

ABSTRACT

This paper describes the values orientation of a residential learning community dedicated to exploring the issues of faith and community through service learning. The Schwartz model of values, as measured by the 10-item scale used in the World Values Survey (WVS), was used to compare members of this residential learning community with peers in a different section of the same required core religion course. The section for the residential learning community cohort was taught as a service-learning course whereas the other section had a standard lecture and discussion format. The two groups showed somewhat similar profiles, scoring highest on Benevolence and lowest on Power, although the members of the residential learning community were nonetheless relatively lower on Power. However, the most notable difference between the two groups was the very low importance placed on Hedonism by the residential learning community members. Unexpectedly, Universalism (a prosocial value) was not one of the most important values, which we attribute to the inadequacy of the item meant to measure this value on the WVS.

Profile of a Residential Learning Community on Schwartz's Typology of Values

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Much of the writing on service-learning is atheoretical (Eyler, 2002). Hrivnak and Kenworthy (2011) argue that in order to advance the theoretical foundation and understanding of service-learning, the field needs to explore the linkage between service-learning and the values model proposed by Shalom Schwartz. We take a step in that direction in this article. The first objective of our study was to describe in Schwartz's terms the value-orientation of students who volunteer to be involved in a faith-based residential community service-learning organization called Signum Fidei (Sign of Faith). Our second aim was to assess the adequacy of a 10-item scale for measuring the Schwartz value system, given that concerns have been raised about it.

We begin by describing the Schwartz model and how the values are measured. Since community service-learning is a form of prosocial behavior, we next review the research on the relationship between prosocial behavior and the Schwartz model of values. We then consider the literature on the relationship of religiosity to these values because the learning community has religious roots. Finally, we review the relatively limited literature on values and learning.

Review of the Literature

The Schwartz Model of Values

Over the course of the last several decades, there has occurred a strong revival in the study of values (Hitlin & Piliavin, 2004), which are the abstractions that motivate and guide behavior (Bardi & Schwartz, 2003; Maio & Olson, 1995). A very prominent and extensively validated model is the Schwartz value theory (Schwartz, 1994; Spini, 2003) which posits ten basic values that have a universal and integrated structure: Power, Achievement, Hedonism, Stimulation, Self-direction, Universalism, Benevolence, Tradition, Conformity, and Security. In this model, values are a continuum of related motives, which permits a circular arrangement where the closer any two values are in either direction around the circle, the more similar is the underlying motivation. Conversely, the further away the values are from each other, the more antagonistic they are in terms of the motivation. This circular structure of relations among values has been demonstrated across countries and measurement instruments (Schwartz, 2006).

The brief definitions of these values are as follows (paraphrasing Schwartz, 1992). Most of the ten values are easily understood with just a presentation of the term itself, but the meaning of Benevolence and Universalism may not be so apparent.

- *Self-direction*: desire to be free from external control or constraints on one's thoughts or actions.
- *Stimulation*: seeking arousal by participating in exciting, new, and challenging activities.
- *Hedonism*: pursuing pleasurable experiences, especially sensual gratification.
- *Achievement*: wanting to be competent and to be recognized for one's accomplishments.
- *Power*: desire to exert control over people and resources.
- *Security*: desire to avoid danger or instability.
- *Conformity*: need to avoid violations of social norms and expectations.
- *Tradition*: accepting the established patterns of thought and behavior that reflect one's culture.
- *Benevolence*: desire to promote the welfare of people with whom one has frequent personal contact.
- *Universalism*: desire to promote the welfare of all people (including strangers) and a concern for the protection of nature.

The congruities and conflicts among these values form two higher-order bipolar dimensions (Schwartz & Boehnke, 2004): (a) Openness to Change vs. Conservation and (b) Self-Enhancement vs. Self-Transcendence. A given behavior entails trade-off between competing values. On the first dimension (Openness to Change vs. Conservation), Self-Direction and Stimulation (which emphasize independence and readiness to experience new situations) conflict with Security, Conformity and Tradition (which stress order, self-discipline, and preservation of the past). On the second dimension (Self-Enhancement vs. Self-Transcendence), power and achievement (which emphasize one's own self interest) conflict with Universalism and Benevolence (which involve concern about the welfare of others). Hedonism is a value that permeates both Openness to Change and Self-Enhancement. Some researchers have referred to these two dimensions as Individualism versus Conformism and Egoism versus Altruism (Held, Muller, Deutsch, Grzechnik, & Welzel, 2009).

Approaches to Measuring the 10 Values

The initial instrument assessing the 10 values consisted of a 56-item questionnaire referred to as the Schwartz Value Scale (SVS) (Schwartz, 1994), but it was soon complemented by a 40-item scale called the Portrait Value Questionnaire (PVQ). Under Schwartz's guidance, the latter survey was shortened to 21 items in the European Social Survey (ESS), which is used to periodically investigate the attitudes, beliefs and behaviors in European countries (<http://www.europeansocialsurvey.org>).

More recently, without Schwartz's advice or approval, the assessment process was further reduced to 10 items in the World Values Survey (WVS) (<http://www.worldvaluessurvey.org/wvs.jsp>), where only one item from the PVQ is used to measure each value. A different 10 item modification of the PVQ was pilot tested by the American National Election Studies (ANES) Institute (Hitlin & Kramer, 2007; McConochie & Dunn, 2006) and a 10-item version of the SVS has also been created (Lindeman & Verkasalo, 2005). However, questions have been raised about the adequacy of all the PVQ abbreviations: the 21-item version in the ESS (Davidov & Schmidt, 2007; Davidov, Schmidt, & Schwartz, 2008; Knoppen & Saris, 2009 a, b), the 10-item scale in the WVS (Rudnev, 2011), and the 10-item ANES abbreviation (McConochie & Dunn, 2006).

Table 1 presents the items from the WVS along with the value and second order dimension (domain) that each item is meant to capture. As on the PVQ and on the ESS, each item on the WVS presents a description of an individual and the respondent is then asked to indicate on a 6-point asymmetric bipolar categorical scale the degree to which the description also fits the respondent (not at all like me=1, not like me=2, a little like me=3, somewhat like me=4, like me=5, very much like me=6). The ESS version is based on the PVQ and the WVS adaptation, in turn, is a modification of the ESS in which only a subset of the ESS items were used. The items on the WVS were modified such that the item's wording is shorter and sex neutral (allowing for the same question to be used for males and females). For example, the following is the wording for an ESS item measuring Universalism on the male version: "*He strongly believes that people should care for nature. Looking after the environment is important to him.*" On the WVS, that item became: "*Looking after the environment is important to this person; to care for nature.*"

Table 1

Items from the WVS Meant to Assess the Values in the Schwartz Model

WVS Item	Value	Second Order Dimension
Looking after the environment is important to this person; to care for nature.	Universalism	
It is important to this person to help the people nearby; to care for their well-being	Benevolence	Self-Transcendence
It is important to this person to always behave properly; to avoid doing anything people would say is wrong.	Conformity	
Tradition is important to this person; to follow the customs handed down by one's religion or family.	Tradition	Conservation
Living in secure surroundings is important to this person; to avoid anything that might be dangerous.	Security	
It is important to this person to be rich; to have a lot of money and expensive things.	Power	Self-Enhancement
Being very successful is important to this person; to have people recognize one's achievements.	Achievement	
It is important to this person to have a good time; to "spoil" oneself.	Hedonism	
Adventure and taking risks are important to this person; to have an exciting life.	Stimulation	Openness to Change
It is important to this person to think up new ideas and be creative; to do things one's own way.	Self Direction	

A comprehensive analysis of the measurement properties of the WVS version of the PVQ was conducted by Rudnev (2011) in which the results from the 2005-2007 administrations of the WVS (46 countries, 60,004 respondents) were contrasted with the results from the ESS. Compared to their ESS counterparts, the ratings on the WVS questions are consistently higher, suggesting greater respondent acquiescence on the WVS. According to Rudnev (2011), the potential reasons for the greater degree of agreement with each item on the WVS relative to the ESS include the changes in wording, the mode of administration (self-completion vs. face-to-face), the influence of other items present on the ESS but absent on the WVS, and the translations from the master questionnaire.

Furthermore, Rudnev's confirmatory factor analysis of the ten Schwartz value items on the WVS showed that the factor structure was not invariant across countries, as should be the case given the universality of the Schwartz model of values. An exploratory factor analysis of the 2006 WVS results from Germany, conducted by Held, Muller, Deutsch, Grzechnik, and Welzel (2009), also found that the factor structure of the WVS questionnaire does not fit the second order dimensions of Schwartz's model. In contrast to studies of the factor structure of the 40-item PVQ and the 56-item SVS, Held et al (2006) found that three factors best accounted for the pattern of correlations among the 10 items on the WVS variant of the PVQ. Held et al named the underlying factors: "Excitement", "Care-take", and "Security & Conformity." "Excitement" was defined by Stimulation, Achievement, Power, Hedonism, Self –Direction. "Care-take" was composed of Benevolence, Universalism, Tradition, and Self-Direction. "Security & Conformity" consisted of Security, Conformity, and Tradition.

Causes suggested by Rudnev (2011) for the lack of factorial invariance are the small number of items, the choice of non-optimal items to represent certain domains, the wording change mentioned previously, and the sampling procedures. The choice of the particular items to assess the values is a very likely cause for the differences in factor structure identified by both Rudnev (2011) and Held et al (2009). Rudnev reports that, based on a multidimensional scaling of the ESS, only 4 of the 10 items on the WVS are the best representatives of the respective value (Security, Self-Direction, Benevolence, Hedonism). For example, the best single ESS item to measure Universalism would have been: "*He thinks it is important that every person in the world should be treated equally. He believes everyone should have equal opportunities in life.*" The Universalism item used on the WVS is instead based on the following ESS item: "*He strongly believes that people should care for nature. Looking after the environment is important to him.*" Knoppen and Saris (2009 a) likewise report that the item focusing on the environment did not load on Universalism in a sample of German students.

Values and Prosocial Behavior

Prosocial behavior is any act that benefits another person and which does not directly reward the helper and may in fact entail a cost to the one offering the aid. Knafo, Israel, and Ebstein (2011), report that the predisposition to behave prosocially is a characteristic that is in part genetically determined. According to Schwartz (2007, 2008, 2010), prosocial behavior is driven by the values of Universalism, Benevolence, and Conformity. Benevolence is an internalized motive for voluntarily promoting the welfare of others, whereas Conformity is an external motive that promotes prosocial behavior in order to avoid negative consequences for failing to do it. In contrast, Power and Security values typically act to hinder prosocial behavior because they entail self-serving motives.

If, however, the prosocial behavior brings public recognition or acclaim, Power and Achievement values may promote volunteerism rather than hinder it. In other words, volunteering generally is driven by a prosocial motive, but it can also stem from more selfish reasons such as developing social contacts that can advance one's career or elevate one's status in some other way (Batson, 1987; Clary & Snyder 1999; Houle, Sagarin, & Kaplan, 2005). It is also worthwhile to consider a study of cooperative behavior in a game, reported by Schwartz (1996), which showed that cooperation was correlated positively with Benevolence ($r = .38$) and Universalism ($r = .32$) and negatively with Power ($r = -.37$), Achievement ($r = -.19$), and Hedonism ($r = -.18$). A study by Pepper, Jackson, and Uzzell (2009) of socially conscious purchasing in England is also worth mentioning. It found that socially conscious purchasing correlated positively with Universalism ($r = .37$) and Benevolence ($r = .19$) and negatively with Power ($r = -.20$) and Achievement ($r = -.17$).

Additional support for Schwartz's conclusions may be found in the work of Sprecher and Fehr (2005) with a measure of compassionate love. They report that the defining characteristic of people who volunteer is compassionate love for strangers rather than a compassionate love for close others. Compassionate love for close others is akin to Benevolence in the Schwartz model, whereas compassionate love for strangers is very similar to Schwartz's concept of Universalism.

Values and Religiosity

Religiosity is a term used by sociologists and psychologists to describe the degree to which an individual participates in religious activity. Studies conducted by Schwartz and his colleagues in ten countries with the SVS indicated that a high level of religiosity is associated positively with emphasis on the values of Conformity and Tradition and negatively associated with Hedonism, Self-Direction, and Stimulation (Roccas & Schwartz, 1997; Schwartz & Huisman, 1995). These conclusions were confirmed by Saroglou, Delpierre, and Dernelle (2004), who conducted a meta-analysis based on 21 samples from 15 countries (combined $n = 8,551$) on the relationship between religiosity and values using the Schwartz model. They too concluded that highly religious individuals place a strong priority on Tradition and Conformity and to a lesser extent, a priority on Security (all part of the Conservation dimension). Conversely, such persons strongly de-emphasize Stimulation, Self-Direction, and Hedonism (all of which comprise the Openness to Change dimension) and tend to mildly minimize the importance of Achievement and Power (the Self-Enhancement dimension). Lastly, religious persons tend to hold contradictory views on the importance of the two values that constitute Self-Transcendence, emphasizing Benevolence but not Universalism.

The last finding is surprising since from an evolutionary perspective, belief in supernatural forces is believed to have shifted our predecessors' concern from just the welfare of their immediate others (i.e. Benevolence) to include the welfare of society as a whole (i.e. Universalism) (Batson, 1983; Rosanno, 2007). The relationship between prosocial behavior and religiosity may be highly nuanced, however. Batson, Schoenrade, and Ventis (1993) contend that the link between religiosity and prosocial behavior differs depending on the type of religious orientation: (a) Extrinsic (means to an end), (b) Intrinsic, or (c) Quest (challenging and re-examining one's beliefs). An extrinsic orientation is less likely to be positively related to prosocial behaviors than either an intrinsic or quest orientation. Support for this proposition can be found in a study by Bernt (1989) which reported that volunteering while in college was related to

an intrinsic orientation and that interest in serving in a volunteer organization after graduation from college was related to a quest orientation.

Values and Learning

In an number of studies, it has been documented that compared to better educated persons, the less educated assign greater importance to Security, Tradition, and Conformity (Steinmetz, Schmidt, Tina-Booh, Wieczorek, & Schwartz, 2009). Hofer, Kuhnle, Kilian, Marta Rizzi, and Fries (2011) showed that motivational conflict (interference) between doing school work and taking part in leisure activities is related to the values that Italian secondary school children ($n=433$) hold. Namely, students placing a high value on Conformity experienced less dissonance than students with low Conformity scores. Conversely, students who prized Hedonism and Stimulation had more motivational conflict than students placing a low priority on these two values. However, in terms of grades, the Achievement value was the primary positive predictor of school grades.

Employing the PVQ, Lietz, and Matthews (2006) studied college students in Germany ($n = 228$) to determine the relationship between Schwartz's model of values and learning style. They too found that students who placed a higher emphasis on the value of Achievement did in fact obtain a better third-semester GPA, whereas students who prioritized Stimulation as a value did relatively poorly. Perhaps less intuitively obvious was their finding that students who prized the value of Self-Direction engaged in "deep learning" in which the motivation was to master the material rather than merely perform well on a test. In contrast, students who emphasized Hedonism engaged in "surface" learning (focusing on doing well on a test rather than mastering the subject matter).

Scope of Present Study

The primary aim of the present study was to profile the members of an undergraduate residential service-learning community called Signum Fidei (Sign of Faith) that stresses faith, service, and community in terms of the Schwartz model of values, using the 10-item scale that is part of the WVS. With the ever increasing emphasis on outcome assessment in today's universities, it is easy for students to suffer from "survey fatigue" (Porter, Whitcomb, & Weitzer, 2004). Therefore, the availability of a relatively short instrument to measure changes in values would be very beneficial. Based on prior research with longer scales meant to assess the values specified by Schwartz, one would expect members of Signum Fidei to show elements of both the prosocial personality and the religious individual, although the exact prioritization of the different values was an open question. Moreover, since differences in values as a function of education have been reported with the longer scales, it is also of interest to determine if the WVS version can pick up relevant patterns. The validity of the WVS version has been questioned, so if the expected relationships are observed, then it would lend some credence to the validity of the WVS abbreviation of the PVQ. If, however, the profile fails to conform to the expected patterns, then our study may further identify the limitations inherent to this scale and thereby provide some additional clues on how the WVS scale can be best used, especially in the context of service learning.

Method

Setting

In its fourth year at La Salle University, the Signum Fidei community includes freshmen and sophomore students who live on the same floor in a residence hall. Community members are required to perform service each week. Most do this through participation in one or more of the ongoing service initiatives offered through the Office of University Ministry and Service. Several past and current community members have become coordinators of a number of these service groups.

There is also a community expectation for members. They spend time together, formally and informally. They attend bi-weekly meetings that allow them to reflect on their faith, service, and community experiences. In their first semester, freshmen members of the community are all placed in the same section of a religion class, Exploring Christianity, which includes a service-learning component. While not formally part of Signum Fidei, a number of juniors and seniors have chosen to continue living together and most continue to be involved in service at the university.

Participants

The sample consisted of 32 members of Signum Fidei and 19 students who were not involved with Signum Fidei. All participants were students who completed a survey during the start of the Fall 2011 term. A majority of the Signum Fidei students ($n=28$) were Freshmen, but 4 sophomores who were continuing their service-learning from the prior year also participated in this survey. With the exception of two students who were in the Honors Program as well as in Signum Fidei, all other first-year Signum Fidei students ($n=26$) were enrolled in the same class (section) of a required core curriculum religion course (Exploring Christianity). Unlike other sections of this religion course, the section intended for members of Signum Fidei is taught as a service-learning class. The response rate for the Freshmen Signum Fidei students appears to be 100%. In order to allow for some benchmarks, students in one other section of the same course were invited to complete the same survey as the one that was undertaken by members of the Signum Fidei residential learning community. Of the 31 students enrolled in this other section, 19 participated, which translates to a response rate of 61.29%.

To minimize the social desirability effect observed in the assessment of values (see Schwartz, Verkasalo, Antonovsky, & Sagiv, 1997), the questionnaires were completed online (Survey Monkey) anonymously using the general link feature rather than an individualized link. However, in order to be able to match these surveys to ones to be completed in the future, we asked that the students provide answers to several questions that could be used to link surveys: (1) best friend's first name, (2) mother's last name before she got married, (3) number of sisters, (4) number of brothers, (5) first three digits of home telephone, and (6) favorite pet's name (if no pets, answer none). A check of the codes revealed that two students took the survey twice. Most likely, it was because they started but did not fully complete the first questionnaire. The option was to either randomly drop one of the two responses for each of these two students, or to average across the two administrations. We decided to go with the latter option since averaging generally increases reliability.

Due to the anonymous nature of the survey completion mode, it is not possible to present any demographic information on the respondents who were not members of Signum Fidei. However, it may be insightful to compare the demographics of the two sections of this course, realizing that they may not necessarily be the same as for the respondents. In terms of gender,

the Signum Fidei section consisted of 43.75% females, compared to 34.62% for the non-Signum Fidei section. The racial/ethnic distribution of the Signum Fidei section was as follows: 57.69% White, 26.92% Black, 7.69% Hispanic, 3.85% Native American, and 3.85% multiracial. Students in the non-Signum Fidei section had the following racial/ethnic distribution: 40.63% White, 21.88% Black, 18.75% unknown, 12.50% Hispanic, and 6.25% Asian. On the basis of credit hours completed, 96.15% of the Signum Fidei section and 53.13% of the other section were Freshman. The average course grade was 3.10 ($SD=1.33$) for the Signum section and 2.79 ($SD=1.05$) for the non-Signum section. Considering all courses taken that semester, the average term grades were 3.00 ($SD=.81$) and 2.74 ($SD=1.17$) for the Signum Fidei and non-Signum Fidei students, respectively.

Instrumentation

To study the values as modeled by Schwartz, we utilized the 10-item scale from the World Values Survey (WVS). This questionnaire was embedded in a larger survey. The decision to use an abbreviated version of the PVQ rather than the 40-item scale itself was based on the rationale that the longer scale would overburden students, which may lead to lower response rates.

Approaches to Data Analysis

Analysis was conducted at both the 10 value (item) level and on the second-order dimensions (domains) computed by averaging the appropriate items into the four domains of: Openness to Change, Conservation, Self-Enhancement, and Self-Transcendence. Hedonism was placed under Openness to Change. One problem with comparing the raw ratings of values is response style; some people do not differentiate sufficiently between the various values in their ratings. In order to control for this potential problem, it is common practice to subtract each value rating from the person's mean rating over all ten values (Fischer, 2004). The resultant deviation scores indicate how much each value is prized relative to the others. Therefore, we analyzed the data in terms of deviation scores as well as raw scores.

The answers to the items on the PVQ and its 21-item and 10-item abbreviations are given on a Likert scale. The issue of using parametric statistics versus non-parametric statistics on Likert scales has been a matter of contention. Although the PVQ items are ordinal in nature, they are typically treated as interval level (Carifio & Perla, 2008; Lee & Soutar, 2010). Our position is that there exists ample evidence to support the application of parametric statistical procedures to ordinal data (see Carifio & Perla, 2008; Lee & Soutar, 2010; Norman, 2010), but we nonetheless decided to use both classes of methods to examine the data for statistical significance in order to avoid potential criticism from supporters of the opposing point of view in this debate (Jamieson, 2004).

In terms of a parametric procedures, the data can be conceptualized as either 10 multiple measures across two groups -- a MANOVA model -- or a 2 x10 measures ANOVA with repeated measures on the second factor of value (Huberty & Morris, 1989). Both procedures need to be run on just the cases without any missing values (30 Signum Fidei and 18 non-Signum Fidei). It is also possible to analyze these data for statistically significant differences employing 10 multiple univariate comparisons (either parametric t-tests, parametric F-tests, or non-parametric Mann-Whitney U tests), which allows for pair-wise deletions for missing data rather than having to do it list-wise. We decided to employ all these approaches to the analysis for reasons that should be obvious after we review the limitations of each of each approach in the paragraph

below. Hopefully, applying the concept of “methodological triangulation” (Risjord, Moloney, & Dunbar 2001) will permit us to best understand the data.

MANOVA and the repeated measures ANOVA and provide an omnibus test. One justification for conducting overall testing is that it controls for family-wise error, but this rationale has been questioned, especially in the case of MANOVA (Grayson, 2004). As Smolkowski (2009, page 1, paragraph 5) observes: “Researchers also frequently lean on MANOVA to protect the Type I error rate against multiple tests. In most cases, however, the researchers then examine the individual tests due to the ambiguity of the omnibus test. If the omnibus test is significant, they (or journal reviewers) want to know which of the measures contributed to the effect.”

According to some authorities, if the main concern is to guard against making Type I errors, it is preferable to apply a Bonferroni adjustment to the 10 multiple univariate ANOVAs (or t-tests), particularly when the sample size is small to begin with and which would shrink even further due to elimination of cases with some missing variables. The primary purpose of a MANOVA should be to determine whether groups differ significantly on an optimally weighted linear combination (canonical variate) of multiple dependent variables. Unfortunately, the meaning of this composite is not obvious (Grayson, 2004). Repeated measure ANOVA is also not without its critics. Most frequently, the restrictive assumption of sphericity is pointed out (e.g. Gueorguieva & Krystal, 2004). However, one can apply corrective procedures (e.g. the Greenhouse-Geiser) to make the analysis more conservative when this assumption is not met.

To determine if the instrument measures the values in line with Schwartz’s theory, we examined the inter-relationship between the values using both the Pearson (parametric) and the Spearman (non-parametric) correlation procedures. We also performed a principal components factor analysis on the combined sample of Signum Fidei and the comparison group. This gave us a sample 48 with no missing data, which is about the 50 that is typically viewed as the bare minimum for even attempting a factor analysis. Although our sample size would generally be considered to be inadequate for a factor analysis, one can find some justification for conducting an exploratory factor analysis with a sample size of 48 and 10 variables in the work of Preacher and MacCallum (2002) and de Winter, Dodou, and Wieringa (2009).

Results

Raw Scores

Descriptive analysis. The mean rating for each value on the 6-point Likert scale and the corresponding standard deviation are shown in Table 2. On the basis of these averages, the value orientation of the Signum Fidei students from highest to lowest value is: (1) Benevolence, (2) Self-Direction, (3) Achievement, (4) Tradition (5) Stimulation, (6) Universalism, (7) Conformity, (8) Security, (9) Hedonism, and (10) Power. The rank ordering of the values based on mean ratings for the non-Signum Fidei is: (1) Benevolence, (2) Achievement, (3) Self-direction, (4) Security, (5) Conformity, (6) Tradition, (7) Stimulation, (8) Hedonism, (9) Universalism, and (10) Power. Most notably, for both groups, the highest value was Benevolence whereas the lowest was Power. Based on the group means, the double-entry intraclass correlation index of profile similarity (Furr, 2010) was .55, which indicates that there was a moderate degree of congruence between the profiles of the service-learning community members and the non-members.

ANOVA. On the repeated measures ANOVA, the Greenhouse-Geiser correction for lack of sphericity (Mauchly’s $W=.041$, $X^2(44) = 136.50$, $p = .000$) was applied. The differences in the

ratings over the 10 values were statistically significant [$F(4.9, 226.31) = 14.01, p = .000, \eta^2 = .23$] but the between subjects factor was not [$F(1,46)=2.19, p = .146, \eta^2 = .05$]. However, the interaction term (values x group) was significant [$F(4.92, 226.31) = 3.17, p = .009, \eta^2 = .06$].

Univariate analyses. At the level of individual values, as shown in Table 2, statistically significant differences between the two groups occurred on Hedonism [$t(48) = -3.19, p = .003, \eta^2 = .17$] and Power [$t(49) = -2.18, p = .034, \eta^2 = .09$]. Two additional differences bordered on statistical significance: Security [$t(49) = -1.95, p = .057, \eta^2 = .07$] and Self-Direction [$t(49) = 1.86, p = .069, \eta^2 = .07$]. Univariate non parametric testing with the Mann-Whitney procedure also revealed significant differences between the two groups on Hedonism ($U = 152.00, p = .005$) and Power ($U = 201.00, p = .036$), with borderline significance on Security ($U = 211.00, p = .065$) and Self-Direction ($U = 216.50, p = .074$). Even on the basis of a Bonferonni protection, the difference in Hedonism remains statistically significant.

MANOVA. On the MANOVA, the overall difference between the two groups on the composite of the 10 values had a fairly low probability of just being due to chance, but it failed to reach statistical significance [Hotelling's Trace = .47, $F(10,37) = 1.74, p = .107$]. Although some statisticians would advise against looking further because of the non-significance of the overall test, we consider it noteworthy that on the test of between subjects effects on the MANOVA, the differences in Hedonism [$F(1, 46) = 9.80, p = .003, \eta^2 = .18$] and Power were again significant [$F(1, 46) = 4.25, p = .045, \eta^2 = .09$].

Table 2
Mean Ratings and Mean Ranks on Values as a Function of Residential Learning Community Membership

Value	Member					Non-member				
	Ratings			Ranks Across Groups	Ranks Within Group (<i>n</i> =30)	Ratings			Ranks Across Groups	Ranks Within Group (<i>n</i> =18)
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>M</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>M</i>
Self-Direction	32	5.00	.92	28.73	7.28	19	4.47	1.07	21.39	5.53
Power	32	2.77	1.21	22.78	2.50	19	3.61	1.51	31.42	3.72
Security	32	3.67	1.25	23.09	4.65	20	4.45	1.55	30.89	5.89
Hedonism	32	2.94	1.08	21.25	2.80	18	4.17	1.65	33.06	5.36
Benevolence	32	5.22	.71	24.67	7.98	19	5.37	.76	28.24	7.78
Achievement	32	4.84	1.25	23.66	6.28	19	5.00	1.20	29.95	6.97
Stimulation	32	4.38	1.13	26.67	5.50	19	4.21	1.27	24.87	5.14
Conformity	32	4.16	1.25	25.36	5.83	19	4.34	1.35	27.08	5.36
Universalism	32	4.37	1.07	26.70	5.73	19	3.92	1.27	22.32	4.22
Tradition	32	4.58	1.23	27.44	6.43	19	4.24	1.36	23.58	5.03

Note: ranks, as computed in SPSS in NPAR procedures, are such that the lowest rating is assigned to the lowest rank and highest rating is assigned the highest rank.

Deviations

Although not statistically significant, descriptively there was a slight difference in the average rating over the 10 values between the two groups (Signum Fidei= 4.15 vs. non-Signum= 4.37; Cohen's $d = .37$). Table 3 provides details on the differences between the Signum and non-Signum students on the deviations of value ratings from the individual's average rating across the 10 values. Positive deviations indicate that the value was rated more important than average, whereas negative numbers indicate that the value was rated below average for that person.

In terms of average deviations from the intra-person mean, six values have positive signs for the Signum Fidei cohort: Benevolence (1.06), Self-Direction (.85), Tradition (.42), Achievement (.33), Stimulation (.22), Universalism (.21). The three values with a negative sign are: Power (-1.36), Hedonism (-1.21), and Security (-.46). The deviation score for Conformity is neither positive nor negative since it falls exactly at zero.

For the non-Signum Fidei students, the corresponding hierarchy based on deviations from each person's mean rating over the 10 values produced four values with positive and six values with negative signs. The values exhibiting positive signs are: Benevolence (.99), Achievement (.62), Security (.07), Self-Direction (.01); the values with negative signs are: Power (-.77), Universalism (-.45), Hedonism (-.25), Tradition (-.14), Stimulation (-.16), and Conformity (-.03). The repeated measures ANOVA on deviations produced the same results as the one on raw scores, so it is unnecessary to report the details again. Also, as with the raw scores, the profiles of the two groups on deviation scores were similar based on the double entry intraclass correlation (.61).

Table 3
Mean Deviations by Residential Learning Community Members and Non-members

Value	Member		Non-member	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Self-Direction	.85	.86	.01	.98
Power	-1.36	1.05	-.77	1.14
Security	-.48	1.15	.07	1.21
Hedonism	-1.22	.92	-.25	1.24
Benevolence	1.06	.66	.99	.88
Achievement	.33	1.00	.62	.97
Stimulation	.22	1.00	-.16	1.20
Conformity	.00	1.08	-.03	1.04
Universalism	.21	.89	-.45	1.30
Tradition	.42	1.14	-.14	1.23

Note: $n = 32$ for Signum Fidei. For non-Signum Fidei, $n = 19$ with the exception of Hedonism, where $n = 18$.

Domain Scores

Table 4 presents the mean scores on the four domains computed as an average of the values constituting them. Descriptively, compared to the non-Signum Fidei students, the ones who belong to Signum Fidei scored markedly higher on Self-Transcendence, whereas their scores on the remaining three domains were somewhat higher relative to the students not in Signum Fidei. A 2 by 4 repeated measures ANOVA with a Greenhouse-Geiser correction detected significant differences among the domain scores [$F(2.53, 123.89) = 7.50, p = .000$], and although the interaction (domains x groups) had a low probability level, it was below the conventional level required for statistical significance. But the observed power of the interaction was low (.50). The MANOVA failed to reach statistical significance [Hotelling's Trace = .11, $F(4,46) = 1.22, p = .314$]; the Box M test was non-significant. However, examining the data in a univariate manner, at the second-order domain level the difference in Self-Enhancement reached conventional statistical significance [$t(49) = -2.17, p = .035, \eta^2 = .09$].

Table 4
Means Domain Scores as a Function of Residential Learning Community Membership

Value	Member		Non-member	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Openness to Change	4.10	.79	4.28	.92
Conservation	4.13	.93	4.34	1.00
Self-Transcendence	4.81	.72	4.64	.83
Self-Enhancement	3.63	1.03	4.30	1.16

Correlations Between Values

Intercorrelations. Our second aim was to assess the adequacy of the 10-item scale from the WVS for measuring the Schwartz value system. Specifically, we sought to determine if the expected correlations between values could be observed. For this analysis, we aggregated across the two groups. Both Pearson and Spearman correlations were computed (see Table 5), showing very similar results. A high correlation (Pearson $r = .73$, Spearman $\rho = .69$) occurred between Power and Hedonism, a relationship that is in line with Schwartz's model. As should also be the case, a high positive correlation characterized the association between Security and Conformity (Pearson $r = .53$, Spearman $\rho = .52$). Likewise, the degree of correlation between Stimulation and Self-Direction was sizeable (Pearson $r = .46$, Spearman $\rho = .49$). But the correlation between Conformity and Tradition was meager (Pearson $r = .18$, Spearman $\rho = .14$), contrary to the theory. Moreover, the correlations between opposing values, while negative, were rather low compared to the positive correlations between congruent values. The highest negative correlation was between Self-Direction and Security (Pearson $r = -.35$, Spearman $\rho = -.30$).

Table 5
Intercorrelations among the Values

	SD	P	Se	H	B	A	St	C	U	T
Self-Direction (SD)		-.03	-.35	.06	.16	-.02	.47	-.04	.47	.36
Power (P)	-.05		.53	.72	-.06	.45	.05	.31	-.12	-.19
Security (Se)	-.30	.49		.40	.07	.28	-.19	.53	-.12	.15
Hedonism (H)	.06	.69	.37		.02	.47	.19	.22	-.16	-.21
Benevolence (B)	.19	-.10	.03	-.02		.20	.18	.20	.29	.25
Achievement (A)	.03	.44	.32	.48	.19		.24	.45	-.08	-.05
Stimulation (S)	.49	.02	-.15	.20	.19	.25		-.14	.35	.02
Conformity (C)	-.01	.28	.52	.21	.19	.49	-.10		-.04	.18
Universalism (U)	.48	-.15	-.09	-.14	.33	-.06	.34	.01		.43
Tradition (T)	.42	-.20	.13	-.22	.30	-.02	.10	.14	.45	

Note: Pearson r reported above the diagonal and Spearman rho below the diagonal. Pairwise deletions were used.

Factor analysis. Using principal components extraction and Varimax rotation of factors with eigen values greater than 1, we found three factors to underlie the data. The first factor was defined by the following values (loading shown in parentheses): Power (.85), Hedonism (.83), Achievement (.74), Security (.61), and Conformity (.56). It seems to be measuring a combined Openness to Change & Self-Transcendence dimension. On the second factor, positive loadings occurred on Stimulation (.80), Self-Direction (.69), and Universalism (.45); this factor was also defined by negative loadings on Security (-.58) and Conformity (-.45). Based on these loadings, it is a measure of Conservation & Self-Indulgence. The values loading on the third factor were Tradition (.83), Universalism (.68), Benevolence (.54), Self-Direction (.43) and Conformity (.40); its meaning is unclear. The percentage of variance that each of the three rotated components explained was 27.67%, 19.00%, and 18.98%, respectively.

Differences on factor scores. As a final step, the Signum Fidei students ($n=30$) and the non-Signum Fidei students ($n=18$) were compared on the factor scores on these three factors, which are reported in Table 6. Descriptively, the Signum Fidei students were lower than the non-Signum Fidei students on factor 1, but higher on factor 2 and factor 3. The corresponding eta-squared measures of effect size are factor 1=.13, factor 2=.01, and factor 3=.01. Clearly, the major difference is on factor 1, and it reached statistical significance [$t(46) = -2.64, p = .011$]. Members of Signum-Fidei are more open to change and self-transcendence.

Table 6
Means Factor Scores as a Function of Residential Learning Community Membership

Value	Member		Non-member	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Factor 1	-.28	.81	.46	1.14
Factor 2	.09	1.06	-.14	.90
Factor 3	.07	.98	-.12	1.06

Discussion

The primary purpose of this study was to profile the members of a faith-based residential learning community embracing service-learning on Schwartz's model of human values. It is obvious that the value hierarchy is very similar when one ranks the values based on either the mean raw scores or the mean deviations. On raw scores, the prioritization of their values from most important to least important is: (1) Benevolence, (2) Self-Direction, (3) Tradition, (4) Achievement, (5) Stimulation, (6) Universalism, (7) Conformity, (8) Security, (9) Hedonism, and (10) Power. On the basis of deviations from the intraperson mean, the first seven values were rated at or above average in importance by the Signum Fidei cohort, whereas the last three values (i.e. Security, Hedonism, and Power) received ratings that fell below the below average importance.

The first question that comes to mind is whether this profile differs from the one of similar students who are not members of this residential learning community. The double entry intraclass correlation coefficient of profile similarity was substantial, suggesting considerable overlap in the average profile of the two groups. For both groups, Benevolence was the value that carried the highest importance whereas Power was the one with the least importance. Despite this similarity, Power was rated significantly lower by the Signum Fidei students compared to the other respondents. It should be recognized that since only a portion of the students who were not members of the residential learning community heeded our request to participate in the study, these respondents are therefore in essence also exhibiting pro-social behaviors. As such, perhaps few differences between them and the residential learning community ought to be expected.

Our results with the short 10-item scale conform with findings based on longer instruments that pro-social behavior is driven by high Benevolence and low Power, as suggested by Schwartz (2010). For both the Signum Fidei participants and the non-Signum Fidei students who volunteered to take part in this study, these two values constitute the extremes in their value hierarchy. However, contrary to expectation, the value of Universalism was not in the upper half of the hierarchy for either group. Although the mid-level placement of Universalism in the value hierarchy does fit with the profile of religiosity (Saroglou, Delpierre, & Dernelle, 2004), we believe that this occurred because the item measuring this characteristic in the WVS questionnaire is suspect.

Universalism is defined by Schwartz as "understanding, appreciation, tolerance and protection for the welfare of all people and for nature" (Schwartz, 1992, p.12). The 40 - item PVQ contains six items dealing with Universalism and the 21- item ESS abbreviation of the PVQ has three items meant to assess it. With multiple items, one can address a respondent's concern about both humans and nature, but the single item measuring this dimension in the abbreviated 10-item instrument in the WVS focuses just on environmental issues and not people. We have to wonder if the place of Universalism in the value hierarchy of the Signum Fidei members would have been higher had the WVS adaptation of the PVQ employed the following human-oriented PVQ item instead as its single measure of Universalism: "*He thinks it is important that every person in the world should be treated equally.*" However, any single item addressing either human or environmental welfare may be insufficient given that the value of Universalism is composed of two distinct concepts: concern for other humans and a concern for nature. As such, at the very least, one would need two items to fully capture this value (one item focusing on human welfare and the other on nature).

Schwartz (1992, p.39) provides the following justification for treating these rather two distinct values as one: *“The three values related to nature (unity with nature, protecting the environment, a world of beauty) emerged together in the universalism region (cf. Fig. 2) with great consistency. This confirms the idea that concern for nature is closely linked to concern for the welfare of all humankind. The joint emergence of nature, universal welfare, and understanding (broad-minded, wisdom) values in a single region supports the derivation of the motivational goal of universalism that was suggested in the introduction. This goal is presumed to arise with the realization that failure to protect the natural environment or to understand people who are different, and to treat them justly, will lead to strife and to destruction of the resources on which life depends.”*

Nonetheless, Lee and her colleagues (Lee, Soutar, & Louviere, 2008; Lee, Soutar, Daly, & Louviere, 2011) split universalism into two components “uni-social and “uni-nature” because they may represent two distinct concerns (humans and environment). We see this as a good practice. Although ordinarily these concerns may be correlated highly, which would allow for their collapse into a single value of Universalism on a purely psychometric basis, conceptually these two concerns are different. One can easily think of scenarios where a concern for nature may conflict with a concern for human welfare. Even Schwartz seems to implicitly acknowledge that environmentalism is not the central notion of Universalism; in an article on Universalism (Schwartz, 2007, p. 714), he wrote: *“The four key universalism value items—equality, social justice, broadmindedness, and world at peace—are all located in a distinct universalism region.”* Thus, it is inadvisable to focus on environmental issues when only one item is to be used to measure the Universalism value.

As noted earlier, we found that the residential learning community members attached lower importance to Hedonism and Power relative to the students who were not members of this learning community. Although based on data reported by Lee, Soutar, Daly, and Louviere (2011), a high emphasis on Benevolence and a low emphasis on Power may characterize young adults in the U.S. population at large, the high priority given to Tradition is rather atypical, as is the low emphasis placed on Hedonism. (The largest difference between the service organization members and non-members occurred on Hedonism.)

The relatively high priority assigned to Tradition and extremely low priority given to Hedonism is not typical of a prosocial profile either, but it is consistent with religiosity (Saroglou, Delpierre, & Dernelle, 2004). The existence of this pattern among the Signum Fidei students most likely reflects the fact that this residential learning community was faith oriented. In other words, the Signum Fidei value profile has elements of both the prosocial personality and the religious individual. The value of Achievement ranked fairly high in both groups, which should not be surprising since they were persons interested in pursuing higher education (see Hofer et al, 2011).

However, pro-social tendencies should not be seen as being orthogonal to religiousness. Although all religions advocate prosocial behavior, the empirical literature suggests that there is greater altruism among religious individuals towards people who are known to them and are like them (Benevolence) than towards strangers (Universalism), especially if the strangers differ from them. Apparently, the relationship of Universalism to religiosity is moderated by whether one’s religious orientation is extrinsic, intrinsic, or quest (Bernt, 1989). It is unfortunate that we do not have a direct measure of the religious orientation of the members of Signum Fidei. Although it is merely conjecture on our part, it seems likely given the research findings reported by Bernt (1989) on college students who volunteer that the members of our service-learning community most likely have either an intrinsic or a quest orientation towards religion.

It may be informative to place the value hierarchy of the Signum Fidei learning community into a broader context by comparing their profile to ones published for other groups, such as different occupations. According to Holland (1985), six "themes" represent the characteristics of the work environment and the interests of people who work therein: Realistic, Investigative, Artistic, Social, Enterprising and Conventional. Knafo and Sagiv (2004) related values, as measured with the PVQ, to Holland's work themes by studying people in different occupations. Their results show that Enterprising occupations (e.g. salesperson) were negatively correlated with Universalism while Artistic occupations (e.g. musician) correlated negatively with Conformity. Social occupations, which represent the helping professions (e. g. social worker), are associated negatively with Power and with Achievement but positively with Benevolence and Universalism.

Two studies of professional counselors, who were assessed by means of the SVS (Busacca, Beebe, & Toman, 2010; Kelly, 1995) conform to the results reported by Knafo and Sagiv (2004). In both studies, counselors place high importance on the values of Benevolence, Self-Direction, Universalism, and Achievement while minimizing Conformity, Stimulation, Tradition, and Power. Other than the high emphasis on Tradition and only moderate emphasis on Universalism (which is probably a quirk do the nature of this latter item), the value hierarchy for the helping professions is similar to the one for Signum Fidei members. One has to wonder if these individuals will eventually be employed in the Social occupations, or at least be happiest in such environments.

Our second purpose was to determine the adequacy of the 10-item version of the PVQ used in the WVS. As noted earlier, Universalism was not a highly rated value for the members of the residential learning community, yet it should have been in view of the nature of this group. The question tapping Universalism is not the best one to use, especially if only a single item is to be used to measure this value. Although the Universalism item is the most troublesome, there may be problems with other items as well. According to Schwartz and Sagiv (1995), "*the meaning of a value is reflected in its pattern of intercorrelations with other values*" (p. 101), and our data did not show some of the expected simple associations between the items (values).

The results of our factor analysis were not entirely consistent with the Schwartz model either, but they do make sense. We derived three factors. The first factor seems to be a combination of Conservation and Self-Enhancement, which are complimentary domains according to Schwartz. The second factor appears to combine Self-Transcendence and Openness to Change, which are also complimentary domains. The emergence of this pattern is understandable given the moderately high positive correlations in our data between complimentary values, but only low negative correlations (i.e. .35 or under) between theoretically opposed values. In other words, the factor analysis picked up the expected complimentary relationships but not the expected conflicting relationships between values.

The third factor is most puzzling, since it loads somewhat on both Self-Direction and Conformity, which are opposing values according to Schwartz's model. However, it is consistent with what one would expect to see in a prosocial person who has a religious orientation. Descriptively, the Signum Fidei students were lower than the non-Signum Fidei students on factor 1, but higher on factor 2 and factor 3. But the major difference, which reached statistical significance, was on factor 1 rather than factor 3, which somewhat tempers this explanation.

While the failure of our factor analysis to conform fully to the factor structure of the Schwartz model could be attributed to the idiosyncrasies inherent in a small sample size, it is worth noting that the study by Held et al (2009), employing the German respondents to the 2006 World Values Survey (which was more than adequate in terms of size) also failed to come up

with the higher order dimensions proposed by Schwartz. Rather, they too detected three factors, but these factors did not match ours. However it is noteworthy that Karp (1996), using the SSV rather the WVS scale, found four factors that included a combined Self-Enhancement/Conservation factor and a combined Self-Transcendence/Openness to Change factor (as did we with the WVS version).

The fear of overburdening respondents and thereby lowering response rates is real (Porter, et al, 2004; Roszkowski & Bean, 1990) and the search for economical means of assessment is understandable. However, single item-scales are generally not as reliable as scales composed of multiple items. Considering our results along with those reported by Held et al (2009) and Rudnev (2011), one must conclude that there are limitations in the use of the WVS 10-item scale (or perhaps any short scale) to fully capture the constructs in the Schwartz model of values. Even with the most appropriate 10 items, the scale may not be sensitive enough to pick up any changes in values resulting from some intervention; it seems best suited for “ball park” estimates. Consequently, we would recommend that if a shorter version of the PVQ is needed for practical reasons, the 21-item abbreviation in the ESS is preferable. The tradeoff between practicality and reliability and validity may not be worth it with the WVS approach to measuring Schwartz’s value system.

Limitations

The surveys were collected anonymously. While this promoted candid responding, it prevents us from comparing the demographic characteristics, such as sex, of the Signum Fidei and the non-Signum Fidei groups. Compared to women, men place greater importance on Power, Stimulation, Hedonism, Achievement, and Self-direction. Conversely, women place greater emphasis on Benevolence, Universalism, and Security (Schwartz & Rubel, 2005). Any difference in the distribution of critical demographic variables, such as sex, between the two samples makes it possible that this is the cause for any observed differences. We also fully acknowledge the limitations of a factor analysis on a sample of our size, and did it mainly out of curiosity. The results of this analysis, while suggestive, can be questioned given the sample size.

Suggestions for Further Research

It should be productive to determine if members of other religiously-based residential learning organizations share the profile identified here. It may also be worthwhile to determine how different are the profiles based on the WVS (10 items) vs. the ESS (21 items) vs. the PVQ (40 items), particularly on Universalism. Comparing the importance of Universalism among service-learning students with the extrinsic, intrinsic and quest orientations to religion would be extremely informative.

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