

11-73 97
WORKSHOP IN POLITICAL THEORY
AND POLICY ANALYSIS
513 NORTH PARK
INDIANA UNIVERSITY
BLOOMINGTON, INDIANA 47405-0186

Reprint files

The Missing Link:
Collective-Choice Policymaking in
Nonprofit, For-Profit, and Public Child Care Centers

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Presented at the Annual Conference of the Association for Research on Nonprofit
Organizations and Voluntary Action, November 5-7, 1998, Seattle, WA

This research was funded by the Aspen Institute grant number 96-2-NSRF-OI and the
Workshop in Political Theory and Policy Analysis, Indiana University

Introduction

Much of nonprofit research over the past twenty years focuses on how a nonprofit enterprise is different than a for-profit or public enterprise. Influential early theorists relied on the legal constraint nonprofits have in redistributing profit to explain nonprofit production of certain types of goods. Hansmann (1980, 1986) developed Contract Failure Theory to explain consumer demand for nonprofit production of private goods with information asymmetry between buyer and seller. Weisbrod (1977, 1988) developed the theory of Market/Government Failure to explain nonprofit production of collective goods (defined to include goods that have shared benefits). In these foundational theories, the nondistribution constraint is the primary justification for the nonprofit institutional form. In Contract Failure Theory it signals quality to consumers because of the legal constraint nonprofits have in reinvesting all profit back into the enterprise. In Market/Government Failure Theory nonprofits will be formed to produce collective goods to meet under satisfied demand because the nondistribution constraint removes the incentive for the nonprofit to place profit above quality.

In the empirical research of the child care industry, much of the focus has also been on testing for differences between the nonprofit and for-profit sectors. Child care centers are assessed for their performance on quality indicators such as staff-child ratio, developmentally appropriate curriculum, and teacher education (Ruopp et al., 1979) and are then compared by sector. Until recently, empirical evidence pointed toward sectoral differences (Keyserling, 1972; Ruopp et al., 1979; Kagan and Newton, 1989; Whitebook et al., 1989). These studies indicate a positive relationship between nonprofit structural quality measures (such as staff-to-child ratio and teacher qualifications) and process quality (overall center quality measures). The most recent research, Cost, Quality and Child Outcome (CQCO) study, found no support for overall quality variation by sector. Puzzled by this result, the researchers state, "... the finding that overall quality does not vary between sectors except in North Carolina¹ is surprising and needs to be

¹The CQCO study includes four states: Colorado, North Carolina, California, and Connecticut. North Carolina had the lowest regulations of the study and the findings for that state support quality variation by sector.

explained" (CQCO study team, 1995:58). In searching for an explanation for this result, the authors note that only half of the variance in quality among centers is explained by their statistical measures of quality. When they divided the sectors into subsectors, they found that the intrasectoral variation was as great as intersectoral variation. Thus, the most recent research points toward significant intrasectoral variation that is not easily explained by existing nonprofit theory. If the nondistribution constraint translates into greater trustworthiness of the nonprofit form, then quality differences should be more pronounced between sectors than within sectors. Since the CQCO study found significant intrasectoral variability within sectors, there must be intervening factors influencing the relationship between institutional form (i.e., nonprofit or for-profit and service delivery).

This research explores these intervening factors. The focus is on identifying rule environments most likely to encourage adoption of quality enhancing policies. It is the primary argument of this paper that while the institutional choice to form a nonprofit or for-profit enterprise creates a "constitution" for the enterprise, this choice is only the beginning in terms of rule creation. Between the institutional choice to form a nonprofit or for-profit enterprise and the outcome of service delivery there is another level of rule making. This level of rules, the collective-choice level, creates the policy making environment for the enterprise. I propose that by understanding how institutional choice (and other factors) influence policymaking within an enterprise, we can then predict which configurations of rules are more likely to result in higher quality child care services.

This paper presents empirical results from a four state study of child care centers. It is one component of a larger study comparing nonprofit, for-profit, and public delivery of child care services (Bushouse, 1998). First, I present the analytical perspective utilized to determine rule environment and describe how it is applied to the child care industry. Second, I present a model for adoption of quality enhancing policies and data collection followed by a discussion of empirical results. The analysis identifies the key policy variables most likely to result in higher quality child care services. Third, I compare child care centers' adoption of quality enhancing

policies by both sector and governance structure.² This analysis reveals sector differences but it also reveals significant intrasectoral variability. The paper concludes with policy implications and directions for further research.

The Institutional Analysis and Design Framework

To explore alternative rule environments, I utilize an analytical framework distinguishing between levels of rules developed by Kiser and Ostrom (1982). The Institutional Analysis and Design framework (IAD) is a tool for categorizing rules into three analytically useful levels to determine influential variables. The three levels are constitutional, collective, and operational. The constitutional-choice level rules determine the overarching rule environment (i.e., who has the power to make rules about the rules). For a nonprofit enterprise, the constitutional level determines the structure of the board of directors, sets the rule requiring all profit to be reinvested into the enterprise (i.e., the nondistribution constraint), and determines a set of rules governing the relationship between the board and the director. The constitution and its enforcement, however configured, operate at a collective-choice level. Collective-choice rules, the second level of rules, create the decision making environment within the organization. This level of rules determines the relationships of the actors who make policy decisions for the organization. For example, the board of directors may allow the director of a child care center to make hiring decisions on her own. But the board may require that the director seek board approval for all pay increases. It is this level that has been omitted in previous research and that will receive the primary attention in this paper. The third level of rules, operational-choice, governs the day-to-

²In this paper the term *governance structure* is used to refer to subsectors. The for-profit sector consists of proprietary, private corporation, and public corporation governance structures. The nonprofit sector consists of independent, sponsored and religious sponsored nonprofit governance structures. The use of the term governance structure rather than subsector was made to emphasize the variation in how organizations are governed within the same sector. While all nonprofits have boards of directors, the composition and scope of those boards varies depending on whether it is sponsored or independent. In the for-profit sector, proprietary organizations which are governed by an owner and public corporations which are governed by a hierarchical corporate structure and ultimately stockholders face very different governance structures. The assumption is that variation in governance structure creates varying incentive structures for policy decisions.

day operations of an enterprise. Outcomes of operational-choice level decisions are goods produced or services delivered. Since services are delivered and goods are produced at the operational-level, it is this level where quality is ultimately determined.

In the IAD framework, the levels of rules are nested. Nesting means that the rule decisions determined at one level create the *rules-in-use* at the next level. Thus, the operational-choice level rules are nested within the collective-choice level rules which are nested within the constitutional-choice level. The implication of this is that constitutional rules such as the nondistribution constraint do have an impact at the operational-choice level. But, the impact of a constitutional-choice rule must first be understood in relation to its impact on collective-choice level policy decisions before any conclusions can be drawn about its impact on outcomes at the operational-choice level.

Figure 1 presents a schematic description of the IAD Framework. At the constitutional level there is a decision to start an enterprise. If that enterprise is formed as a nonprofit then certain constitutional rules follow such as the creation of a board and the agreement to reinvest all profits back into the enterprise. Alternatively, if that decision is to form a for-profit enterprise then the owner is required to pay business taxes and, if incorporated, must form a board of directors. Thus, the constitution determines principal-agent relationships for the enterprise and therefore the potential for agency costs.³ In proprietary for-profit enterprises the owner is the principal and the director or manager is the agent. In nonprofit enterprises and incorporated for-profit enterprises the board is the principal and the director is the agent. The extent of monitoring and enforcement creates the rules-in-use at the collective-choice level. These rules govern the relationship between principal and agent in making policy decisions. While these relationships are the internal rules-in-use, there are also external rules-in-use affecting policy decisions. In child care, these rules includes the state regulatory environment and public funding. These rules are exogenous to the enterprise or in other words the agency is not able to alter external rules-in-use.

In addition to institutional design, two sets of attributes affect policy decisions: physical world and community. Attributes of the physical world serve as limits to the decision making

³For a full discussion of principal-agent relationships see Jenson and Meckling (1986).

options. For example, the physical world for a child care center includes its physical structure. The structure is located in a particular geographic area which has a large effect on the clientele it can attract. The second set of attributes is the community. Many researchers use the term "culture" to refer to the attributes of the community. Ostrom defines the attributes of the community as, "norms of behavior generally accepted in the community, the level of common understanding potential participants share about the structure of particular types of action arenas, the extent of homogeneity in the preferences of those living in the community, and the distributions of resources among those affected" (1986: 472).⁴ The community is composed of all the parties affected by decisions taken on a particular action situation. For example, the community for a child care center would include the teachers and staff, the director, parents, and children.

By identifying the rules-in-use, physical world, and the attributes of the community, we can then begin to understand the decision making processes at the collective-choice level. And, most importantly, we can begin to understand the nested relationship between the constitutional- and operational-choice levels. Current nonprofit theory jumps from the constitutional level decision to form a nonprofit enterprise to the operational-choice level outcome without an examination of the collective-choice level rules. Similarly, child care researchers searching for sectoral quality differences have not explored the variation in organizational rule environments among child care centers in the same sector. Yet, understanding the policy process is critical to an analysis of outcomes. This is because the policy decisions at the collective-choice level set the incentives within which actors make decisions at the operational-choice level. By mapping out the action situation at the collective-choice level, it provides the intermediate rule environment and makes it possible to join constitutional rules to outcomes at the operational-level.⁵

⁴An action arena is the term used for a situation requiring a decision.

⁵This paper explores the relationship between institutional form and the adoption of quality enhancing policies. The adoption of these policies will affect decision-making at the operational-choice level. Previous studies of child care utilize quality measures that only address the operational-choice level. One problem with focusing only on the operational-choice level is that, while we may be able to accurately measure child care quality at a specific time, we cannot know if the quality is maintained over time. To overcome this limitation, this research focuses on

Quality Enhancing Policy Adoption: The Model

In this section, I first discuss five policy areas creating the incentive structure for delivering quality child care. These five quality enhancing policies (summarized in Table 1) create the dependent variable and include: incentives to recruit and retain skilled teachers, teacher/child ratios and group size, curriculum, parental involvement, and accreditation. Second, I identify the variables predicted to affect adoption of quality enhancing policies. These variables are grouped into the three categories of attributes described in the previous section: rules-in-use, physical world, and attributes of the community at the collective-choice level. The rules-in-use includes variables for the monitoring arrangements between principals and agents (i.e., the implemented constitution), regulatory environment and funding environment. The physical world consists of a competition variable. The attributes of the community includes variables for the clientele of the center and the knowledge level of the director. Each of these is discussed below.

Quality Enhancing Policies

The five policy areas described below were selected based upon findings from previous child care research indicating their positive impact on child care quality. Centers pursuing strategies to improve these policies areas are more likely to deliver quality child care services than centers who do not.

Incentives to Recruit and Retain Skilled Teachers

Experience, education, and training are often used as indicators of teacher competence. Existing research finds that specialized training is associated with good quality care (Howes, 1983; Stallings and Porter, 1980; Arnett, 1987). The National Association for the Education of

identifying the collective-choice level rule environments that are likely to produce an incentive structure leading to the outcome of quality service delivery. If we can evaluate child care centers depending upon how well collective-choice policy environments encourage the likelihood of producing quality, then we can have greater confidence, assuming good monitoring and enforcement, that quality will be maintained over time. That is not to say that outcome measures are not needed. But, given the prior focus on these measures alone, there is a gap in our knowledge of what factors are associated with policy decisions that are intended to increase the quality of care.

Young Children, which is the nationally recognized early childhood authority, advocates college-level specialized preparation in early childhood education/child development for all teachers (Bredekamp, 1993:14). In terms of policies enhancing quality, we can examine to what extent child care centers seek to hire teachers with experience and education.

Research indicates staff turnover negatively affects child care quality which in turn negatively affects child development. Whitebook et al. (1989) found that higher staff turnover rates in child care centers were predictive of lower scores on a measure of children's language development. We also know that children form attachments to their teachers and when teachers leave it is disruptive for them (Phillips and Howes, 1987). Therefore, there is no question that turnover is an important quality factor. But, child care is a low wage industry and it can be difficult to retain teachers. For this reason, child care centers adopting policies to retain teachers can have a positive impact on quality by decreasing turnover. In a review of the literature examining characteristics of teachers and administrators in child care programs, Bloom concludes, "... that teachers' wages, their education and specialized training, and the adequacy of their working conditions are critical determinants of program quality" (1996: 303). The National Child Care Staffing Study concluded, "by failing to meet the needs of the adults who work in child care, we are threatening not only their well-being, but that of the children in their care" (Whitebook, Howes, and Phillips, 1989: 3). Those centers striving to retain teachers may still have high turnover due to overall labor market pressures. But, since centers in the same urban area face the same external labor market, we can expect those centers striving to retain teachers are more successful in doing so.

Teacher/Child Ratios and Group Size

The number of children per teacher is another important indicator of quality. Since each teacher can be engaged with a limited number of children at any given time, as the size of the group increases, the teacher is less able to engage with each child. Significant research indicates smaller groups facilitate constructive teacher behavior and positive developmental outcomes for children (see for example Phillips and Howes, 1987). However, a study by Clark-Stewart and Gruber (1984) found that large enrollments may have positive as well as negative consequences. They found that children in large classes were more knowledgeable about the stranger's social

perspective and less likely to behave negatively with an unfamiliar peer. But, they also found children in classes with large enrollments were less sociable and cooperative with strangers, especially unfamiliar peers, than children in child care settings with small enrollments. Therefore, they conclude that the effect of group size is complex. In spite of these rival findings, the National Association for The Education of Young Children (NAEYC) publishes developmentally appropriate practices for early childhood programs including teacher/child ratios (Bredekamp, 1993). We can expect that those centers concerned about quality will strive to lower ratios and group sizes to NAEYC's guidelines.

Curriculum

Developmentally appropriate curriculum must be both age-appropriate and individually appropriate (Bredekamp, 1993). Planning a program that is age-appropriate means that all decisions are guided by an understanding of normal sequences of growth typical of children within a given age group. It encompasses all areas of development including social, emotional, cognitive, and physical. The curriculum must also be individually appropriate, for each child is a unique person with his or her own temperament, interests, learning styles, and cultural background (Dodge, 1997). There are many approaches to early childhood development, especially at the preschool age (e.g., Montessori, Reggio Emilia, Piaget, etc.). Given this diversity, the emphasis for this policy is on determining the educational level of the person designing the curriculum. Research indicates that the more early childhood education the better informed curriculum choices will be regarding developmentally appropriate practices. NAEYC recommends specialized training in early childhood/child development. Therefore, we can assume that the greater the educational background and experience of those persons responsible for setting the curriculum, the greater the potential for designing a developmentally appropriate curriculum.

Parental Involvement

Research indicates a large gulf between parents and early childhood experts when it comes to assessing quality (Larner and Phillips, 1994). For this reason, child care centers that are delivering quality child care will have an interest in developing policies geared towards parent education. Research also indicates that greater efforts to bridge home and center, leads to more

consistency for children. Therefore, I expect centers concerned with quality to encourage greater involvement of parents.

There are many ways for parents to be involved with the center. They can assist in fund raising, volunteer in the classroom and for special events, volunteer their labor for capital improvements to the center, or participate on the board of directors or a parent advisory board. Those centers with policies integrating parents into the center are assumed to place greater emphasis on quality than those centers without such policies.

Accreditation

Since 1985, NAEYC has been accrediting child care centers of all types (nonprofit, for-profit and public). The accreditation process involves three steps: a self-study by the directors, teachers, and parents; an on-site validation visit by specially trained evaluators; and the accreditation decision by a commission of nationally recognized early childhood professionals (Bredekamp, 1989:2). NAEYC accreditation is valid for three years and addresses ten components of an early childhood program; interactions among staff and children, curriculum, staff-parent interactions, staff qualifications and development, administration, staffing, physical environment, health and safety, nutrition and foodservice, and evaluation (Bredekamp, 1989:2).

Research also indicates that there are significant differences in the quality of work life for staff in accredited and nonaccredited centers. Accredited centers were found to have higher job commitment, lower staff turnover, greater compatibility between teachers' current and desired levels of decision-making influence, and greater innovativeness, goal consensus, opportunities for professional growth, and clarity (Bloom, 1996). While this bodes well for turnover rates, linking accreditation with quality is more problematic. Two major studies found that high-quality centers were more likely to be accredited. But, that when accredited centers were compared with other high quality centers, other groupings of centers (such as publicly operated programs and work-site programs) yielded higher quality of services (Cost, Quality, and Outcomes Study Team, 1995; Whitebook et al., 1989).⁶ What accreditation does tell us is that the directors and staff are concerned enough about quality to undertake a long (and relatively costly) process of self

⁶There are some data problems with this finding because some of the higher quality centers counted as publicly operated or work-site programs were also accredited.

evaluation. It signals a self awareness and knowledge about what quality is and about the steps to attain it. If a center is accredited, it is more likely that it will provide quality services, but it is not a guarantee. For this policy area, accreditation reveals awareness of quality, Centers may have good reasons for not pursuing accreditation. But, if the director/owner is knowledgeable about the process, it signals an awareness of the components of a quality program and a greater potential for implementing a quality program than directors who do not have knowledge of the accreditation process.

These five collective-choice level policy areas produce an incentive structure affecting the quality of operational-choice level outcomes. In the empirical section of the paper they will be operationalized and combined into an overall index of Quality Enhancing Policies. Now that these policies have been identified, the next step is to identify the variables expected to influence their adoption. In the section below, five independent variables are presented.

Variables Affecting the Adoption of Quality Enhancing Policies

This section identifies the variables likely to affect whether the Quality Enhancing Policies (QEP) described above are adopted. The rules-in-use, physical world, and attributes of the community define the action situations leading to policy decisions. Variables for each of these sets of attributes are discussed below.

Rules-in-Use

In this model, the internal rules-in-use variable measures the efforts principals exert in monitoring agents, given the institutional arrangements. As discussed in the previous section, whether an enterprise is arranged as a nonprofit, proprietary for-profit, or incorporated for-profit affects the potential for agency costs. For example, institutional arrangements with boards and off-site owners have a high potential for agency costs. In these cases there is a greater potential for agents to make decisions in their own best interests rather than the best interest of the principals. On-site owners have a lower potential for agency costs and if the owner is also the director then the agency costs (at the collective-choice level) can be zero.

The monitoring and enforcement exercised by principals over agents can either exacerbate or diminish the actual agency costs. The extent of monitoring and enforcement combined with the potential for agency costs create the incentive structure for agents. Monitoring and

enforcement are transaction costs incurred by principals to assure that agents are implementing the preferences of the principals. For those arrangements with a high potential for agency costs, we would expect principals to incur greater transaction costs to assure policy decisions are made according to their preferences. The greater the transaction costs between principal and agents, the less the potential for agency costs will result in actual costs. Therefore, we should expect transaction costs to reflect the degree of potential agency costs.

There are two variables of particular interest creating external rules-in-use for child care centers: regulation and funding. Child care regulation is a state level responsibility. The history of U.S. child care regulation is such that it is considered a social welfare responsibility rather than educational responsibility (Zigler and Lang, 1991). Given that history, child care regulations are geared more towards health and safety than monitoring educational content. Through inspections, typically annually, child care centers are licensed. Licensing standards establish a basic floor of quality rather than a model of high quality early childhood education (Morgan, 1985). Licensing focuses on aspects of child care such as staff/child ratios, teacher training, immunization record requirements, building safety and cleanliness which are all easily evaluated through inspections.

State regulations vary considerably both in scope and exemptions. Many states exempt part-day programs from licensing and some states exempt church-based programs from some or all licensing requirements. Typically, the state department of social services administers the regulations and local governments are responsible for fire and health inspections and enforcing building codes. Some states contract with the counties to enforce state licensing regulations for segments of the child care industry (e.g., day-care homes). Many states have general requirements for curriculum such as requiring each day that children have opportunities to experience gross motor development, dramatic play, manipulatives, nap times, etc. Within those general categories, teachers have total discretion in implementation. Thus, the state regulatory environment creates an incentive structure that affects child care center policymaking. But, it only affects center policymaking for those QEP included in the licensing regulations. We can expect state regulatory environment to affect policymaking for teacher/child ratios (and group size, if applicable). They may also affect hiring practices if the state mandates minimum teacher

qualification levels.⁷ But, we can not expect regulatory environment to positively influence curriculum, parental involvement, or accreditation (unless state regulations extend to those policy areas). Therefore, for those child care centers operating in more stringent state regulatory environments, I expect to find greater adoption of quality enhancing policies than those operating in less stringent state regulatory environments. But, the finding will be limited to those quality enhancing policies encompassed in the regulations such as child-staff ratios and group size, curriculum (if regulated), and staff training (if regulated).

The second external rules-in-use variable, funding, affects how child care centers get their revenue. This in turn affects the priority and size of different budget items. If centers are funded solely by fees, the level of tuition determines their ability to pay staff, provide benefits, purchase equipment, etc. Unless the tuition level is quite high, we can expect that those centers relying solely on fees for operating expenses will be more constrained in adopting quality enhancing policies.

Subsidies for child care take a variety of forms which have varying impacts on centers' budgets. Many states have voucher systems in which parents receive a set amount of money that they can use at any child care center for which they can gain admittance for their children. These are fee for service systems in which the center receives a payment from the local government or its designee to deliver child care services. Other programs, such as Title XX, directly subsidize child care centers serving low income populations. If public funds augment fees then they may positively impact the centers ability to adopt quality enhancing policies. If public funds replace fees then the center's budget is constrained by the reimbursement rate. Centers receiving public funds may have less or more constrained budgets than those relying solely on fees depending on the reimbursement or subsidy level. Assuming that child care center owners and directors are concerned about quality of child care delivered, we can expect those centers with less constrained budgets to adopt more quality enhancing policies.

⁷While all states have staff/child ratios for child care centers, not all have educational requirements for teachers.

Physical World

Child care is a service produced in a particular geographic area. Its location is an important variable in shaping the adoption of quality enhancing policies mainly due to its impact on clientele. Research indicates that parental child care choices are predominantly based on geographical proximity to work or home (Mauser, 1993; Johansen, 1990). In urban areas, parents may have a diversity of child care centers to choose from whereas in rural areas parents may have very few choices. Even in urban areas, competition between centers can vary significantly. One region of an urban area may have five child care centers whereas another region may only have one. Or, there may be a shortage in certain types of care such as subsidized or infant care. For this reason, it is important to determine the extent of competition experienced by the child care center, even in an urban center. It is also important to determine the type of competition experienced by the child care center. Centers may compete for price but they may also compete with one another on other dimensions.

If child care centers experience fierce competition based upon price, I expect that it will have a negative impact on teacher salaries which will in turn negatively impact quality due to increased turnover or lowering the educational level of the staff. Because the largest expense for child care centers is labor, a strategy to decrease costs will most likely result in decreased labor costs. This means increasing the number of children per teacher or decreasing teacher salaries. Since the state sets staff/child ratios, there is limited ability to increase the number of children per teacher and maintain compliance. The other option for decreasing labor costs is to lower wage rates and/or hire less qualified staff. As discussed above, low salaries can be directly linked to high turnover which in turn negatively impacts the quality of child care delivered. This is the paradox of child care: quality is linked to turnover and turnover is linked to salary levels and salary levels are directly related to tuition levels. Therefore, it is not possible to decrease one without affecting the others unless there is an alternative source of revenue.

Centers may also compete with other centers for prestige. In any local child care industry, there are a group of prestigious centers. These centers may compete with one another on dimensions such as specialized curriculum (e.g. Montessori, Reggio Emilia), individualized

attention, exposure to high culture, etc. Those centers competing for prestige may adopt more quality enhancing policies than centers competing on other dimensions.

Other centers may compete by promising greater academic achievement. However, these centers are likely to adopt curriculums that are not developmentally appropriate because they push children to achieve at levels beyond their developmental stage. But, given the gulf between expert and parental knowledge of child care quality, those centers may be popular with parents who are most concerned that their child succeed academically.

In sum, I expect price competition and academic curriculum to have a negative impact on the adoption of quality enhancing policies. I expect the opposite effect for prestigious centers because those centers are more likely to be competing based on quality.

Attributes of the Community

The attributes of the community affecting policy decisions of child care centers include its clientele and the director's integration into the community of child care professionals. For an individual center, there may be additional attributes. But all centers make policy decisions based, at least in part, on the demands of their clientele and the influence of the prevailing professional norms.

The socioeconomic characteristics of the clientele impact the center in several ways. The most obvious is the effect on tuition rate. Higher tuition rates can be charged in more affluent neighborhoods. In poorer neighborhoods tuition will reflect the lower income level of the population unless it is subsidized. However, the price of child care has not been found to vary directly with quality (Cost, Quality and Child Outcomes Study Team, 1995). There is acceptance that there is a relationship between child care quality and socioeconomic characteristics of the family, but the exact nature of the relationship remains inconclusive. Some research has finds a linear relationship (Goelman and Pence, 1987; Kontos and Fiene, 1987). Whitebook et al. (1989) find a curvilinear relationship, with middle-income families placing their children in lower quality centers than either low-income or high-income families. This may be due to greater choice availability to poor families receiving child care vouchers or state funding of centers serving low income families.

The clientele served may have an impact on the extent to which parental pressure can influence quality issues. We can expect parents with higher income levels to have a greater range of child care options. The more constrained the family (either by time or resources), the less choice parents have. Even if they are not satisfied with the child care services, more constrained families may not have an alternative. If parents have limited choices in child care, then centers have less incentive to adopt quality enhancing policies.

The clientele served may also affect the degree to which centers are able to integrate parents into the activities of the center. For example, a single parent working full-time has less leisure time than dual parent families. If a center serves only single parents working full-time, it is less likely that parents will have the time to be involved in the center. I expect that those centers serving clientele less constrained by time and money will make greater efforts to accommodate parent demands and that this will be reflected in the adoption of quality enhancing policies.

The second attribute of the community is the professional norms of the child care industry. The degree to which a director is integrated into the local, state, or national community of child care professionals may have a significant impact on her knowledge base from which she makes or influences policy decisions. We can expect that those directors more integrated into the child care community will make better informed decisions regarding child care quality.

To summarize, the model tests how well the variables measuring the rules-in-use (monitoring, regulatory environment, funding), physical world (competition), and attributes of the community (clientele and director knowledge) explain the adoption of quality enhancing policies. Figure 2 presents a schematic of the IAD Framework applied to child care.

Empirical Results

Data Collection

The table below summarizes the data collected in four urban areas. Cases were limited to urban areas to assure adequate competition between child care centers. Two criteria determined case selection: state regulatory environment and sector mix. To maximize variation I selected two states with high regulatory environments (California and New York) and two cases with low regulatory environments (Indiana and North Carolina). Since, the regulatory environment sets the

floor for quality, the lower the floor, the more likely child care centers will deliver child care at that minimal level; the higher the floor, the more likely child care centers will deliver at the higher minimal level (Morgan, 1985; Gormley, 1991). Therefore, if nonprofit theories are correct, quality differences between for-profit and nonprofit centers should be most pronounced in low regulatory environments. Theoretically, we should see nonprofit centers demonstrating significantly better quality enhancing policies than for-profits because the for-profits will only supply the floor of quality mandated by the state regulations in order to maximize profits. In high regulatory environments, the quality differences will be less pronounced but sectoral differences should be evident in other dimensions. For example, sectoral differences in clientele served should be pronounced in high regulatory environments. Centers operating in high regulatory environments face higher production costs than centers operating in low regulatory environments. Therefore, in order for a for-profit to generate profits it will seek out the profitable segments of the market. And, since nonprofits are theoretically not interested in profits, they can be expected to seek out the less profitable segments of the market. If nonprofit theories are correct, there should be clear sectoral differences in clientele served. Summarized in Table 2, Indiana and North Carolina have lower teacher qualifications, greater types of child care arrangements that are exempt from licensing, and higher staff/child ratios for preschool age children.

The second criteria, sector mix, adds the public sector to two of the four cases.⁸ This creates a three sector comparison in both a low and high regulatory environment. Including public sector production of child care services alters the competitive environment within which child care center directors and owners make policy decisions. The two cases included in the study, Berkeley/Oakland and Charlotte, represent a growing trend towards public school production of child care services. Many public schools produce pre-kindergarten services and some are expanding into full service child care centers (Kahn and Kamerman, 1987; Zigler and Lang, 1991; Bauch, 1988). Centers run by school districts are governed by an elected school

⁸This paper is part of a larger study. The inclusion of public school early childhood programs in the research design informs research questions not addressed in this paper. See Bushouse (1998) for the full study.

board although formal oversight may also reside with the state department of education. Case selection is summarized in the following table:

		Regulatory environment	
		Low	High
Public school production of child care	Yes	Charlotte, NC	Berkeley/Oakland, CA
	No	Indianapolis, IN	Buffalo, NY

The research started in June 1996 and was completed in April 1998. Data collection consisted of interviews and review of relevant child care research, government documents and advocacy materials. Interviews were conducted with child care center directors and owners, government officials, resource and referral agencies, and child care advocacy organizations. For each case, I obtained a list of child care centers from the appropriate state office. Child care center directors and owners were phoned and asked to participate in the study. For those agreeing to participate, I interviewed the director and/or owner and toured the center. Interviews lasted from 45 minutes to five hours. Interview questions were open ended and related to the general categories of research questions.

The breakdown of centers for each case are summarized in Table 3. In selecting centers, I concentrated on those child care centers offering full-time care for children under five. This criterion effectively excludes after school programs and part-day nursery schools. I also excluded Head Start programs which are funded and regulated by the federal government and therefore may not react to local demand conditions to the same extent as child care centers relying on fees for a significant portion of their budgets. It is important to note that although there was an attempt to select centers at random, approximately one in five center directors and owners declined to participate. If declining centers were lower quality, then this potentially introduces a

selection bias in favor of higher quality centers. Also since access is difficult, when I received a recommendation or referral to a particular center I then contacted that center and usually was able to obtain an interview. This was a minority of cases and accounts for less than 20 percent of the sample. Yet, since the recommended centers tended to be the prestigious centers in the area, it may increase the selection bias in favor of higher quality centers.

Operationalization of the Dependent Variable: OEP

Table 1 summarizes the categorization of data for each of the five quality enhancing policy measures. The measures were combined into an index to create a continuous dependent variable. Before creating the quality enhancing policy index (OEP) first it was necessary to combine three measures for attracting and retaining skilled teachers. Data was collected on educational levels of teachers, benefits packages, and wage rates. Education of teachers and benefits packages are categorical variables. Wage rates is a continuous variable. Wage rate data was converted into a categorical variable by separating the four states (to control for state wage differences) and dividing wages into percentiles. Centers were then ranked by their wage position in the percentiles. After converting wages rates into a categorical variable, all three variables were tested for scale reliability using the Cronbach alpha statistic. The results indicated the three combined variables have a 74.2 percent scale reliability coefficient. Retaining the three variables in the index was confirmed by systematically omitting variables to gauge their effect on the scale reliability coefficient. To create the index, each variable was converted to a scale of one to four to allow equal weighting. The combined index for retention (wage rates, teacher benefits, teacher education) ranges from a minimum of three to a maximum of 12.

To create the Quality Enhancing Policy index, I followed a similar approach described above. The combined five variables (using the retention index variable created above, parent involvement, accreditation, teacher/child ratio, and education level of the curriculum designer) yielded a 74.4 percent scale reliability coefficient. Systematic omission of each variable revealed the education level of the curriculum designer did not add to the reliability of the index. Thus, the remaining four variables (parental involvement, teacher retention, accreditation, and teacher-child ratios) were converted so that each has a maximum value of four to allow each variable to have an

equal weight. The variables were then summed to create an index ranging from a minimum of four to a maximum of 16.

Operationalization and Empirical Findings of the Independent Variables

Table 4 presents the full regression model results. It shows the effects of agency problems, regulatory environment, funding environment, competition, clientele, and director integration on the QEP index. Table 5 presents the correlation coefficients for the independent variables. The operationalization and results for each independent variable is discussed below.

Agency Problems

Centers were divided into low, medium, and high potential for agency costs based on the relationship between the board/owner (principal) and the director (agent). Low agency cost centers include proprietary centers where the owner is also the director, private corporations in which a board member is on-site, and nonprofit centers where the board is involved in center policy decisions. Medium agency cost centers include nonprofit centers with non-policy boards, private corporations without a board member frequently on-site, and proprietary centers with owners frequently off-site. High agency cost centers include proprietary centers with absentee owners, private corporations with off-site board members, public corporation centers, and nonprofits centers with non-functional (i.e. paper) boards. The institutional arrangement determines the potential for agency costs but the degree of transaction costs incurred to monitor the agent affect whether the potential for agency costs turns into actual costs.

Transaction costs measure the degree to which the principals monitor the agents. Center directors were asked what types of decisions they can make independently and what types require owner/board approval. Owners and directors were asked how frequently they interact to discuss policy issues. Based upon their responses centers were categorized as having low, medium, or high transaction costs. Whether transaction costs are greater or less than the agency costs, minimizes or exacerbates the potential for agency problems, respectively. Table 6 summarizes the transaction and agency costs for the child care centers participating in the study. Centers on the diagonal have transaction costs equal to agency costs. Thus, 48 percent of centers (n=50) have an appropriate level of monitoring given the potential for agency costs. Centers above that diagonal incur greater transaction costs than would be expected given the potential for agency

costs; twenty-six percent of centers (n=27) are least likely to incur agency problems in the adoption of quality enhancing policies. The centers below the diagonal incur fewer transaction costs than would be expected given the potential for agency costs. Accounting for 27 percent of the centers (n=28), this group is the most likely to incur agency problems due to insufficient monitoring.

To test the effect of agency problems on the adoption of quality enhancing policies, centers above the diagonal were tested against centers on or below the diagonal. Originally, centers were divided into three groups: above the diagonal, on the diagonal, below the diagonal. Examination of mean scores between the three groups indicated centers below the diagonal and centers on the diagonal did not have statistically significant differences in their mean QEP scores. Therefore, these two categories were combined and tested against centers above the diagonal. In the regression, the "above" category was included and the combined below/on diagonal was the omitted category. The results indicate the average QEP score for centers with more extensive monitoring systems is .94 units above centers with less extensive monitoring systems (significant at the 5% level). These findings support the hypothesis that governance structures incurring transaction costs greater than agency costs (i.e., with the most extensive monitoring systems) adopt higher levels of quality enhancing policies.

Regulatory Environment

To operationalize this variable, centers were divided into high and low regulatory environments depending on the state laws regulating child care (summarized in Table 2). The regression results in Table 4 indicate that the overall effect of regulatory environment on adoption of quality enhancing policies is not significant. Recalling from the previous section, state regulations tend to focus on health and safety aspects of child care. While this is a critical component of child care services, it does not affect the content of those services. Of the variables included in the QEP index only teacher/child ratio are included in state regulations. Accreditation, teacher retention policies, and parent involvement are not part of the state regulatory process. Figure 3 presents a histogram for teacher/child ratios. The distribution is highly skewed towards centers maintaining ratios at the state level. This finding supports earlier research (Morgan, 1985) that regulations set the floor for child care services rather than serving as a benchmark for quality.

We can conclude that while we know that regulatory environment affects teacher/child ratios, the results indicate that it does not affect the overall QEP index.

Funding Environment

The funding environment consists of three variables; budget constraint, direct subsidies, and vouchers. The budget constraint variable in the model measures the size and tuition level of the center. The larger the center the greater the potential for centers to realize economies of scale (Solomon, 1998). The higher the tuition the greater the revenues per child. Thus large centers with high tuition have less constrained budgets than small centers with low tuition. These two variables were combined to determine categories of budget constraints. For the tuition variable, data was collected on the tuition level for a full-time three year old. Centers were sorted by state, to control for differences in child care costs, and then classified into percentiles to create four categories (very low, low, medium, high). Similarly, the total capacity of centers were divided by percentiles into extra-small (<50), small (51-85), medium (86-120), and large (>120). Extra-small centers, regardless of tuition level, have constrained budgets and were categorized as most constrained. Centers that are small with extra low or low tuition were also categorized as most constrained. And, centers that are medium size but have extra low tuition were categorized as most constrained. The least constrained centers are those that are medium to large in size and charge medium to high tuition. The remainder were categorized as less constrained.

In the regression model, budget constraint is a continuous variable (i.e., least constrained is better than less constrained and less constrained is better than most constrained.⁹ The regression results indicate that as centers gain budget flexibility, adoption of quality enhancing policies increases. The budget constraint variable, significant at the .1% level, indicates that a one unit improvement in the budget constraint is associated with a 1.05 unit increase in QEP score.

The direct subsidies received by centers come from both private and public sources. Title XX of the Social Services Block Grant is used in Indiana to directly subsidize centers serving low income children. In most sponsored nonprofits, and a few religious-sponsored nonprofits, the parent nonprofit may subsidize the center by covering overhead costs or contributing directly to

⁹Since budget constraint is ordinal, it can be treated as continuous as long as equal intervals are assumed.

the budget. Centers receiving direct subsidies were tested against centers not receiving direct subsidies. Regression results in Table 4 indicate the average QEP score for centers receiving direct subsidies is 1.14 points above those centers not receiving direct subsidies (significant at the 5% level).

The voucher variable proved more complicated than originally expected. Each of the four states has a voucher program but the programs are extremely diverse. In North Carolina, centers receiving greater than 50 percent of enrollments through vouchers receive a lower reimbursement rate than centers serving less than 50 percent. Those centers receiving the lower reimbursement rate will have more constrained budgets than centers receiving the higher reimbursement, holding all else equal. Therefore, receipt of vouchers in one center may increase QEP while receipt of vouchers in another may decrease it. In New York, all centers receive the same reimbursement rate which is set by the county and is well below market rates. Centers accepting vouchers forfeit the difference between the voucher reimbursement rate and the private pay rate. Therefore, depending on the proportion of vouchers accepted by the center, budget constraints will vary. In Indiana, reimbursement rates are set by the county and parents enrolling children at centers with tuition higher than the voucher rate must pay the difference. Given this diversity in voucher programs, the effects of vouchers on the degree of budget constraint is highly dependent on the state in which the center operates. Therefore, it was omitted from the model.

Competition

The data collected represent the extent of competition, according to the director or owner's assessment, and also determines the dimensions of competition. Child care center directors and owners were asked to gauge the extent of their competition (low, medium, high). However, responses were not reliable and this variable was omitted from the model.¹⁰ To gauge

¹⁰Over the course of data collection it became apparent that directors and owners altered their assessments of their competition depending on the image they wanted to project of their centers. Through triangulation with other center directors, child care advocates, and government officials, it soon became apparent that relying on the director or owner's reported competition level would not yield reliable results. For example, an owner of an upscale center may want to project an image of being above the competition when in reality the competition for those upscale clients was extremely fierce.

dimensions of competition, center directors and owners were asked what type of competition they experienced. Based on their response and additional information gathered during the interviews, centers were categorized into price, quality, and/or academic competition. Those centers competing for price are geographically close to other centers and have concerns about* raising tuition and losing parents to their competitors. One center owner lamented that if she raised tuition by \$1 parents would move their child to the center down the street. Price was included in the full model as a dummy variable and was found to be statistically significant at the 5 percent level. The average QEP for a center competing based on price was a .99 units less than the average QEP for centers not competing on price (see Table 4). The quality dummy variable had the expected sign and was found to be statistically significant at the 5 percent level. The average QEP score for a center competing based on prestige was a 1.05 units greater than centers not competing on prestige.¹¹ Only four centers in the sample reported competing on the basis of academic success which makes the sample too small for meaningful analysis. Therefore, this variable was omitted from the full regression model.

Clientele

To test the hypothesis that those centers serving a clientele less constrained by time and/or money will adopt greater quality enhancing policies, data was collected on the primary income group served by the center (low, middle, upper, and mix) and the family characteristics (single parent, dual career family, single career family, mix).¹² Family characteristics measures the relative time constraint. A single parent is assumed to have the most time constrained life. A dual parent family with both parents working full time is assumed to be less time constrained than a single parent. And, a single career, two parent family (i.e., stay at home parent or parent working part-time) is assumed to be the least time constrained. Table 7 summarizes clientele information for the participating centers. Single parents are almost exclusively low income. Dual career parents are mostly upper income. The few single career parents (with a stay at home parent) are

¹¹There were eight centers with both price and prestige competition. These price/quality centers may reap the gains of efficiency based on price competition and the gains to quality based on quality competition.

¹²As reported by the director or owner.

nearly all upper income. The ten mixed income centers primarily serve families with middle income with upper income. Only in one center out of 105 was there a mix of income from low to upper income families.

To analyze the effect of clientele on adoption of quality enhancing policies, the two variables were combined into an index. The Cronbach alpha statistic indicated the two combined variables have a 78 percent scale reliability coefficient. In order to combine the variables, mixed categories were replaced with their means (1.75 for family; 2 for income). Family characteristics and income level (each with three categories) were then summed to create an index with a minimum score of two and a maximum score of six. Table 4 indicates the clientele index to be positively related with QEP scores at the 10 percent level. A one unit increase in the clientele index (i.e., a one unit improvement in time and/or money constraints) translates to a .36 unit increase in QEP score. The magnitude of the relation is not high but this data does indicate that the attributes of the clientele have a direct relationship to the center's adoption of quality enhancing policies.¹³

Director Integration

Directors were asked several questions to gauge their knowledge level of early childhood education and to assess their integration into the early childhood professional community. Based on their responses, centers were placed into three categories: minimal, some, good. Table 4 indicates a strong direct relationship between director knowledge and center QEP score: Increasing director knowledge from one category to the next increases QEP score by 1.1 points. Thus, more integrated directors are associated with centers adopting greater quality enhancing policies.

The full model presented in Table 4 indicates each of the three arenas affects a center's adoption of quality enhancing policies. The rules-in-use variables (agency problems and funding environment), the physical world variables (quality and price competition), and the attributes of the community variables (clientele and director knowledge) all affect a center's policy decisions

¹³I expected correlation between the budget constraint variable and clientele but the correlation coefficient is .2843 which is not large enough to warrant serious multicollinearity concerns (see Table 5).

regarding teacher retention, teacher/child ratios, parental involvement, and accreditation. From this analysis, we can conclude that centers with better monitoring systems, more flexible budgets and direct subsidies, competition on the basis of quality, clientele less constrained by money and time, and knowledgeable directors are more likely to have greater adoption of quality enhancing policies.

QEP Score and Sector Differences

The next step is to understand the relationship between QEP score and sector. Child care centers were divided into for-profit, nonprofit, and public sectors and regressed on QEP. The results indicate that sector does not explain the variation in QEP very well. The adjusted R square indicates that only 16.4 percent of the variation is explained by the model. However, it is important to note that the analysis of variance (ANOVA) results in Table 8 indicate that there are significant differences between the three sectors. While this finding appears to support existing nonprofit theory, further analysis of centers by governance structure reveals a great deal of intrasectoral variation that cannot be explained using existing theory.

For-profit governance structures include proprietary, private corporation, and public corporations (i.e., large chains). Nonprofit governance structures include independent nonprofits, sponsored nonprofits, and religious sponsored nonprofits. All of the public sector centers are located in school systems and therefore sector and governance structure are synonymous. The ANOVA results in Table 9 indicate that the means between governance structures are significantly different than one another. Difference in means tests between governance structures reveals some interesting relationships. Proprietary centers had the lowest mean score of 7.3 whereas independent nonprofits, sponsored nonprofits, and religious-sponsored nonprofits all had mean scores over 9 (see Table 10).¹⁴ Religious nonprofits had the highest mean score of all the governance structures at 11.2. In the for-profit sector the proprietary centers had lower mean scores than public and private corporations (see Table 10). In the nonprofit sector, independent nonprofits (mean score 9.3) and religious-sponsored nonprofits (mean score 11.2) had statistically

¹⁴Mean scores for public corporations (8.6), private corporations (9.3) and public sector (9.3) are based on small samples and are not reliable.

significant differences in means at the 10 percent level (see Table 11). Comparing means between proprietary centers and the nonprofit governance structures indicate the proprietary center means are significantly lower than independent, sponsored, and religious-sponsored nonprofit means (see Table 12).¹⁵ Thus, there are significant differences between governance structures in their mean scores on adoption of quality enhancing policies.

What these findings indicate is that constitutional rules do have an impact on adoption of QEP. But, those rules must be interpreted in light of the collective-choice rules (see Bushouse 1998 for a more detailed discussion of the relationship between governance structure and collective-choice policy decisions). The variation between governance structures in the same sector indicate the importance of recognizing diversity of institutional arrangements within the nonprofit and for-profit sectors.

Conclusion

Existing nonprofit theories make the jump from sector which is a constitutional-choice level decision to predicting outcome which is an operational-choice level decision. These findings indicate that while sectoral quality differences exist, there is also substantial intrasectoral variation. Given the findings of the relationship between collective-choice level rules and adoption of quality enhancing policies, there is good reason to conclude that what happens between the decision to start a for-profit or nonprofit center and the end result of quality is critically important. This research indicates that a closer examination of internal policymaking policies is necessary in order to understand variation in adoption of quality enhancing policies. Therefore, while the institutional choice to form a nonprofit or for-profit enterprise has some relationship to adoption of quality enhancing policies, there are other variables which significantly affect their adoption.

The implications for this research are both theoretical and policy oriented. This research points us in the direction of second generation theory building. It is time to move beyond sole

¹⁵3-Tests were not performed between the nonprofit governance structures and private (n=4) and public corporations (n=8) because the small sample sizes would not yield reliable results.

reliance on the nondistribution constraint as the primary explanation for the nonprofit institutional form. Choosing to establish a nonprofit enterprise introduces a set of rules for organizing such as requiring a board and operating constraints (requiring reinvestment of profits). But, it is the decisions affecting internal policy making which then determine whether there will be an incentive structure that facilitates quality service delivery.

The policy implications of this research point us away from sector based preferential policies and toward policies creating incentives for quality services. We cannot assume that just because a child care center is nonprofit that it is trustworthy. There may be important factors such as constrained budgets or insufficient monitoring of the director by the board that lead a nonprofit to deliver poor quality services. Conversely, we cannot assume that a for-profit enterprise necessarily will place the desire for profit above quality considerations. Intervening factors such as the clientele served, competition based on prestige, or early childhood education level of the director may lead a for-profit center to place quality on equal footing or even above profit concerns. Public policies to encourage child care quality need to address the factors identified in this research as encouraging the adoption of quality enhancing policies.

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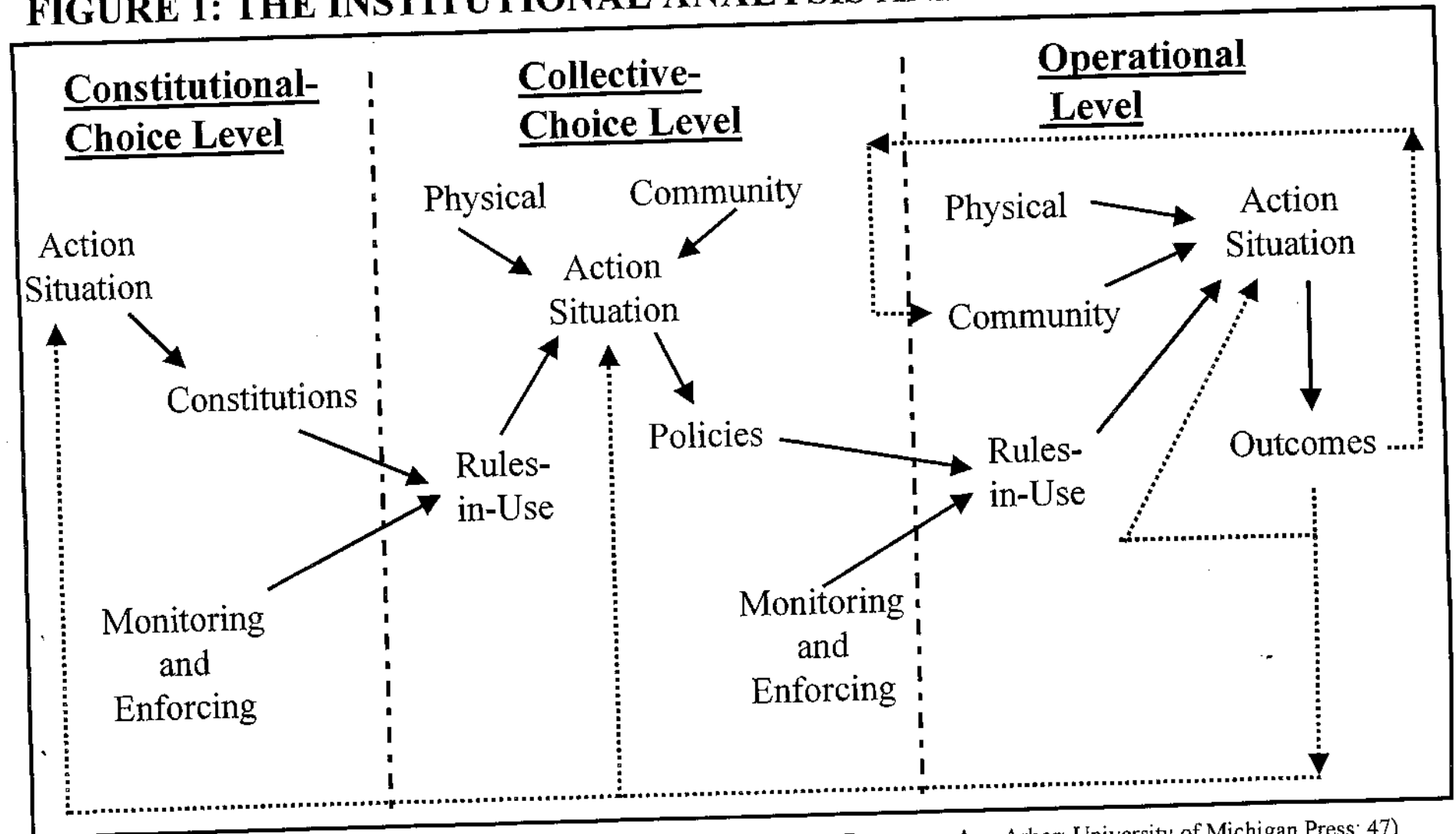
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FIGURE 1: THE INSTITUTIONAL ANALYSIS AND DESIGN FRAMEWORK



(Source: Ostrom, Gardner and Walker, 1994. Rules, Games and Common Property Resources. Ann Arbor: University of Michigan Press: 47)

FIGURE 2: THE IAD FRAMEWORK APPLIED TO CHILD CARE

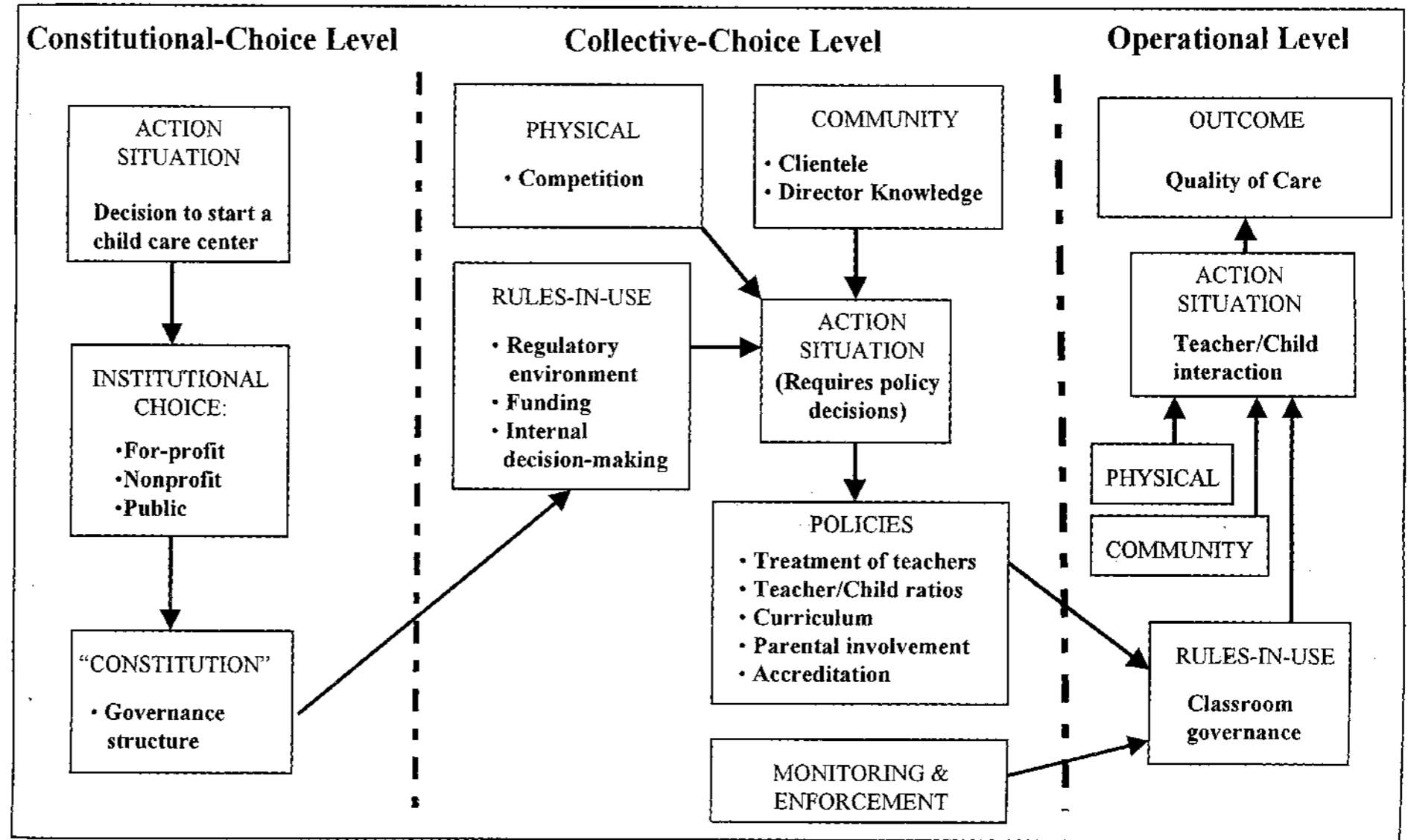
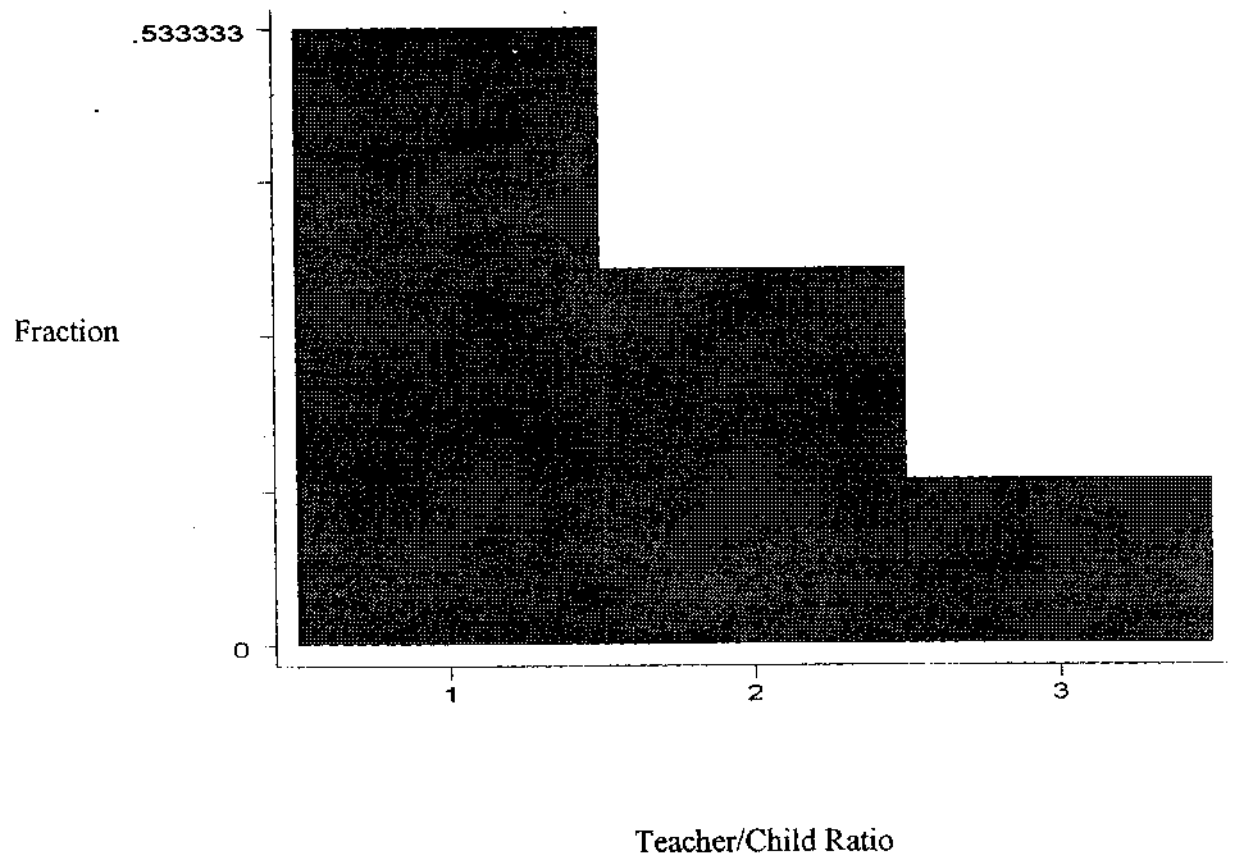


Figure 3
Teacher/Child Ratio Histogram



Key:

- 1 At State Level
- 2 Above State Level
- 3 At NAEYC Level

Table 1
Quality Enhancing Policies
(dependent variables)

1. Attract and Retain Skilled Teachers

Centers are assessed in the following areas:

- Hiring policy regarding education and experience of staff (Low, Medium, High)
- Benefits package (None, Poor, Good, Excellent)
- Wage rates (minimum, above minimum, high)

2. Teacher/Child Ratios and Group Size

Centers are divided into low and high regulatory environments and then assessed to the extent that they maintain ratios:

- At state levels (minimal)
- Below state levels (better)
- At NAEYC levels (best)

3. Curriculum

Centers are assessed by the educational training of the person responsible for setting the curriculum:

- No early childhood training
- Some early childhood training (Associates degree or less)
- Bachelors degree
- Masters or Doctoral degree

4. Parental Involvement

Centers concerned about quality will try to integrate parents into the center. Centers are assessed for the degree of parental integration:

- No parent involvement
- Low parent involvement (e.g., special events only)
- Medium parental involvement (e.g., classroom, clean-up days, special events, etc.)
- High parental participation (parents are integrated into the center)

5. Accreditation

Centers are classified into three groups:

- Center is not accredited and the director is not knowledgeable about accreditation
- Center is not accredited but director is knowledgeable about accreditation
- Center is accredited

Note: All of these data are collected through interviews of child care center directors and owners and observation.

Table 2
Regulatory Environments

Regulations	California	Indiana	New York	North Carolina
Public School Program	Yes	No	No	Yes
Licensing	Annual	Biannual	Biannual	Annual
Inspections	Announced	Unannounced	Unannounced/ Announced*	Announced
Corporal Punishment	No	No in centers Yes in day care homes and religiously sponsored centers	No	No in centers Yes in religiously sponsored centers
Exemptions from Licensing for Centers	Parent Cooperatives	Religiously sponsored centers, nursery schools, public or private preschools	Nursery Schools	Religiously sponsored centers
Ratios (Group Size)	Title 22 Title 5			A AA
Infant	1:4(12) 1:3	1:4(8)	1:4(8)	1:5(10) 1:5(10)
Toddler	1:6(12) 1:4	1:5(10)	1:5(10)	1:6 (12) 1:6(12)
Three Year Olds	1:12 1:8	1:10(15)	1:7(14)	1:10(20) 1:9(20)
Four Year Olds	1:12 1:8	1:12(15)	1:8(16)	1:15(25) 1:10(25)
Five Year Olds	1:12 1:8	1:15 (15)	1:9(18)	1:20(25) 1:13(25)
Teacher Qualifications	12 units or CDA	18 years and diploma	Associates or CDA + experience	Diploma + some training or experience
Training	No hours specified	CPR	15 hours in-service annually, staff required to attend training every two years	Orientation for new employees; CPR, First- Aid, infectious diseases required for one staff member

* Inspections are announced on the years licenses are renewed and unannounced the other year.

Table 3
 Child Care Centers
 Summary of interviews

Case	For-Profit			Nonprofit			Public School District	Total
	Proprietary	Private Corporation	Public Corporation	Independent	Sponsored	Religious-Sponsored		
Berkeley/Oakland, CA	9	1	0	10	2	3	5	30
Indianapolis, IN	10	2	4	3	7	4	1	31
Charlotte, NC	10	0	4	0	5	6	0	25
Buffalo, NY	5	1	0	4	6	3	0	19
Total	34	4	8	17	20	16	6	105

Table 4

Regression Model

QEP=f(rules in use + physical world + attributes of the community)

Source	SS	df	MS
Model	458.1	8	57.3
Residual	281.7	83	3.4
Total	739.8	91	8.1

Number of Observation	=	92
F(8,83)	=	16.87
Prob > F	=	0
R-Squared	=	0.62
Adjusted R-Squared	=	0.58
Root MSE	=	1.84

QEP	Coefficient	Standard Error	t	P> t	[95% Confidence Interval]	
Above (transaction costs>agency costs)	0.94	0.47	1.98	.051**	0.00	1.88
Regulatory Environment	0.17	0.45	0.40	0.69	-0.71	1.07
Budget Constraint	1.05	0.28	3.76	.00***	0.49	1.60
Direct Subsidy	1.14	0.49	2.33	.02**	0.17	2.11
Price Competition	-0.99	0.47	-2.10	.04**	-1.92	-0.05
Prestige Competition	1.05	0.48	2.17	.03**	0.89	2.00
Clientele	0.36	0.20	1.82	.07*	-0.03	0.76
Director Knowledge	1.07	0.28	3.76	.00***	0.50	1.63
Intercept	2.42	1.12	2.16	.03**	0.19	4.66

- * 10% significance level
- ** 5% significance level
- *** 1% significance level

Table 5
Correlation Matrix for Independent Variables

	Above	Regulatory Environment	Budget Constraint	Direct Subsidy	Price Competition	Prestige Competition	Clientele	Director Knowledge
Above	1							
Regulatory Environment	-0.16	1						
Budget Constraint	-0.06	0.29	1					
Direct Subsidy	-0.03	-0.12	-0.03	1				
Price Competition	-0.23	0.11	-0.06	-0.32	1			
Prestige Competition	0.27	0.04	0.36	-0.05	-0.13	1		
Clientele	0.22	-0.19	0.28	-0.36	-0.14	0.37	1	
Director Knowledge	0.21	-0.22	0.16	0.28	-0.39	0.29	0.17	1

(observations=92)

Table 6
Centers by
Agency Costs and
Transaction Costs

Agency Costs	Transaction Costs			Total
	Low	Medium	High	
Low	19	16	7	42
Medium	12	25	4	41
High	10	6	6	22
Total	41	47	17	105

- Most Extensive Monitoring: Centers above the diagonal n = 27)
(Transaction Costs > Agency Costs)
- Expected Level of Monitoring: Centers on the diagonal n = 50
(Transaction Costs = Agency Costs)
- Least Extensive Monitoring: Centers below the diagonal n = 28
(Transaction Costs < Agency Costs)

Table 7
 Primary Income Level by
 Family Characteristics

Income	Family Characteristics				Total
	Single Parent	Dual Career	Single Career	Mix	
Low	21	3	0	11	35
Middle	2	6	0	4	12
Upper	1	32	5	5	43
Mix	0	1	1	10	12
Total	24	42	6	30	102

Table 8
 Regression Results
 Quality Enhancing Policy Adoption = f(Sector)

<i>Regression Statistics</i>	
Multiple R	0.4244963
R Square	0.18019711
Adjusted R Square	0.16412255
Standard Error	2.55111171
Observations	105

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	145.9141832	72.96	11.2101	3.97358E-05
Residual	102	663.8334359	6.508		
Total	104	809.747619			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept (public)	9.33333333	1.041486993	8.962	1.6E-14	7.267549863	11.3991168
for-profit	-1.64855072	1.107328828	-1.49	0.13964	-3.844931097	0.54782965
nonprofit	0.77987421	1.098858878	0.71	0.4795	-1.399706062	2.95945449

Table 9
 Regression Results
 QEP = f(Governance Structure)

Regression Statistics	
Multiple R	0.49622732
R Square	0.24624156
Adjusted R Square	0.20009308
Standard Error	2.49561678
Observations	105

ANOVA					
	df	SS	MS	F	Significance F
Regression	6	199.3935137	33.23	5.33585	8.42575E-05
Residual	98	610.3541054	6.228		
Total	104	809.747619			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept (public)	9.33333333	1.018831284	9.161	8E-15	7.311495846	11.3551708
Proprietary	-2.03921569	1.105077685	-1.85	0.06801	-4.232206345	0.15377497
Private Corporation	-0.08333333	1.610913705	-0.05	0.95885	-3.280139093	3.11347243
Public Corporation	-0.77083333	1.347787103	-0.57	0.56868	-3.445472925	1.90380626
Independent Nonprofit	-0.06862745	1.185063793	-0.06	0.95394	-2.420347935	2.28309303
Sponsored Nonprofit	0.61666667	1.161646393	0.531	0.59672	-1.68858275	2.92191608
Religious-Sponsored Nonprofit	1.88541667	1.194685578	1.578	0.11775	-0.485397937	4.25623127

Table 10
Descriptive Statistics
for Quality Enhancing Policies Index Score
by Governance Structure

<i>Public Sector</i>		<i>Proprietary</i>		<i>Private Corp</i>		<i>Public Corp</i>	
Mean	9.333333	Mean	7.294118	Mean	9.25	Mean	8.5625
Standard Error	0.333333	Standard Error	0.403923	Standard Error	0.144338	Standard Error	1.14345
Median	9	Median	7.5	Median	9.25	Median	9
Standard Deviation	0.816497	Standard Deviation	2.355257	Standard Deviation	0.288675	Standard Deviation	3.234165
Sample Variance	0.666667	Sample Variance	5.547237	Sample Variance	0.083333	Sample Variance	10.45982
Kurtosis	6	Kurtosis	0.340323	Kurtosis	-6	Kurtosis	1.553172
Skewness	2.44949	Skewness	0.428455	Skewness	0	Skewness	0.953792
Range	2	Range	10	Range	0.5	Range	10
Minimum	9	Minimum	4	Minimum	9	Minimum	5
Maximum	11	Maximum	14	Maximum	9.5	Maximum	15
Count	6	Count	34	Count	4	Count	8
<i>Independent Nonprofit</i>		<i>Sponsored Nonprofit</i>		<i>Religious-Sponsored Nonprofit</i>			
Mean	9.264706	Mean	9.95	Mean	11.21875		
Standard Error	0.709854	Standard Error	0.418173	Standard Error	0.782582		
Median	9	Median	9	Median	10.25		
Standard Deviation	2.926803	Standard Deviation	1.870125	Standard Deviation	3.130329		
Sample Variance	8.566176	Sample Variance	3.497368	Sample Variance	9.798958		
Kurtosis	-0.96408	Kurtosis	2.361868	Kurtosis	-1.09898		
Skewness	0.144	Skewness	1.689603	Skewness	0.729017		
Range	9.5	Range	7	Range	8		
Minimum	5	Minimum	8	Minimum	8		
Maximum	14.5	Maximum	15	Maximum	16		
Count	17	Count	20	Count	16		

Table 11
Difference in Means Tests for Quality Enhancing Policies Index Scores
by Nonprofit Governance Structures

z-Test: Two Sample for Means

	<i>Independent Nonprofit</i>	<i>Sponsored Nonprofit</i>
Mean	9.264705882	9.95
Known Variance	8.566176	3.497368
Observations	17	20
Hypothesized Mean Difference	0	
z	-0.83179926	
P(Z<=z) two-tail	0.405522149	
z Critical two-tail	1.959961082	

z-Test: Two Sample for Means

	<i>Independent Nonprofit</i>	<i>Religious- Sponsored Nonprofit</i>
Mean	9.264705882	11.21875
Known Variance	8.566176	9.798958
Observations	17	16
Hypothesized Mean Difference	0	
z	-1.849432722	
P(Z<=z) two-tail	0.064395231	
z Critical two-tail	1.959961082	

z-Test: Two Sample for Means

	<i>Sponsored Nonprofit</i>	<i>Religious- Sponsored Nonprofit</i>
Mean	9.95	11.21875
Known Variance	8.566176	9.798958
Observations	20	16
Hypothesized Mean Difference	0	
z	-1.243667156	
P(Z<=z) two-tail	0.213622219	
z Critical two-tail	1.959961082	

Table 12
 Difference in Means Tests for Quality Enhancing Policies Index Scores:
 Proprietary to Nonprofit Governance Structures

	Proprietary	Independent Nonprofit
Mean	7.2941176	9.264705882
Known Variance	5.547237	8.566176
Observations	34	17
Hypothesized Mean Difference	0	
z	-2.4127802	
P(Z<=z) two-tail	0.0158314	
z Critical two-tail	1.9599611	

	Proprietary	Sponsored Nonprofit
Mean	7.294118	9.95
Known Variance	5.547237	3.497368
Observations	34	20
Hypothesized Mean Difference	0	
z	-4.5681	
P(Z<=z) two-tail	4.93E-06	
z Critical two-tail	1.959961	

	Proprietary	Religious-Sponsored Nonprofit
Mean	7.2941176	11.21875
Known Variance	5.547237	9.798958
Observations	34	16
Hypothesized Mean Difference	0	
z	-4.4563899	
P(Z<=z) two-tail	8.342E-06	
z Critical two-tail	1.9599611	