences, natural sciences, business/economics, humanities, and engineering) and involvement in voluntary action.

Rates of Voluntary Action

Our first hypothesis suggested that students who are registered in social sciences will report the highest levels of voluntary action followed by natural sciences and humanities students, with business and engineering students at the bottom (as measured by volunteering, volunteering frequency, and donating money to charitable causes). We first used a Chi-Square test of association between the five programs and any reporting of volunteering ($\chi^2 = 86.3$, df $= 4$, $p < .001$). Two-thirds of the students (66.6%) reported at least one act of volunteering. However, contrary to our hypothesis, social science students reported the lowest rates of volunteering (59%), followed by business (66.9%), and all other groups at the top (engineering, 70.7%; natural sciences, 71.3% and humanities, 73.3%).

When asked about the frequency of volunteering, only a handful of students reported volunteering weekly (12.4%) or even monthly (7.4%). This result was similar to Helms' (2004) finding that only 20% of students volunteer on a regular basis. We found that the association between those who volunteer regularly (weekly and monthly combined) versus the others (occasionally and not at all) and the academic programs was significant ($\chi^2 = 45.2$, df $= 4$, $p < .001$). Humanities students showed the highest rates of regular volunteering (27.7%), followed by the natural sciences (19.6%), engineering and business (18.3% each), and finally social sciences (18.2%). Again, social science students' rates of regular volunteering were among the lowest and contrary to our hypothesis. Students of humanities rank above all other disciplines, and engineering students are more active in volunteering than expected.

Finally, we studied the participation of students in donating to charitable causes. Being part of civil society is also expressed by financially supporting organizations and causes the individual wishes to promote. A large percentage of students (65.7%) reported they donate money. There were significant differences between the five programs regarding donation habits ($\chi^2 = 102.2$, df $= 4$, $p < .001$). Almost three quarters of humanities students (72.4%) reported donating money, followed by business (70.4%) and natural science students (69.7%). Only 61% of engineering students donated money, and the least likely to do so were students of social sciences (58%).

Our first hypothesis that mirrored the literature was not supported. Social science students did not report the highest rates of voluntary action and, in fact, were last in regular volunteering and donating money to charitable causes. Humanities students reported the highest rates of voluntary action both in terms of donations and

volunteering. Similarly, engineering students reported higher rates of voluntary action than hypothesized. As expected, business students reported low rates of voluntary action (with the exception of donating money), and natural science students, as expected, fell in the middle.

The Net Impact of Academic Vocational Choice on Voluntary Action

Our second hypothesis stated that even after controlling for background variables (gender, age, class, and religious aspiration), social science students would demonstrate the highest rates of voluntary action as compared with students who are registered in business or engineering who demonstrate the lowest rates of voluntary action (with humanities and the natural sciences students again ranked in the middle).

In order to assess the impact of educational programs on volunteering, above and beyond that of a set of background variables (age, gender, family income, and religiosity), we performed two sets of multiple logistic regressions. First, we computed the impact of the background variables on at least one act of volunteering and then added four programs to the model (controlling for natural sciences). As can be seen from columns two and three of Table 1, two of the background variables that were entered into the multiple logistic regression were significant (religiosity and family income), and all but two programs (social sciences and business) were also significant. Put differently, even when controlling for the impact of the background variables the students' academic vocation choice is still significant in explaining volunteering.

In order to assess the impact of educational programs controlling for relevant background variables (age, gender, family income, and religiosity) on frequency of volunteering we compared those reporting to volunteer at least monthly versus those reporting to volunteer occasionally or never. We performed two sets of multiple logistic regressions. First, we computed the impact of the background variables on volunteering alone and then added the program. As can be seen from columns four and five of Table 1, two background variables were significant (age and family income). When we added the four programs; humanities was also significant. Again, even when controlling for the impact of the background variables the students' academic vocation choice is still significant in explaining volunteering.

To assess the impact of educational programs on donating money to charitable causes we used the same procedure as before. As can be seen from the two right columns of Table 1, all four background variables were significant (gender, religiosity, age, and family income). Two of the four academic programs were still significant (engineering and social sciences). Once again, even when controlling for the impact of the background variables, the students' academic vocation choice is still significant in explaining donations.

In this respect, our hypothesis was mostly supported. Even when controlling for the four key background variables, we found that the chosen academic program/vocation significantly explained the level of student volunteering.

Table 1 Logistic regression explaining types of voluntary action ($N = 6{,}570$) (point estimate and 95% confidence limits)

Variables	Volunteering		Frequency of volunteering		Donations	
	Background variables (BG)	BG + Academic programs	Background variables (BG)	BG + Academic programs	Background variables (BG)	BG + Academic programs
Gender	.947 (.856, 1.048)	−.099 (.817, 1.005)	.937 (.827, 1.062)	.985 (.864, 1.122)	.678 (.613, .750)***	.704 (.633, .781)***
Religiosity	1.422 (1.286, 1.573)***	.275 (1.186, 1.460)***	1.054 (.931, 1.195)	1.075 (.946, 1.221)	1.209 (1.093, 1.336)***	1.166 (1.052, 1.293)***
Age	1.000 (.988, 1.012)	.002 (.990, 1.015)	.981 (.967, .995)**	.982 (.968, .996)***	.949 (.936, .964)***	.954 (.940, .968)***
Family income	1.342 (1.228, 1.468)***	.278 (1.206, 1.445)***	1.322 (1.185, 1.474)***	1.317 (1.180, 1.471)***	1.452 (1.328, 1.589)***	1.415 (1.293, 1.549)***
Humanities		.1.203 (1.011, 1.435)		.688 (.558, .848)***		.839 (.705, .997)
Engineering		1.266 (1.047, 1.530)		1.109 (.871, 1.413)		1.358 (1.135, 1.625)**
Social sciences		.700 (1.734, 2.338)***		1.119 (.916, 1.368)		1.686 (1.463, 1.943)***
Business		.454 (1.345, 1.843)**		1.288 (1.041, 1.593)		1.137 (.975, 1.326)
Likelihood ratio	7951.7	7887.5	6295.1	6253.5	7878.4	7795.6

* Significant at the .05 level

** Significant at the .01 level

*** Significant at the .001 level

Cross-National Variability

The relationships detected so far relate to the sample as a whole. One of our key goals was to assess the generalizations of the findings in various countries. As noted above, 12 countries were included in this study. First, analysis of the data shows that our hypothesis of differentiation in voluntary action engagement is supported. In terms of involvement in volunteering, the association between country and volunteering was strongly significant ($\chi^2 = 691.2$, df = 1, $p < .001$). In countries such as the UAE, India, and the U.S., more than 85% reported to be engaged at least once in volunteering. At the end of the volunteering continuum are students from Japan (39.3%) and Croatia (51.2%).

With regard to frequency of volunteering, again the association is significant ($\chi^2 = 448.5$, df = 1, $p < .001$). In four countries it was reported that about one-third of the students volunteer monthly or more frequently, with the U.S. (41.1%) and Canada (31.5%) at the top followed by Holland (29.9) and Belgium (29.2%). At the bottom of the list are Japan (5.1%), Croatia (9.5%), India (12.7%), England (13.7%), and UAE (14.0%). Some countries such as Croatia, India, and UAE, reported higher levels of volunteering, but most of it was not ongoing but episodic. That is, many students reported some instances of volunteering, but few reported to volunteer monthly or weekly.

With regard to donating to charitable causes, again the association is strongly significant ($\chi^2 = 520.9$, df = 1, $p < .001$). Among the countries that reported the highest rates of students who donated money in the past 12 months are UAE (82.9%) and Finland (82.1%). These countries were followed by the U.S. (75.5%), England (75.2%), Israel (73.7%), and Canada (71.4%). At the other end of the donation continuum are Japan (40.4%) and Croatia (48%).

We tested in each country whether major field explains involvement in voluntary action. As can be seen from Table 2, the rank order of which academic field (vocational choice) is more or less involved in voluntary action is quite inconsistent. Our hypothesis that social sciences students will be most involved in voluntary action was supported in the United States, Belgium, South Korea, and India. However, in Finland, Holland, Japan, Canada, and England, social sciences students reported very low rates of involvement in voluntary action. This comparison suggests that our hypothesis regarding cross-cultural variation was supported. It also suggests that most findings reported in the literature are from the United States and may not hold true in most other countries.

For the sample as a whole, students of natural sciences were ranked second, after humanities, in their engagement in voluntary action. In some countries natural sciences were reported to be most engaged in voluntary action, for example, in Canada and Finland. However, the United States had the lowest reported rates of voluntary action engagement. The same pattern was found in UAE and Israel.

For the sample as a whole, students of humanities were ranked as the most engaged in voluntary action, supported by the results in Japan, Korea, Holland, Finland, and India. However, in UAE, Belgium, and the United States, humanities students showed lower rates of voluntary action engagement. Students of engineering were ranked for the sample as a whole in the middle (third in

Table 2 Rank order of involvement in types of voluntary action by academic programs by country ($N = 6{,}570$)

Country	Program					Total
	Social sciences	Natural sciences	Business/Economics	Humanities	Engineering	
Belgium	$N = 117$	$N = 131$	$N = 192$	$N = 297$	$N = 154$	891
N.S.	Volunteering: 1	Volunteering: 2–3	Volunteering: 5	Volunteering: 2–3	Volunteering: 4	
N.S.	Frequency: 1	Frequency: 2	Frequency: 3	Frequency: 4	Frequency: 5	
N.S.	Donations: 1	Donations: 3–4	Donations: 5	Donations: 2	Donations: 3–4	
Canada	$N = 179$	$N = 83$	$N = 247$	$N = 111$	$N = 2$	612
**	Volunteering: 2–3	Volunteering: 1	Volunteering: 4	Volunteering: 2–3	XXX	
***	Frequency: 1–2	Frequency: 3	Frequency: 4	Frequency: 1–2		
N.S.	Donations: 3–4	Donations: 1–2	Donations: 3–4	Donations: 1–2		
Croatia	$N = 174$	$N = 118$	$N = 84$	$N = 87$	$N = 137$	600
N.S.	Volunteering: 1–3	Volunteering: 1–3	Volunteering: 5	Volunteering: 1–3	Volunteering: 4	
N.S.	Frequency: 1	Frequency: 2	Frequency: 5	Frequency: 3	Frequency: 4	
N.S.	Donations: 2	Donations: 4	Donations: 5	Donations: 1	Donations: 3	
England	$N = 69$	$N = 259$	$N = 190$	$N = 12$	$N = 16$	546
N.S.	Volunteering: 2	Volunteering: 3	Volunteering: 4–5	Volunteering: 1	Volunteering: 4–5	
N.S.	Frequency: 1	Frequency: 3	Frequency: 4	Frequency: 2	Frequency: 5	
N.S.	Donations: 4	Donations: 1–2	Donations: 1–2	Donations: 3	Donations: 5	
Finland	$N = 98$	$N = 56$	$N = 202$	$N = 87$	$N = 0$	443
*	Volunteering: 4	Volunteering: 1	Volunteering: 3	Volunteering: 2	XXX	
N.S.	Frequency: 4	Frequency: 1–3	Frequency: 1–3	Frequency: 1–3		
N.S.	Donations: 1–2	Donations: 4	Donations: 3	Donations: 1–2		

Table 2 continued

Country	Program					Total
	Social sciences	Natural sciences	Business/Economics	Humanities	Engineering	
India	$N = 59$	$N = 149$	$N = 122$	$N = 18$	$N = 133$	481
***	Volunteering: 2	Volunteering: 4	Volunteering: 3	Volunteering: 1	Volunteering: 5	
*	Frequency: 1	Frequency: 2–3	Frequency: 2–5	Frequency: 5	Frequency: 4	
***	Donations: 2	Donations: 3–4	Donations: 3–4	Donations: 1	Donations: 5	
Israel	$N = 101$	$N = 47$	$N = 92$	$N = 102$	$N = 37$	379
N.S.	Volunteering: 3	Volunteering: 4	Volunteering: 5	Volunteering: 1–2	Volunteering: 1–2	
N.S.	Frequency: 2–3	Frequency: 4	Frequency: 5	Frequency: 2–3	Frequency: 1	
***	Donations: 1–2	Donations: 1–2	Donations: 4	Donations: 3	Donations: 5	
Japan	$N = 804$	$N = 3$	$N = 122$	$N = 37$	$N = 1$	967
***	Volunteering: 3	XXX	Volunteering: 2	Volunteering: 1	XXX	
N.S.	Frequency: 3		Frequency: 2	Frequency: 1		
N.S.	Donations: 3		Donations: 2	Donations: 1		
Korea	$N = 40$	$N = 39$	$N = 127$	$N = 72$	$N = 138$	416
N.S.	Volunteering: 1	Volunteering: 3	Volunteering: 4	Volunteering: 2	Volunteering: 5	
**	Frequency: 1	Frequency: 3	Frequency: 4–5	Frequency: 2	Frequency: 4–5	
N.S.	Donations: 2	Donations: 3	Donations: 4	Donations: 1	Donations: 5	
Holland	$N = 101$	$N = 1$	$N = 98$	$N = 158$	$N = 30$	388
**	Volunteering: 3–4	XXX	Volunteering: 1	Volunteering: 2	Volunteering: 3–4	
**	Frequency: 3		Frequency: 4	Frequency: 2	Frequency: 1	
***	Donations: 4		Donations: 2–3	Donations: 1	Donations: 2–3	

Table 2 continued

Country	Program					Total
	Social sciences	Natural sciences	Business/Economics	Humanities	Engineering	
UAE	$N = 64$	$N = 13$	$N = 196$	$N = 27$	$N = 177$	477
N.S.	Volunteering: 3	Volunteering: 1–2	Volunteering: 4	Volunteering: 1–2	Volunteering: 5	
N.S.	Frequency: 1–2	Frequency: 5	Frequency: 3	Frequency: 4	Frequency: 1–2	
N.S.	Donations: 1	Donations: 5	Donations: 2	Donations: 3–4	Donations: 3–4	
USA	$N = 135$	$N = 70$	$N = 54$	$N = 54$	$N = 57$	370
***	Volunteering: 1–2	Volunteering: 5	Volunteering: 4	Volunteering: 1–2	Volunteering: 3	
N.S.	Frequency: 1	Frequency: 4	Frequency: 5	Frequency: 3	Frequency: 2	
N.S.	Donations: 1–2	Donations: 5	Donations: 1–2	Donations: 4	Donations: 3	
Total	1,941	959	1,813	975	882	6,570

Note: XXX = Sum of subjects too small to generate an analysis

* Significant at the .05 level

** Significant at the .005 level

*** Significant at the .001 level

volunteering and frequency of volunteering and fourth in donations). Similarly, in most countries students of engineering were ranked at the middle, however, they ranked very low in Belgium, India, England, and South Korea. Note that the samples in three countries did not include engineering students.

Business students, as hypothesized, were not very engaged in voluntary action. For the sample as whole, they were ranked among the lowest in voluntary action engagement with the exception of donations. In Table 2 the same pattern is observed with two key exceptions: in Holland business students ranked at the top in volunteering, and in Finland business students' frequency of volunteering is as high as the other majors. With regard to donations, business students are at the top in the United States, UAE, and England. However, in Croatia and Belgium, they rank low in donations.

Discussion and Conclusions

In this paper we sought to find out if student selection of an academic discipline can predict involvement in voluntary action. We assumed that people choose an academic discipline that leads to a vocational milieu that best fits one's personality and behaviors. Furthermore, when one enters an educational field, the faculty and the students shape her or his attitudes and expectations, and the process of professional socialization lead to acceptance of the group's norms.

Based on this logic and the review of the literature, we hypothesized that social science students will be the most engaged in voluntary action, followed by natural sciences and humanities students, and at the bottom business and engineering students. Given that the majority of the literature is American-based, we suggested that this trend may not hold true in each country. As such, we carried out a study of students in 12 different countries.

Our first finding showed that our hypothesis was not supported. Social science students reported the lowest rates of voluntary action engagement (volunteering, frequency of volunteering, and donating to charitable causes). This finding is totally the opposite of our hypothesis. We further found that our hypothesis was in fact supported within the sub-sample of the United States, which may explain the source of this expectation in the available literature. However, an alternative explanation is that many of these students set their career path in helping people and may feel that their contribution is in helping people professionally while settling for lower salaries. Furthermore, students of social sciences (especially in psychology, social work, and education) go through field placements and internships as part of their graduation requirements. As a result, they may distinguish helping others as school-related versus the same practice in their leisure time.

In all three measures of voluntary action, students of humanities came out on top. This finding, again, was unexpected. Although their major suggests that these students may be less engaged in issues of poverty and equality, across the sample they demonstrated the highest rates of voluntary action engagement. Again, our hypothesis was based on American literature, and indeed in UAE, Belgium, and the United States they showed lower rates of voluntary action engagement. It is possible

that those studying the humanities develop a social conscience, and since they are not required to do field placement they are more available and willing to express their prosocial values in action.

We assumed that most business students are seeking economic wealth and as such will be less concerned with the welfare of others, which would lead to lower levels of voluntary action. These students were, on average, more often males and of higher socioeconomic background. Males are often less engaged in volunteering, but are more engaged in charitable donations (Wilson 2000). This trend was supported here as business students tended not to volunteer, but to donate money. In this way, they follow the norm that business people can achieve more impact by donating large sums of money than by volunteering their time and expertise. In other words, we see their voluntary action engagement while students as part of their socialization to the norms of the profession.

Students of natural sciences reported rates of voluntary action above our expectations, and they were ranked second in most aspects of voluntary action. Again, when we viewed the same trends by country it was clear that our expectations were based on the American example and literature. Engineering students were not rated as low as we had expected and fell in the middle of the pack. In this case the same trend was found in the United States.

These findings shed new light on voluntary action and students' choice of academic field and vocational choice. The lack of support for our first hypothesis suggests the need for further study in this area. The support for our second hypothesis indicates that while background variables, as expected by the dominant status approach (Smith 1994), are important in explaining engagement in voluntary action, the choice of the academic discipline adds to our ability to explain voluntary action engagement. Finally, the support for our third hypothesis suggests that cultural norms of each country shape the relationships between vocational choice and voluntary action engagement. As such, one is cautioned not to make generalizations from one country to the context of another country.

The current study is also a pioneer in investigating volunteering according to vocational choice as expressed in Holland's theory (1966, 1973). Although many studies were done on the impact of vocational choice on professions and work-place behaviors, research had not been conducted to assess the relationship between vocational choice and volunteering. If we adopt the division of educational fields according to the personality type (Trusty et al. 2000), we may conclude that artistic-type students (humanities) are the most likely to be engaged in voluntary action, while social-type students are the least. Enterprising-type students (business) are less likely to volunteer, while investigative-type students (natural sciences and engineering) are ranked in the middle. We suggest that further research is needed to investigate the relation between vocational choice (among paid workers as well) and voluntary action.

These findings and conclusions are the first step to studying this field, and follow-up studies are sorely needed. In addition to further studies on the relationship between vocational choice and voluntary action, we suggest additional studies on student volunteering in cross-cultural perspectives. Although our research strived to cover different countries, most of them are Western and European. Further studies

should cover other areas such as Africa, Oceania, and South America. It would be interesting to see different cultures such as in communist or ex-communist countries versus democratic ones; developing versus developed; and countries of different religiosity. Other disciplines of study should be looked at, such as law or medicine.

As in all research this study has a few limitations that need to be considered. A cross-cultural study is always challenging. Since the research instrument had to be translated and adapted, the variations may limit the possibility of comparison. In addition, some data that could have helped in explaining voluntary action were not collected (such as amount of leisure time; level of support to the student by family or country; and family volunteering tradition). Finally, the division of participants among the different academic programs and countries was not always equal. In some countries one or two programs did not appear. However, the high number of participants, and the lower gap between the overall numbers of students in each program, helped us overcome this limitation.

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References

Anheier, H. K., & Salamon, L. M. (1999). Volunteering in cross-national perspective: Initial comparisons. *Law and Contemporary Problems, 62*, 43–65.

Astin, A. (1993). *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.

Astin, A. W. (1998). The changing American college student: Thirty-year trends, 1966–1996. *The Review of Higher Education, 21*, 115–135.

Astin, A. W., & Sax, L. J. (1998). How undergraduates are affected by service participation. *Journal of College Student Development, 39*, 251–263.

Bargal, D. (1981). Social values in social work: A developmental model. *Sociology and Social Welfare, 8*, 45–61.

Berry, H. A., & Chisholm, L. A. (1999). *Service learning in higher education around the world: An initial look*. New York: The International Partnership for Service-Learning.

Campus Compact. (2007). Campus Compact: Educating citizens, building communities. Available online: www.compact.org.

Clary, E. G., Snyder, M., & Stukas, A. A. (1996). Volunteers' motivations: Findings from a national survey. *Nonprofit and Voluntary Sector Quarterly, 25*, 485–505.

Cnaan, R. A., & Amrofell, L. (1994). Mapping volunteer activity. *Nonprofit and Voluntary Sector Quarterly, 23*, 335–351.

Cnaan, R. A., & Cascio, T. (1998). Performance and commitment: Issues in management of volunteers in human service organizations. *Journal of Social Service Research, 24*(3/4), 1–37.

Cnaan, R. A., & Goldberg-Glen, R. S. (1991). Measuring motivation to volunteer in human services. *Journal of Applied Behavioral Science, 27*, 269–284.

Cnaan, R. A., Handy, F., & Wadsworth, M. (1996). Defining who is a volunteer: Conceptual and empirical considerations. *Nonprofit and Voluntary Sector Quarterly, 25*, 364–383.

Crow, G. M. (2007). The professional and organizational socialization of new English head teachers in school reform contexts. *Educational Management Administration & Leadership, 35*, 51–71.

Fitch, R. A. (1987). Characteristics and motivations of college students volunteering for community service. *Journal of College Student Personnel, 28*, 424–431.

Gidron, B. (1978). Volunteer work and its rewards. *Volunteer Administration, 11*, 18–32.

Hall, D., Hall, I., Cameron, A., & Green, P. (2004). Student volunteering and the active community: Issues and opportunities for teaching and learning in sociology. *Learning and Teaching in the Social Sciences, 1*, 33–50.

Handy, F., Cnaan, R. A., Brudney, J. L., Ascoli, U., Meijs, L. C. M. P., & Ranade, S. (2000). Public perception of "who is a volunteer:" An examination of the net-cost approach from a cross-cultural perspective. *Voluntas, 11*, 45–65.

Harward, B. M., & Albert, L. S (1994). Service and service-learning. *American Association for Higher Education Bulleting, 46*, 9–11.

Helms, S. E. (2004). *Youth volunteering in the States: 2002 and 2003*. College Park, MD: Circle.

Herman, K. C., & Usita, P. M. (1994). Predicting Big Brother/Big Sister volunteer attrition with the 16 PF. *Child & Youth Care Forum, 23*, 207–211.

Holland, J. (1966). *A psychology of vocational choice: A theory of personality types and environments*. Waltham, MA: Blarsdell.

Holland, J. (1973). *Making vocational choices: A theory of career*. Englewood Cliffs, NJ: Prentice Hall.

Jones, F. (2000). Youth volunteering on the rise. *Perspectives on Labour and Income, 12*, 36–42.

Kritikos, V., Watt, H. M. G., Krass, I., Sainsbury, E. J., & Bosnic-Anticevich S. Z. (2003). Pharmacy students' perceptions of their profession relative to other health care professions. *International Journal of Pharmacy Practice, 11*, 21–129.

Meijs, L. C. P. M., Handy, F., Cnaan, R. A., Brudney, J. L., Ascoli, U., Ranade, S., et al. (2003). All in the eyes of the beholder? Perceptions of volunteering across eight countries In P. Dekker & L. Halman (Eds.), *The value of volunteering: Cross-cultural perspectives* (pp. 19–34). New York: Kluwer/ Plenum.

Mendoza, P. (2007). Academic capitalism and doctoral student socialization: A case study. *The Journal of Higher Education, 78*, 71–96.

O'Brein, E. M. (1993). Outside the classroom: Students as employees, volunteers and interns. *Research Briefs, 4*, 1–12.

Parker-Gwin, R. (1996). Connecting service to learning: How students and communities matter. *Teaching Sociology, 24*, 97–101.

Pearce, J. L. (1993). *Volunteers: The organizational behavior of unpaid workers*. New York: Routledge.

Puckett, J. L., Harkavy, I., & Benson, L. (2007). *Dewey's dream: Universities and democracies in an age of education reform*. Philadelphia: Temple University Press.

Russell Commission Report. (2005). A national framework for youth action and engagement. Available online: http://archive.cabinetoffice.gov.uk/Russellcommission/report/index.html.

Sax, L. J. (2004). Citizenship development and the American college student. *New Directions for Institutional Research, 122*, 65–80.

Smith, D. H. (1994). Determinants of voluntary association participation and volunteering: A literature review. *Nonprofit and Voluntary Sector Quarterly, 23*, 243–263.

Terry, D. J., Hogg, M. A., & White, K. M. (1999). The theory of planned behavior: Self-identity, social identity and group norms. *British Journal of Social Psychology, 38*, 225–244.

Trusty, J., Robinson, C. R., Plata, M., & Ng, K. (2000). Effect of gender, socioeconomic status, and early academic performance on postsecondary educational choice. *Journal of Counseling and Development, 78*, 463–472.

Wilson, J. (2000). Volunteering. *Annual Review of Sociology, 26*, 215–240.

Wilson, J., & Musick, M. A. (1998). The contribution of social resources to volunteering. *Social Science Quarterly, 79*, 799–814.

Winniford, J. C., Carpenter, D. S., & Grider, C. (1997). Motivations of college students as volunteers: A review. *NASPA Journal, 34*, 134–146.