

Parent Volunteer Patterns in USA Schools: An Ontological Exploratory Model

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For the past few decades, school districts in the United States have been encouraged through law and additional funding to engage parents in their children's education. One form of this engagement has centered on programs facilitating parent volunteerism. Unfortunately, there is no acknowledged definition of what constitutes a parent volunteer activity. Because of the different forms and varieties that volunteerism can take from one community to the next, what one administrator counts as parent volunteerism may not even be recognized by the local community as being an acceptable interaction with the schools. Should a school institute a volunteer program that accommodates the local definition of volunteerism, then it is likely that the program will be a success. At the same time, that very program in another community may end as a failure. American schools are being judged on the effectiveness of their parent volunteer programs based on such standard metrics as participation and numbers of parents involved. The problem is that different schools are counting some activities as parent volunteerism while others are not.

Discrepancies in measuring parent volunteerism will continue to occur until such time as there is a shared understanding between educators, policy makers, and parents as to what constitutes parent volunteerism. Not only should this understanding include a common terminology for the purposes of measurement and evaluation, it needs to have enough definition so that parents and educators alike can determine whether or not an activity is actually parent volunteerism. Furthermore, because volunteerism and parenting habits vary from one cultural

context to another, understanding of the construct needs to identify where parenting ends and parent volunteerism begins. Locating this boundary within different communities will require time and patience; however, a good first step is identifying how different types of parents choose to volunteer.

Ontology & Literature Review

The complexities and varieties of parent volunteerism demand a more complete understanding of the construct, and can be gained through developing an ontology as opposed to crafting a standard definition that may or may not apply to a given culture or area. At its simplest, an ontology is “an explicit specification of a conceptualization” (Gruber, 1993). Originally a philosophical term, ontologies —because of their flexibility and capacity to establish a common vocabulary across multiple parties or constituencies— are gaining popularity in technical and knowledge-based systems. Successful examples of applied ontologies are becoming more prevalent in the software engineering fields, such as programs developed for off-site libraries and e-commerce (Ding & Foo, 2002). While ontologies were grounded in the humanities and have been applied in the computer science fields, social science can make good use of their flexibility and capacity to serve as identifying or facilitative agents. By gathering together a set of objects that represent an understanding of a particular domain, those objects and the relationships between those objects, then shape the discourse of a stated construct (Gruber, 1993). Once the objects and the relationships between those objects are identified the foundation exists for a common discourse, or base of understanding, from which to launch a discussion of the construct (Ding & Foo, 2002).

Because parents’ relationships to education differ by race, culture, or class (Lamont & Lareau, 1988), and volunteerism is peculiar to cultural practices (Hustinx & Lammertyne, 2004)

and industry (Segal & Weisbrod, 2002), developing an ontology for parent volunteerism in education will enable policy-makers, educators, and parents to examine the construct of parent volunteerism as it exists for different parents operating under different circumstances. Following the lead of previous ontologies, the various objects of the ontology can be broken down into four main components —namely incidents, classes, attributes, and relationships. Incidents, classes and attributes are the sets of objects that represent the full domain of parent volunteerism. Each of these objects, in turn, shares a relationship with one another and with all other objects as a whole. Together, the objects and the relationships between the objects comprise the ontology.

In ontologies, classes can represent general sets or collections of objects (Ding & Foo, 2002). For the purposes of this study, classes are the permanent, personal characteristics that represent broader cultural contexts. Previous research into parent volunteerism holds that a father's involvement along with that of mothers embodies the greatest range of family support for education (Epstein, 2001; Lareau, 2000; Nord, Brimhall, & West, 1997). Likewise, ethnicity is a factor in parent volunteerism. Due to volunteer traditions, cultural norms and behaviors, as well as perceptions of the educational establishment of the largest parent-volunteer groups (i.e. PTA and PTO) cater primarily to non-minority parents (Toch, 2001). Research indicates that minorities are not approached as potential volunteers at the same rate as whites (Musick, Wilson & Bynum, 2000; Lareau & Horvat, 1999; Powell, Zambraba & Silva-Palacios, 1990). Even the discourse schools use when communicating with minority parents is biased against their assuming active roles within the school (Lareau, 2000; Nakagawa, 2000; Lamont & Lareau, 1988; Brantlinger, 1985). Taking gender and minority status together, the four classes within the broader ontology will be Minority Fathers, Non-minority Fathers, Minority Mothers, and Non-minority Mothers.

Attributes present in the ontology represent the features contained within the domain or construct (Ding & Foo, 2002). Each attribute must be defined with a measurable value and each must be represented in all classes. Undefined or non-numerical attributes are characteristics of taxonomies, and while useful, are not capable of serving to facilitate a common understanding within a domain (Gruber, 1993). Based upon theoretical evidence as grounded in the volunteer and parent involvement literature, this ontology includes three separate attributes, each contributing to the capacity to—or perception to—volunteer. Specifically, these attributes are the Social and Cultural Capital Attribute, the Personal Attribute, and the Socio Economic Status Attribute. Each of the attributes is comprised of multiple factors present within the Current Population Survey Volunteer Supplement. It is important to note that aside from carrying a value, attributes are features of parent volunteers, but unlike classes do not represent permanent characteristics.

The Social and Cultural Capital attribute represents an exchange between individuals and groups that work to benefit members of that group (Putnam, 2000). Often, parent volunteerism looks like a club. Friends get other friends to volunteer, or individuals sign up as a means to socialize (Clary, et al., 1998). Once recruited, volunteerism tends to “snowball” as the parent becomes aware of other volunteer opportunities. The amount of time spent volunteering and the number of organizations for which a parent volunteers are good indicators of the level of social capital generated by that volunteer (Putnam, 2000). Since students, parents, and schools benefit from the networks established by their parent volunteers, it would be useful to know how much time a parent volunteers and for how many organizations.

Next, the ontology includes an attribute representing the personal time available to volunteer. Research indicates that time surpluses are a key factor in determining whether or not

an individual is inclined to volunteer in the first place (Kearney, 2004). A commonly stated barrier to volunteerism relates to the limited options as to when volunteers are needed, such as during work hours (Epstein, 2001; National Council of Jewish Women, 1996). This barrier can be considerable for parents who are primary care givers for smaller children, elderly parents, or in households where spouses are not present. Time available to volunteer is a key factor (Penner, 2002; Clary, et al., 1998). Additionally, part of the net cost of volunteering is the amount of time available to perform a particular job or task. For parents with multiple family and work obligations, the required time may be too great for a volunteer commitment. Volunteerism, therefore, is a result of the time-based context in which the volunteers finds themselves. Individuals with overwhelming work-related or home-related commitments are unlikely to consider themselves available for volunteer activities (Omoto & Snyder, 2002). Compared to single parents, married couples are more likely to have reduced parenting and household obligations, thereby freeing more time for volunteering. While this has ties to economic status and employment, marriage is an indicator of social capital, increasing a parents' awareness of volunteer opportunities (Putnam, 2000).

Finally, because school cultures often reflect middle class cultures (Lareau, 2000), the socio-economic status (SES) attribute is an extremely important feature of parent volunteerism. Parents with higher SES appear to educators to be more supportive in philosophy, demonstrate greater amounts of trust, and better understand the interactions between educator and parent. This is mostly due to the presence of a shared cultural capital between the home and the school (Lareau, 2000). While income is likely to have the highest impact on SES, the level of education also contributes to how that individual is seen by others. The perception of an individual's role in the community holds a large effect on the interest in securing that individual as a volunteer. It

is not by accident that the wealthiest and most influential people are tapped for a variety of volunteer work. Members of the upper and middle classes are more likely to be recruited into parent volunteer groups and act in other formal volunteer capacities than are poorer parents, simply because they are seen as possessing resources desired by the organization (Handy, Cnaan, Brudney, Ascoli, Meijs & Ranade, 2000). They have surpluses of time, money, and energy, and are more likely to be educated and possess skills that can be directed to benefit the volunteer group. Understanding the SES attribute in parents and its impact on the entire model should reveal ways to include parents in low-income communities.

Incidents are the actual jobs or tasks performed by the parent volunteer. More pragmatically, volunteer work in U.S. schools can be either classified as high risk to the volunteer, students or the institution, or low risk. Risk, in this case, will be characterized by how much liability schools assume for the actions of the volunteer, specifically, if the organization is responsible in case the volunteer becomes injured, or if the volunteer causes injury to a third party while volunteering (Martinez, 2003). High risk parent volunteerism would be work that places the parent volunteer in a situation that carries a high load of responsibility and a low level of training and protection. Being a playground monitor, for example would be considered a high risk volunteer activity. Usually playground monitors are not trained in supervision, emergency medicine, or conflict resolution, yet are placed in situations that demand those skills. Other high risk volunteer activities could be counseling, teaching, mentoring, preparing food, or coaching. Conversely, there are volunteer jobs that carry very low risk. Examples of these would be serving on advisory boards, collecting clothing, or ushering at a school event.

Methodology

Since there is a disparity between districts, states, and national agencies in identifying a task as parent volunteer effort (Anderson-Butcher, et al., 2004; Epstein, 2001; Nord, et al., 1997), this study examines data on volunteer activity as provided by the parents themselves. Data for this study comes from the 2006 Current Population Survey Special Supplement on Volunteerism and identifies twelve job-types, and one entitled “other” (US Census Bureau, 2006). Together, those thirteen job-types comprise the factors or manifest incident variables and belong to either a high or low risk category as outlined in the paragraph above. Analyzing how volunteerism breaks down first according to job type and then by latent factor of risk, should give educational administrators a good idea where to apply precious resources such as trainings and volunteer management, or to limit the tasks and potential liability of the volunteer and the district. Including the general demographic characteristics of gender and ethnicity in the ontology will yield a greater understanding as to how different types of parents volunteer in schools or educational organizations.

Development of a model of parent volunteerism rested on data from the 2006 Special Volunteer Supplement of the Current Population Survey, available on-line via Data Ferrett [sic], an extraction program designed and maintained by the United States Census Bureau (US Census Bureau, 2006). Fourteen independent variables were selected. Table I: Volunteer Tasks and Jobs as Listed in the 2006 Current Population Survey shows the two risk-based latent variables and the family of jobs associated with each type of risk. The table also shows how the questions were presented to the selected respondents.

Table I: Volunteer Tasks and Jobs as Listed in the 2006 Current Population Survey

<i>Latent Risk Variable</i>	<i>Operational Job Name</i>	<i>Questionnaire Item – All beginning with the question: Now I’m going to ask you about activities you might have done for (the org. with most time spent) in the last year. Since September 1, 2004, did you ...</i>
High Risk Jobs	Coach	coach, referee, or supervise sports teams?
	Tutor	Tutor or teach?
	Mentor	mentor youth?
	Prepare Food	collect, prepare, or serve food?
	Counsel	provide counseling, medical care, fire/EMS, or protective services?
	General Labor	engage in general labor, supply transportation for people?
	General Office	provide general office services?
Low Risk Jobs	Usher	serve as an usher, greeter, or minister?
	Collect Clothing	collect, make, or distribute clothing, crafts, or goods other than food?
	Fundraise	fundraise or sell items to raise money?
	Professional	provide professional or management assistance including serving on a board or committee?
	Music	engage in music, performance, or other artistic activities?
	Other	do any other type of activity?

The attributes within the ontology are less static personal characteristics. The three individual attributes selected for this study are supported through the research literature as having strong influences on the decision to volunteer and the capacity to remain a volunteer. The Social and Cultural Capital Attribute is a measure of the networking capacity of the volunteer. This consists of measuring the amount of contact a parent has with other groups and

Table II: Ontology Variables and Components of Parent Volunteerism

<i>Ontological Component</i>	<i>Latent Variable</i>	<i>Label</i>	<i>Operational Variable</i>
Incidents (2) The actual jobs or tasks performed by the parent volunteer.	High Risk Activity	HRISK	13 Categories in CPS
	Low Risk Activity	LRISK	Data (Table 1)
Class (4) General demographics of parent volunteers	n/a	n/a	Minority Fathers
			Non-Minority Fathers
			Minority Mothers
			Non-Minority Mothers
Attributes (3) Features or characteristics of the parent volunteers	Social & Cultural Capital Attribute	SCCA	How Involved
			Hours Volunteered
	Personal Attribute	PA	Number of Organizations
			Household Size
			Hours Worked
Socio-Economic Status Attribute	SESA	Presence of Spouse	
		Household Income	
			Educational Level
Relationship (6) Magnitude and degree to which objects are related to incidents according to class	Proposed Conceptual Model		

individuals, and includes how parents become involved and the number of hours spent volunteering. The Personal Attribute is a measure of how much time is available for volunteer activities. This attribute includes the size of household, how many hours each week are reserved for work, and whether or not a spouse is present to help with household, earnings or volunteer requests. Finally, the Socio-Economic Status Attribute reflects the research that indicates that wealthier, more educated parents tend to volunteer at different rates than their poorer and less educated counterparts (Epstein, 2001, Putnam, 2000).

In building the ontology for parent volunteerism, it is the relationships between the incidents, classes, and attributes that form the basis for a common understanding of parent volunteerism. Because there are more than two objects, i.e., classes and attributes in this ontology, there will be a number of relationships impacting rates of parent volunteerism. To see how these objects (attributes, classes, and incidents) relate to one another, Structural Equation Modeling (SEM) will be used for analysis. SEM is well-suited for this purpose in that it provides a visual analysis of the relationships contained within a hypothesized model or models (Byrne, 1998).

All selected variables within the ontology can be seen in Table II: Ontological Variables and Components of Parent Volunteerism. Each of the four classes, Minority Fathers, Minority Mothers, Non-minority Fathers, and Non-minority Mothers will produce a separate ontology, each with six relationships between the two incidents (HRISK and LRISK) and the three attributes (SCCA, PA, and SESA).

Hypotheses

Previous research from this same data set on gender and minority status reveals statistically significant differences in how mothers and fathers elect to volunteer. Fathers prefer

to volunteer in High Risk duties while mothers prefer Low Risk activities. Likewise, minorities and non-minorities differ in their volunteer patterns (Fahey, 2008). The following hypotheses test to see the relationships between the incidents and the attributes of each ontological class — Minority Fathers, Non-minority Fathers, Minority Mothers, and Non-minority Mothers:

H₁₋₀: SCCA does not have a significant effect on parents' participation in High Risk and Low Risk volunteer jobs.

H₁: The higher the levels of social and cultural capital, the more the parent volunteers for High Risk and Low Risk jobs.

H₂₋₀: PA does not have a significant effect on parents' participation with High Risk volunteer jobs.

H₂: The lower the time demands of work and family, the more the parents will volunteer for High Risk jobs.

H₃₋₀: SESA will not have a significant effect on parents' participation with Low Risk jobs.

H₃: The higher the socio-economic status, the more likely the parent will volunteer for Low Risk jobs.

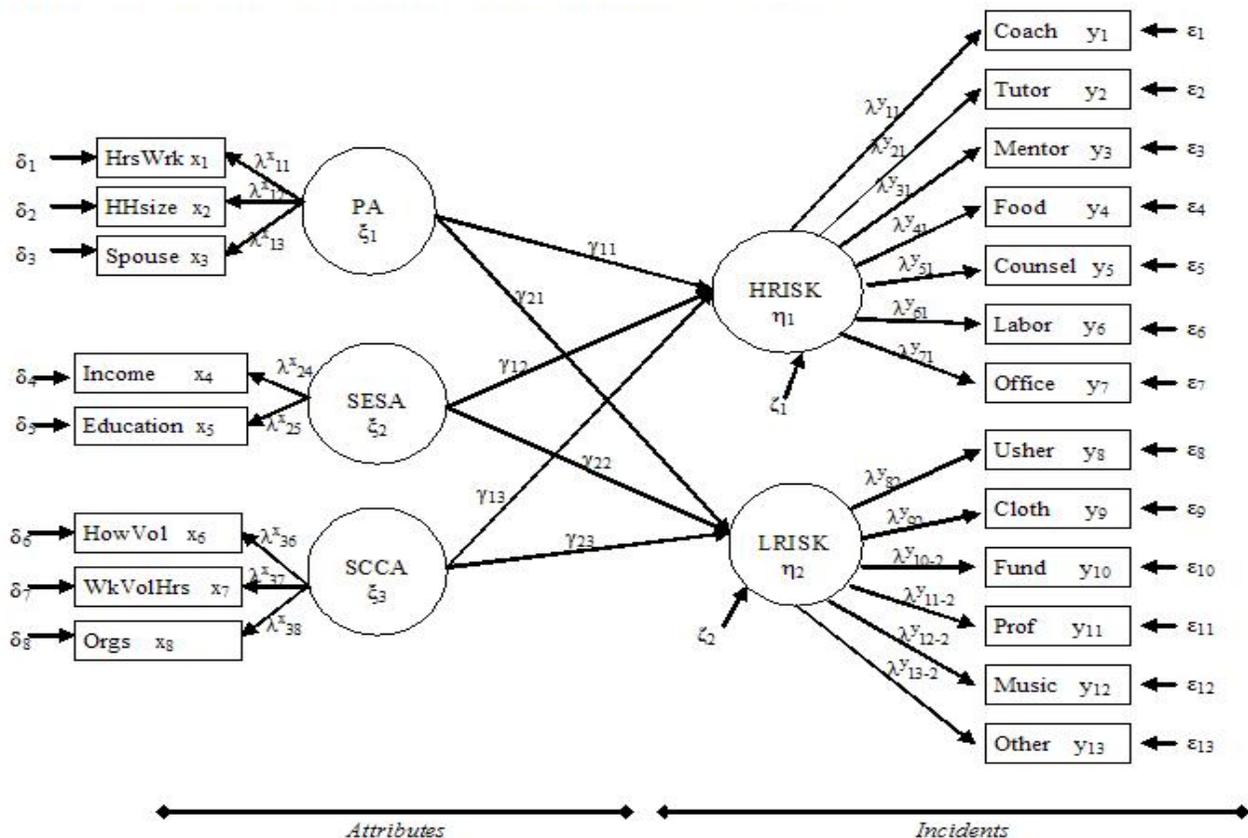
Structural Equation Model

Structural Equation Modeling is ideally suited to building a viable model of parent volunteerism as it allows for analyses of multiple relationships of interrelated variables while maintaining statistical rigor. Regression analyses allow for a single relationship to be explored. However, as with other studies in the social sciences, the multiple facets of parent volunteerism occur simultaneously, not one at a time. Furthermore, SEM distinguishes between latent and manifest variables and how they relate to each other and the dependent variables, and assumes measurement error exists and provides a structural means of dealing with that measurement error

(Hair, Anderson, Tatham & Black, 1998). The structural model will be applied to the resulting four gender-minority ontological classifications; specifically, white males, white females, minority males, and minority females.

School-centric studies have shown that time is a key factor in determining whether or not a parent volunteers (Epstein, 2001; NCJW, 1996), and how that parent chooses to volunteer (Segal & Weisbrod, 2002). Additionally, socio-economic status affects how parents approach their child's school (Lareau, 2000), and social and cultural capital work to the advantage of well-connected parents (Putnam, 2000) and against parents whose culture differs from that of the school (Schwalbe, et al., 2000; Hoover-Dempsey, et al., 1992). The hypothesized model, therefore will test, *a priori*, that the type of jobs volunteers perform are composed of a three-factor structure; the personal attribute as it concerns time availability to volunteer, socio-economic status, and social and cultural capital (See Figure 1).

Figure 1: Hypothesized SEM Path Diagram



Results

Factor loadings from the measurement model of the data were moderate, using acceptable guidelines for exploratory research, as was construct reliability (Hair, et al., 1998). As seen in Table III: Construct Reliability by Ontological Class, Minority Fathers have the best reliability measure for Low Risk activities at .61 and Non-Minority Mothers have the lowest for High Risk (.38). Similarly, there is moderate to good reliability for the exogenous constructs for Minority Mothers, with SESA being the highest at .63 and the lowest, SCCA, at .24. Regardless of minority status, fathers are more uniform in their reliability measures. For instance, SESA for Non-Minority Fathers is .56 and Minority Fathers at .58, while using the same indicators, mothers' measurements vary greatly, .37 for Non-Minority Mothers to .63 for Minority Mothers.

Table III: Construct Reliability by Ontological Class

<i>Latent Variable</i>	<i>Non-Minority Fathers</i>	<i>Non-Minority Mothers</i>	<i>Minority Fathers</i>	<i>Minority Mothers</i>
HRISK	.52	.40	.53	.38
Endogenous				
LRISK	.43	.40	.61	.49
PA	.25	.25	.35	.57
SESA	.56	.37	.58	.63
Exogenous				
SCCA	.33	.51	.34	.24

Similarly, the variance explained (R^2 value) for the four different ontological classes vary greatly. According to Table IV, R^2 Values for High Risk and Low Risk Activities, the models under comparison revealed that 18% of the variance for non-minority fathers participating in High Risk activities can be explained by the three attributes PA, SESA, and SCCA. Non-Minority Mothers and Minority Fathers have 20% of the HRISK variance explained by the three attributes, while 61% of the variance is explained for Minority Mothers. For Low Risk activities, Minority Fathers (6%) have the least amount of variances explained by the three latent exogenous variables and Minority Mothers have the largest at 42%. Non-Minority Fathers have a much higher percentage of variance explained for their Low Risk activities (28%), while Non-Minority Mothers have only 15% of the variance explained for their participation in Low Risk activities.

Table IV: R^2 Values for High Risk and Low Risk Activities

<i>Ontological class</i>	<i>High Risk R^2</i>	<i>Low Risk R^2</i>
Non-Minority Fathers	.18	.28
Non-Minority Mothers	.20	.15
Minority Fathers	.20	.06
Minority Mothers	.61	.42

In reference to the research question: “How do socio-economic status, social and cultural capital, and personal time availability impact parent volunteerism?” the following hypotheses:

H₁₋₀: SCCA does not have a significant effect on parents' participation in High Risk and Low Risk volunteer jobs.

H₁: The higher the levels of social and cultural capital, the more the parent volunteers for High Risk and Low Risk jobs.

Table V: Structural Model Paths for Ontological Class Comparisons

<i>Path</i>	<i>Non-Minority</i>	<i>Non-Minority</i>	<i>Minority</i>	<i>Minority</i>
	<i>Fathers</i>	<i>Mothers</i>	<i>Fathers</i>	<i>Mothers</i>
PA → HRISK	-10 ^{ns} (-1.02)	.05 ^{ns} (.96)	-.24 ^{ns} (-1.58)	.05 ^{ns} (.20)
PA → LRISK	-.13 ^{ns} (-1.23)	.02 ^{ns} (.52)	-.24 ^{ns} (-1.69)	-.08 ^{ns} (-.36)
SESA → HRISK	-.02 ^{ns} (-.28)	-.10 (-2.14)	.05 ^{ns} (.32)	-.32 ^{ns} (-1.89)
SESA → LRISK	.10 ^{ns} (1.26)	-.00 ^{ns} (-1.00)	.08 ^{ns} (.59)	-.19 ^{ns} (-1.46)
SCCA → HRISK	.43 (6.23)	.45 (8.01)	.45 (2.31)	.89 (2.72)
SCCA → LRISK	.53 (6.95)	.39 (8.46)	.19 ^{ns} (1.40)	.72 (3.12)

*p < .05 ns = Non-significant (t-values in parentheses)

Table V shows the coefficients for Non-Minority Fathers as being significant for both HRISK and LRISK variables (.43 and .53 respectively). Therefore, we reject the null and conclude that for non-minority fathers, social and cultural capital has a positive and significant effect on parents' participation in high and low risk jobs. Likewise, the coefficients for Non-Minority Mothers and Minority Mothers are significant (Non-Minority Mothers HRISK = .45 and LRISK = .39, Minority Mothers HRISK = .72 and LRISK = .89). As such, we reject the null and conclude that social and cultural capital has a positive significant effect on mothers'

participation in high and low risk volunteer jobs. For Minority Fathers, however, the results are mixed. The coefficient for participation on High Risk volunteer jobs is significant (.45), but not significant for Low Risk jobs (.19). Therefore, we reject the null for High Risk activities and fail to reject the null for low risk activities. We conclude that the social and cultural capital attribute has a positive significant effect on minority fathers' participation with high risk volunteer jobs.

H₂₋₀: PA does not have a significant effect on parents' participation with high risk volunteer jobs.

H₂: The lower the time demands of work and family, the more the parents will volunteer for high risk jobs.

None of the PA coefficients are significant (Table V). Therefore, we fail to reject the null and conclude that the personal time attribute does not have a statistically significant effect on any parents' ontological class participation on any volunteer job.

H₃₋₀: SESA will not have a significant effect on parents' participation with low risk jobs.

H₃: The higher the socio-economic status, the more the parent will volunteer for low risk jobs.

Again, Table V shows that all SESA coefficients for LRISK jobs are statistically non-significant.

Therefore, we fail to reject the null hypothesis and conclude that the socio-economic status attribute does not have a significant effect on parents' participation on low risk activities. At the same time, the only significant coefficient for SESA was negative and for Non-Minority Mothers (-.10). As such, we can conclude that socio-economic status holds a negative significant effect on non-minority mothers' participation in high risk activities.

Table VI: Model Summary by Ontological Class

<i>Class</i>	<i>N</i>	<i>X²</i>	<i>Df</i>	<i>RMSEA</i>	<i>p-value</i>	<i>GFI</i>
Non-Minority Fathers	1427	993.58	179	.056	.000	.93
Non-Minority Mothers	2400	1241.74	179	.050	.000	.95
Minority Fathers	236	319.08	179	.058	.000	.88
Minority Mothers	494	472.66	179	.058	.000	.94

Table VI, Model Summary for Ontological Class indicates that all of the parent volunteer ontological classes, or classifications, have p-values < .05. This is likely due to the high sample sizes. Typically, SEM requires a sample size of 100 to 150 (Byrne, 1998). Additionally, all four ontological classes have RMSEA values at or very close to the .05 guideline. This indicates that the generated models are close fits to the population from which the sample was taken (Kline, 2005; Hair, et al., 1998). The Goodness of Fit Index (GFI) is strong for all four ontological classes. With perfect fit being a 1.00 (Hair, et al., 1998), Minority Fathers have a weak fit with a GFI at .88. The other three groups, Non-Minority Fathers (.93), Non-Minority Mothers (.95), and Minority Mothers (.94) have good GFI measures.

Discussion

An ontology differs from a taxonomy in that it quantifies the relationships between the characteristics or attributes of each of the classes (Gruber, 1993)—in this case the four classes of parents, to the incidents, or types of tasks the parents perform as volunteers. The findings, therefore, address how socio-economic status, social and cultural capital, and time availability impact parent volunteerism. Analyses of the data demonstrate that the four general

classifications of parent volunteers exhibit different patterns or configurations of the three attributes contained in the tested models of volunteerism.

The measurement model for the four parent ontological classes suggests that instead of being a prescriptive manifestation of parents' support for their children or community support for education, parent volunteerism is a multi-faceted construct. While many educators believe that any form of involvement "can make a tremendous difference for the child" (NCJW, 1996, p.37), pleas for volunteer assistance are tempered by a teacher's perceptions of how much time a parent has to offer (NCJW, 1996). Furthermore, the measurement models reveal that traditional indicators predicting volunteer patterns perform modestly for the sampled parent volunteer ontological classes, yet were reasonably reliable for Minority Mothers. Personal characteristics or attributes impact parents' participation in High Risk and Low Risk activities, to varying degrees. First, time availability has been touted by educators and parents alike as being a major barrier to parents' volunteer efforts (Epstein, 2001; NCJW, 1996). Having a spouse present, household size, and the number of hours spent working each week all contribute to the availability of parents to participate as a volunteer in educational organizations. These three indicators measure the latent construct of personal time availability to varying degrees. For Non-Minority Fathers and Mothers the three indicators do a fair job, only slightly better for Minority Fathers. On the other hand, these three indicators are good measures for Minority Mothers. This is important as minority parents are not approached for volunteer duties at the same rate as non-minority parents (Musick, et al., 2000), and may serve as a gauge as to how teachers view the time availability of minority parents.

While the indicators of family income and level of education do a better job of measuring the Socio-Economic Status attribute, they are not consistent across all four ontological classes of

parents in this sample. Income and level of education are common markers of social class, as well as being positively related to volunteer activity (Lareau, 2000; Wilson, 2000). Being good for Non-Minority and Minority Fathers, and quite good for Minority Mothers, the two factors perform only moderately well for Non-Minority Mothers. Educators believe that middle class parents have a better understanding of how to behave in schools, are more willing to volunteer in the classroom, and less reticent to visit schools than working class parents (Lareau, 2000). These data cannot confirm that middle class membership is a good predictor for volunteer activity.

The story is also mixed for the Social and Cultural Capital attribute. Working on the premise that volunteers build social capital and display personal cultural capital through the level of volunteer activity (Putnam, 2000), this attribute was measured by the number of volunteer organizations to which they belonged, the average number of hours the parents spent volunteering on a weekly basis, and whether or not the parent was forced by a court or other official agency into their volunteer duty. Again, the indicators show mixed success in their measurement of the social and cultural capital latent variable. The indicators worked moderately well for Non-Minority and Minority Fathers, but poorer for Minority Mothers in the sample. They were very good indicators for Non-Minority Mothers. The measurement model shows the differences in women's volunteer patterns. While Non-Minority Mothers may belong to a number of different community volunteer organizations, and have a more formal presence in the community, like behaviors are less prevalent for Minority Mothers who volunteer in educational organizations. Traditionally, minority women tend to volunteer in more informal ways, staying closer to individuals within their communities (Naples, 1992).

Not only is it important to know how well the indicators measure their respective latent variables, it is also important to know how much of that measurement was captured by the indicators. In this case, the picture is not as clear. The indicators for the personal attribute fared poorly for all ontological classes of parents, except for Minority Mothers. On the other hand, the two remaining attributes were more uniform in measurement, with the indicators for the socio-economic status attribute capturing a moderately good portion of the variance across all four parent groups and the indicators for the social and cultural capital extracting only a moderately poor portion of the available variance. The low variance extracted indicates that there are other, perhaps more important measures of social and cultural capital. Especially as it concerns immigrant communities, family connections are extremely important for first and second generation Hispanic and Asian communities (Naples, 1992).

The measures of reliability and extracted variance tell an important story for each of the parent ontological classes. Matching the descriptive statistics, personal time is not a concern for most parent groups. While nearly all parents reported living with their spouse, having larger families and working longer hours were not issues in parents' participation in volunteer activities for both groups of fathers and non-minority mothers. The indicators were moderately poor for each of the ontological classes in the sample and extracted a scant 10% of the variance for Non-Minority Fathers, 19% for Minority Fathers, and 21% for Non-Minority Mothers.

On the other hand the measure is far more accurate for Minority Mothers, with good reliability (.57) and 62% of the variance extracted. In other words, personal time availability is a serious factor for Minority Mothers' participation in volunteer activities. Previous research into parent availability often cites time as a barrier to parent volunteerism (Epstein, 2001; Putnam, 2000; NCJW, 1996). While research is mixed on the relationship between volunteerism and

family size, employment often implies less time for volunteer activity. “Parents who work are significantly less likely to participate at the school building” (Epstein, 2001, p.211). These data however, do not confirm that premise. Parents who volunteer have larger households and spend more time working at their jobs (Fahey, 2008).

The attribute for socio-economic status is fairly consistent across all four ontological classes of parents. The indicators of family income and level of education are reasonably consistent—especially for fathers. The indicators are weaker for Non-Minority Mothers, but stronger for Minority Mothers. Additionally, extracted variances are uniform for all four groups, being slightly higher for Minority Mothers than for the other ontological classes of parents. Data indicate that most parents who volunteer are fairly homogenous, reporting an average educational level slightly higher than earning an associates’ degree and earning close to \$50,000 a year. The differences between mothers and fathers is important in that fathers participation in the sample is on a more limited scale than that of mothers, preferring High Risk, high visibility volunteerism (Fahey, 2008). The differences in measures for mothers, on the other hand, may at once reflect the growing trend of more minority women working toward post-secondary degrees (US Census, 2000), and the traditional parent volunteer patterns for stay-at-home mothers for non-minorities (Epstein, 2001; Nord et al., 1997).

Finally, the attribute measuring social and cultural capital is interesting in its mediocrity. Again, the indicators are the most reliable and extract the largest percentage of variance for Non-Minority Mothers. For all other sampled ontological classes, the reliability is fair to moderate and the extracted variances are low. The presence of social and cultural capital is essential in building community networks (Putnam, 2000) and personal efficacy (Bandura, 1997); however, the most salient indicators of number of hours worked and number of organizations are just not

that relevant for three of the four parent groups. Coercion into volunteer activity was virtually non-existent for this sample of parent volunteers, with only 4 individuals stating that they were forced into volunteer activity by an official agency. The measures for the social and cultural capital attribute are particularly interesting as this attribute is the only one that consistently is statistically significant in the models.

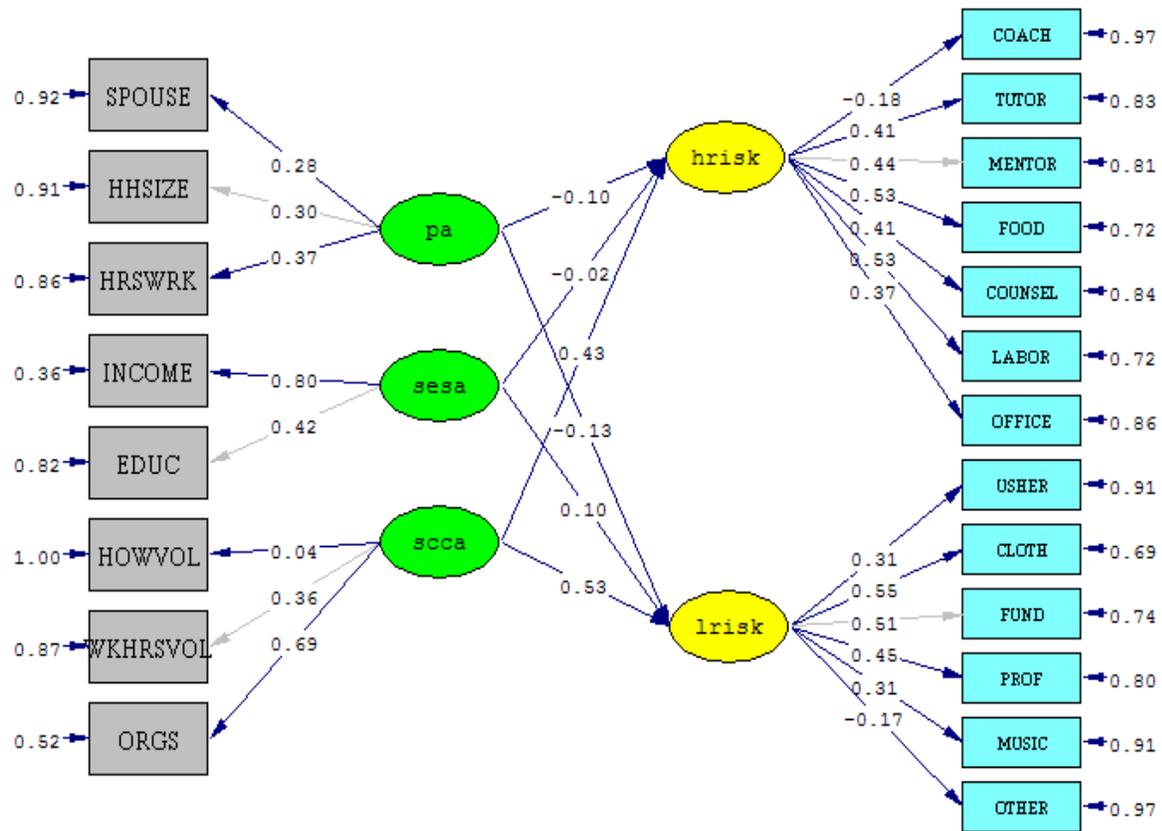
Surprisingly, the measurement model suggests that most traditional indicators work best for Minority Mothers but not very well for the other three parent ontological classes. This implies that the traditional model for parent volunteerism does not reflect practices and habits as practiced by Non-Minority parents and Minority Fathers. Fathers in the sample volunteer for more activities directly related to children and mothers are engaging in more committee-style volunteer activities. This is quite different from the stereotypical parent volunteer pattern.

Conventional assumptions surrounding personal time availability is definitely an issue for Minority Mothers in the sample, as are income and education. These analyses may reflect the spread of communal child-rearing practices in minority cultures (Diamond & Gomez, 2004) and volunteer behaviors (BLS, 2007; BLS, 2002) from local religious groups to include educationally based organizations. At the same time, the measures of reliability and extracted variances of Minority Mothers are the lowest for the social and cultural capital attribute, demonstrating that the factors of organizational membership and time spent on volunteer activities are not good indicators for Minority Mothers.

As previously stated, developing an ontology of parent volunteerism demands attention to the relationships between the general demographics of parents who volunteer, in terms of their personal characteristic attributes and how they elect to participate. Instead of using a uniform

measure for all types of parents, the data indicate that different ontological classes demonstrate

Figure 2: Path Diagram for Non-Minority Fathers



Chi-Square=993.58, df=179, P-value=0.00000, RMSEA=0.056

different patterns of relationships of how the various attributes contribute to parents' participation on High Risk or Low Risk activities. Figure 2: Path Diagram for Non-minority Fathers shows the relational model for just one of the ontological classes. Likewise, the discussion of the full ontology takes each demographic in turn, examining how the relationship between the attributes and incidents of volunteerism differ by ontological class.

As shown in Table VII, Non-Minority Fathers Class, the three attributes explain nearly one-fifth of the variance of Non-Minority Fathers' participation on High Risk activities ($R^2 = .18$, see Table IV). Coefficients for the two attributes of personal time availability and socio-economic status are both non-significant and negative. The social and cultural capital attribute,

on the other hand is positive and significant with a slope coefficient of (High Risk = .43 and Low Risk = .53). Together, the three attributes explain nearly 30% of the variance for Non-Minority Fathers' participation in Low Risk volunteer activities ($R^2 = .28$, see Table IV).

Table VII: Non-Minority Fathers Class

<i>Attribute</i>	<i>High Risk Incident</i>	<i>Low Risk Incident</i>
Personal Time Availability	-.10 ^{ns}	-.13 ^{ns}
Socio-Economic Status	-.02 ^{ns}	.10 ^{ns}
Social & Cultural Capital	.43	.53

Table VIII, Non-Minority Mothers Class, shows that personal time availability is non-significant for either type of volunteer activity (High Risk = .05 and Low Risk = .02). Socio-economic status however is significant, but negative for Non-Minority Mothers' participation in High Risk volunteer activities (-.10). This means that for this sample, household income and level of education holds an inverse relationship to Non-Minority Mothers' participation in High Risk volunteer activities. Similar to Non-Minority Fathers, social and cultural capital has a positive, significant effect for both types of volunteer activity (High Risk = .45 and Low Risk = .39). The three attributes explain 20% of the variance for High Risk activities and 15% of the variance of Non-Minority Mothers participation in Low Risk volunteer activities (Table IV).

Table VIII: Non-Minority Mothers Class

<i>Attribute</i>	<i>High Risk Incident</i>	<i>Low Risk Incident</i>
Personal Time Availability	.05 ^{ns}	.02 ^{ns}
Socio-Economic Status	-.10	-.001 ^{ns}
Social & Cultural Capital	.45	.39

The predictive attributes fared the worst for Minority Fathers. The three attributes explain 20% of the variance for High Risk activities, but only a scant 6% for Minority Fathers' participation in Low Risk volunteer activities (See Table IV). As seen in Table IX, Minority Fathers Class, only one attribute, social and cultural capital, was significant for High Risk activities (.45), and none for Low Risk activities. These results speak to how Minority Fathers in the sample report their engagement in volunteer activities. While one type of volunteer activity typically leads to another, similar type of activity (Putnam, 2000, Clary, et al., 1998), these data indicate that other volunteer efforts and organizational membership affect participation on High Risk activities alone.

Table IX: Minority Fathers Class

<i>Attribute</i>	<i>High Risk Incident</i>	<i>Low Risk Incident</i>
Personal Time Availability	-.24 ^{ns}	-.24 ^{ns}
Socio-Economic Status	.05 ^{ns}	.08 ^{ns}
Social & Cultural Capital	.45	.19 ^{ns}

Similar to the preceding three parent ontological class, Table X Minority Mothers Class, shows that neither personal time availability nor socio-economic status is significant for either type of volunteer activity. The import of organizational membership and volunteerism in the community is evident in the attribute for social and cultural capital. Surpassing all previous ontological classes of parents, social and cultural capital has a positive, significant effect for both types of volunteer activity (High Risk = .89 and Low Risk = .72), and explain 61% of the variance for High Risk activities and 42% of the variance of Minority Mothers participation in Low Risk volunteer activities (See Table IV).

These data imply that organizational membership and number of hours spent volunteering is a critical predictor for this sample of Minority Mothers' participation in educational volunteer activities. Furthermore, this may reflect the activist mothering phenomenon present in African American, Asian American, and Latina communities (Naples, 1992). For these individuals, volunteering is not an extension or an expression of personal capacities or social needs (Clary, et al., 1998). Instead, unpaid work within the community is a means to bind official institutions to the local group (Naples, 1992), and build relationships with other mothers that also serve the local community (Byrne, 2006).

Table X Minority Mothers Class

<i>Attribute</i>	<i>High Risk Incident</i>	<i>Low Risk Incident</i>
Personal Time Availability	.05 ^{ns}	-.08 ^{ns}
Socio-Economic Status	-.32 ^{ns}	-.19 ^{ns}
Social & Cultural Capital	.89	.72

While the presence of social and cultural capital is significant across all classifications of parents participating in High Risk activities, and for all but Minority Fathers' participation in Low Risk activities, it is strongest for Minority Mothers. Looking at the indicators, this suggests that parents engage in volunteering activities such as coaching, tutoring, teaching, etc. based largely upon their membership in multiple organizations and how many hours they devote to volunteer activities. Moreover, for this group of sampled parents, membership in multiple organizations and time spent volunteering are strong predictors for Minority Mothers' participation in Low Risk activities, and even more so for High Risk activities.

Connection to the community is evident in other research projects. In a qualitative study centering on the roles of minority women in a predominantly white culture, “[m]any women... described their community work as a logical result of their desire to improve the lives of their families and neighbors” (Naples, 1992, p.447). Most of the time, their work crossed established boundaries such as driving activities with a church to leverage support for better housing (Naples, 1992). Additionally, minority parents volunteering for educational organizations are more likely to carry their support for their community to the school or organization. Unfortunately, this often results in a disconnect of purpose, with parents pursuing one ambition and educators' pursuing another.

Since educators generally insist on seeing the family-school partnership as collaborative, efforts by African-American parents seeking to criticize or challenge educators' insensitivity to racial issues are not enthusiastically received. Thus African-American parents may find it especially difficult to comply with educators' definitions of “appropriate” parent involvement (Lareau, 2000, p. 188).

Conclusion

Building a volunteer-centric ontology is a small first step into understanding parent volunteerism and how it is defined and practiced. An ontology is effective in communicating complex information to multiple readers or constituencies. However useful for this purpose, the results from this study left large parts of the variance unexplained. For Minority Fathers' participation in Low Risk volunteer activities, 94% of the variance goes unexplained.

Because volunteerism is culturally sensitive, the next step in research and ontology development should move from a volunteer-centric approach to that of a community-centric approach. For instance, while this study examined volunteer activity in terms of high and low risk incidents, the factor loadings were low for the latent variables. Large measurement errors would indicate that large amounts of variance go unexplained by the factors (Kline, 2005). As such, other attributes of volunteer effort should be studied. Divisions centering on relevance to organizational mission and those centering on financial or political support for the organization would yield a different picture of how parents are engaged in their child's educational activities.

At the same time, because of the significant differences between mothers and fathers, and minorities and non-minorities (Fahey, 2008), the classifications of gender and minority status should remain the same. The attributes, on the other hand, should change. For instance, a similar study could be community-centric and include variables on metropolitan status, geographical region, regional and seasonal employment levels, major types of industry, and local political history or general voting record.

Once a volunteer-centric and a community-centric ontology are developed, it would be important to study how those models operate at different types of schools. Catholic schools, for example, have mandatory volunteerism as a means of off-setting costs. It would be interesting to

know if parents view this approach as a volunteer activity for the school, their religion, or if they view it as a means of paying tuition and do not count it as volunteerism at all. Likewise, questions examining the differences in volunteerism in charter schools, home-school associations, and public schools should be addressed. When including the indicators for the significant latent variable of social and cultural capital presented in this study, a better picture of the importance of networking should emerge.

Additionally, research is needed on the long-term interactions and effectiveness of mixed staffs, i.e., a volunteer staff and a paid staff. Medical organizations such as hospitals and hospices have viable mixed-staff models; however, there is a short term relationship between the care-givers and the recipients. Families and schools have a long-term relationship, typically lasting a minimum of 10 to 13 years. What is not known, however, is whether long-term, positive staff-volunteer relationships can be established and maintained.

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