

Managing for Positive Youth Development: Linking Management Practices to  
Instructional Performances in Out-of-school Time Organizations

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Education and human service policies increasingly emphasize quality at the point of service (POS), the instructional and developmental crucible where professional staff and their young clients meet. In this study, we extend prior work to identify out-of-school time pedagogies (Smith, Peck, Denault, Akiva & Blazevski, in press) by attempting to link these stable profiles of staff practice with identifiable patterns of management practice. We test several hypotheses about how management practices influence the instructional performances of staff as they deliver learning, therapeutic and other developmental experiences to youth.

We start from the assumption that front line performance change is rooted in individual learning processes and that these processes can be initiated, facilitated and intensified through effective management. We hypothesize that when core elements of management practice – vision and priorities, performance feedback, and community building – are implemented together, instructional performances are likely to improve. These core elements of management practice constitute a definition of a professional learning community that is *tightly coupled* to instruction in the setting. We draw upon data from a recent randomized trial in after-school settings to test a set of specific hypotheses.

Our framework for conceptualizing and measuring management practices draws from several research literatures focused on supporting and improving the performances of front line teachers, social workers and youth workers. While we employ the idea of *professional learning community* (Talber & McGlauglin, 1999; InPraxis, 2006) as a descriptive tool to organize the discussion of effective management practices that are focused on instruction, we also draw from several overlapping literatures on instructional leadership (e.g., Fullan, 2009) and effective professional development (e.g., Garet, Porter, Desimone, Birman & Yoon, 2001) for school

settings and several studies of organizational climate in human services (e.g. Glisson & James, 2002) and social work agencies (Jaskyte, 2003).

### *Adult Learning Systems*

Our approach departs intentionally from reform policy frameworks that seek to achieve instructional change through the manipulation of structural inputs such as formal teacher education, reductions in youth-staff ratio, or licensing and accreditation. In our view, such input-output models mis-specify quality improvement leverage points by positing that instructional practice -- the “black box” of adult-youth interactions -- can be re-oriented by simply increasing investments in these structural factors. In fact, a growing body of evidence from the early childhood field suggests that efforts to changes structural features without directly engaging the quality of adult-child interaction in the setting context may be of limited value (Early et al., 2007; Mashburn et al., 2008). Like others, we argue that the practices of direct staff and site managers are the features of out-of-school time settings with the greatest potential to add value in terms of gains to youth development and learning (Granger et al., 2007; Tseng & Seidman, 2007). While instructional practices are of central concern for many in the field, the management practices that steer setting resources toward higher quality instructional performance have been given less attention by researchers.

Research efforts to link the leadership practices of school principals with student achievement data have produced uneven results, at least in part because the researchers determined that unmeasured variables having to do with instructional practices mediate the hypothesized relationships (Hallenger & Heck, 1996). It is certainly true that a growing body of research on school-day learning suggests that teachers/classrooms cannot be modeled as fixed

effects – when they are measured at all - and we believe that the same is true in the after-school field (Nye, Konstantopolous & Hedges, 2004).

The literature on loosely coupled systems provides both theory and empirical evidence suggesting that relationships between the practices and policies of school managers and the instructional performances of staff should be related – when school leaders are actually trying to influence instructional practice (Murphy, 1988).

#### *Levels of Setting: POS and PLC*

Our theory for linking management practices to front line performance requires specifying two different micro-systems at two different levels of setting, point of service (POS) and professional learning community (PLC). In order to adequately capture the implied dynamics within and across the micro-systems at each level of setting we draw upon the foundational settings theories from Bronfenbrenner (1999) and Barker (1968).

The theory of behavior settings, as introduced by Barker (1968) and extended by Schoggen (1989), provides a useful theoretical lens through which to understand levels of setting in out-of-school time organizations. Behavior settings are small-scale social systems that are self-generated, are bound by space and time, and have fairly clear boundaries between internal patterns and external patterns of behavior (Wicker, 1992; Schoggen, 1989). These structural and material characteristics of settings have a profound impact on the human roles that develop, and consequently, the actions that are taken by the people who inhabit the setting. Behavior setting theory suggests that the forces that reside in the setting regulate behavior to a considerable degree beyond more distal sources such as attitudes, beliefs, education level, and background (Barker, 1968). We use the term setting feature to refer to both material (e.g., a poster that describes program quality) and social (e.g., a meeting to discuss program quality scores)

characteristics of organizations that influence the behaviors of setting participants. Barker's concepts of behavior settings and the dynamic impact of setting features on behavior have substantial overlap with Bronfenbrenner's concept of micro-systems and proximal processes.

We suggest that out-of-school time (OST) organizations are constituted by two related but distinguishable micro-systems, each characterized by distinct setting features that influence behavior both within and across each level: the point of service (POS), where both program staff-youth interactions and youth-youth interactions occur; and the professional learning community (PLC), where program staff interact with program managers and other program staff.

### *Point of Service*

In our prior work on afterschool program quality we have advanced a developmental theory focused on the quality staff performances at the point of service, suggesting that after-school *offerings* consisting of the same staff, same youth and same learning purposes conducted over a sequence of sessions can provide powerful developmental experiences (Smith, Devaney, Akiva & Sugar, 2009). We suggest that individual staff are a naturally occurring unit of quality (a setting feature) and that the best frame from which to sample individual staff practice is from program offerings—the developmental micro-settings defined by continuity of participants and purposes. While youth may attend an after-school program every day, it is their task- and project-focused relationships that are likely to support experiences of interaction and engagement. We characterize staff POS performances in terms of several specific categories of practice that provide youth access to adult supports, active interaction with people, materials, and ideas, and higher order cognitive engagement through choice, planning and reflection.

In prior work we have identified three pedagogies reflecting different approaches to instruction during program offerings, namely positive youth development, staff centered and low quality that were found in a sample of nearly 600 unique offerings (Smith et al., in press).

*Professional learning community.* The professional learning community occurs in staff-specific settings, such as a staff room, but can be extended to the range of moments when staff meet to talk about how they will design and deliver program. While program staff may meet to discuss many aspects of program operation, we define the PLC as existing primarily to enhance the quality of staff performances during program offerings. We further argue that PLCs are most effective when led and/or facilitated by a program manager. Based on our review of the relevant literature and prior research (Smith & VanEgeren, 2008) we suggest the following management practices that support effective professional learning communities: (1) manager demonstrates positive youth development priorities and values, (2) manager provides real time performance feedback to front-line staff, and (3) manager provides continuity and community to support a positive organizational climate.

#### *The Youth Program Quality Intervention Study*

Data presented in this report are drawn from the Youth Program Quality Intervention (YPQI), a three-year setting change study funded by the William T. Grant Foundation. The YPQI is a cluster randomized field trial sited in 100 after-school programs. Participation in the YPQI entailed implementation of a two-year intervention model with year one focused on building management skills and year two focused on implementing management skills with direct staff in the following intervention sequence: First, managers were trained to lead a site-based team to collect observational data on quality using the Youth Program Quality Assessment (Youth PQA), a research-validated quality assessment system (High/Scope, 2005). Second, they

attended a “Planning with Data” workshop where they learned how to identify and build the supports necessary to enact a quality improvement plan based on Youth PQA scores from their own site-based self-assessment and produced by trained external assessors. Third, managers selected one or more youth worker methods workshops (based on the High/Scope active participatory approach) for their front-line staff to attend that directly support the skill building necessary to attain their improvement objectives. Managers were encouraged to attend these workshops in conjunction with their front line staff. Fourth, managers learned to use performance feedback techniques based on Youth PQA rubrics to build performance coaching relationships with their staff members focused on the identified skill building objectives. Finally, managers met with external TA/Coaches who support the management strategies and tactics named in the manager’s quality improvement plan.

The design was utilized to capture differences between the treatment and control groups as an overall test of assignment to the treatment group, and to provide a unique data set for exploration of within- and cross-level relationships. A more detailed description of the randomization and implementation is provided in the procedures section.

The primary research question for the YPQI trial involved the impact on POS-level staff performance caused by assignment to the treatment condition. Findings for linear impact models were positive with small to moderate effect sizes (Smith, Frank, Pearson, Lo & Sugar 2009). Non-experimental models utilizing the entire sample, without regard to treatment condition, also provided evidence that level of implementation of the YPQI management practice were strongly related to quality (Smith, Frank, Pearson, Lo & Sugar, 2009). However, the estimate of a statistically significant effect size provides little detailed information about *how* the intervention actually caused change in instructional behaviors. Pattern-centered methods provide a useful

analytic tool in the context of experimental data by allowing us to model within-level dynamics for each of the POS and PLC level micro-systems so we can see which practices subgroups of subjects are actually enacting. Once within-level practices have been described, it is then possible to link these practices across levels as a test of the intervention theory of change, i.e., that managers who participated in the YPQI trainings and advising will then employ their new skills to drive change in front-line staff practice with youth.

#### *Pattern Centered Methods in the Experimental Context*

While experimental impact findings based on linear models provide compelling evidence about the effects of assignment to the treatment condition, they provide less insight into the actual pathways through which we theorize causal influence. Because our intervention model is explicitly multi-level, we encounter level and unit of analyses problems when using linear methods. Pattern-centered theory and methods are ideally suited to address level- and unit-of-analysis issues because they have been developed for examining hypotheses that require modeling of relationships between parts and processes at distinctly different levels of analyses before multi-level data is crossed to link level-specific units in hypothesized causal flows (Bergman, Magnusson, & El-Khoury, 2003; Peck, 2007; von Eye & Bogat, 2006). For example, pattern-centered theory indicates that after-school program staff function as integrated wholes, and pattern-centered methods allow us to treat *patterns of values* on staff practice variables as integrated wholes (i.e., profiles) at the POS or PLC levels. Treating individual staff members (instead of variables) as the unit of analysis allows us to identify a small number of relatively homogeneous subgroups characterized by distinct profiles of practice at each level. Using this combination of theory and method allows us to better understand how individual staff members translate complex and multi-causal influences of training, background and organizational context

into specific styles of behavioral interaction as they enact their roles as site managers and direct service providers.

By using variable-centered methods to determine dimensions relevant to staff performance in out-of-school time settings, and then pattern-centered methods to identify homogenous subgroups, we move the unit of analysis from unidimensional measures (or aggregated global measures) to qualitatively distinct styles of practice. Such profiles highlight specific patterns of staff behavior as targets for policy change (e.g., training programs). For example, if a particular management profile is associated with low quality pedagogy at the point of service, then substantial gains in quality may be achieved by investing in professional development for managers or by redistributing other site management responsibilities to higher levels of administration so that site managers can focus on coaching higher levels of instructional performance at the point of service.

### *Research Questions and Hypotheses*

In this study, we address two primary research questions and test several more specific hypotheses. First, we want to identify profiles for the PLC and POS levels and then examine how these profiles are related. Our primary hypothesis for this research question is that high PLC scores will be matched with higher POS scores and low PLC scores will be associated with lower POS scores, suggesting that instructional leadership does matter for instructional performance. We also test two sub-hypotheses about specific types of profiles at each level setting: (a) regardless of score patterns on the other practices, POS level profiles with higher scores on the planning and reflection dimensions should be grouped with the higher PLC-level profiles; (b) PLC level profiles that do not include all of the major elements of the YPQI – use of a quality assessment tool, completion of an improvement plan based on quality data and assignment of

direct staff to aligned skills training – do not represent effective instructional leadership and will not be associated with higher quality POS level profiles.

Our second general research question has to do with tests for patterns of experimental differences at both levels of setting and in the patterns that emerge from crossing PLC and POS level practices. Specifically, we hypothesize that assignment to the YPQI treatment group will result in higher likelihood of managers being in the highest management practice profiles and of front line staff being in the highest pedagogy profiles. Furthermore, we hypothesize that assignment to the treatment group will result in greater likelihood of having high PLC – high POS configurations, that is, more treatment group offerings will have the characteristics of both high POS profiles and high PLC profiles.

## Method

### *Procedures*

In fall 2006, 100 after-school program sites across five networks<sup>1</sup> were selected for inclusion in the YPQI. Baseline Youth PQA and survey data (i.e., surveys of youth, direct staff, and site managers) were collected from all sites before a randomization procedure assigned sites to either treatment or control status. Within each of the five networks, 20 sites were included in the study, with 10 assigned to the treatment group and 10 assigned to the control group. Throughout Years 1 and 2 of the study (i.e., the 2006-07 and 2007-08 school years), site managers in treatment sites were exposed to the elements of the YPQI in the five distinct phases described above. In spring 2008, at the end of the experimental phase of the study, Youth PQA and survey data were again collected from all sites. Subsequently, control sites were exposed to

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<sup>1</sup> Networks are city- or state-wide after-school systems located in four states: Florida; Michigan; Minnesota (community-based sites); Minnesota (school-based sites); and New York

the elements of the YPQI over the course of Year 3 (i.e., the 2008-09 school year), while treatment sites were provided follow-up supports, including continued access to training.

The YPQI study entailed several design elements: (1) pre-randomization baseline data collection to provide a pre-test; (2) site level randomization with blocking so that 10 sites from each network randomly assigned to treatment and 10 to control; (3) an intent to treat sample meaning that all sites originally assigned to the treatment were included in final analyses, regardless of their level of implementation, along with “business as usual” control sites that were implementing parts of the intervention; (4) multi-level data with youth and front line staff nested within program offerings which were in turn nested within randomly assigned sites

### *Sample*

The data for this paper are drawn from observations and surveys administered in Spring 2008 at the end of Year 2 of the Youth Program Quality Intervention (YPQI) study. The sample includes Youth PQA observational data from 151 unique after-school offerings nested within 77 different after-school sites in five network “blocks.” Youth PQA data were available from 37 control sites and 40 treatment sites. Content delivered during the offerings included academics, arts/enrichment, life skills development/character education, sports, etc., with almost 58% of offerings focused on arts/enrichment or life skills development/character education. All sample offerings involved youth in grades 4 through 12.

Site manager surveys were collected from 80 sites, including 41 treatment sites and 39 control sites. Approximately 16% of site managers reported having an associate’s degree or less and 31% reported having a master’s degree or higher. The average number of years of experience as a site manager was about eight and a half years. Site managers reported working an average of 11 months out of the year and 33 hours per week.

### *Measures*

*Instructional practices at the point of service.* The Youth PQA-Form A was developed to assess the quality of staff practices in after-school program offerings (Smith & Hohmann, 2005). Completion of the instrument requires observation during one entire session of an offering, usually lasting between one and two hours. A running record of events that occur during the offering, centered on the actions of staff, is generated by an outside rater. After the observation period, the rater uses the written record to score items on a 3-level scale where “1” indicates that the staff practice did not occur, “3” indicates that the practice occurred informally or for only some youth, and “5” indicates that the practice occurred formally for nearly all youth (items not rated are coded “NR”). Endorsed Youth PQA data collectors receive training on the instrument and are required to achieve at least 75% perfect agreement at the item level with a set of “gold standard” scores produced by an expert rater (Blazevski & Smith, 2007).

The staff performance scales selected for this paper capture the extent to which after-school staff provide: (a) a welcoming atmosphere, (b) inclusion practices, (c) support for active learning/skill building, (d) support for group participation, (e) opportunities for youth planning, (f) opportunities for youth to make choices, and (g) opportunities for youth to reflect.

*Management practice.* Site manager surveys were developed to measure the extent to which managers in both treatment and control sites participated in activities and developed skills consistent with the YPQI model. Six dichotomous measures of management practices were used for this paper: (a) current use of any assessment tool; (b) attendance in at least one youth worker methods training (i.e., Developmental Assets by the Search Institute, Advancing Youth Development by National Training Institute or Best sites, Bringing Yourself to Work by the National Institute for Out-of-School Time, or High/Scope Youth Worker Methods by the

High/Scope Foundation); (c) observation of staff sessions to assess quality; (d) collection of written evidence on program quality; (e) participation in program planning using quality assessment data; and (f) evaluation of progress toward quality improvement goals.

### *Data Analytic Strategy*

Our analysis strategy consisted of three consecutive steps. First, we used cluster analysis techniques to create (a) POS staff practice profiles using the seven staff performance scales described above, and (b) PLC management practice profiles using the six measures of site manager implementation of YPQI practices. Next we examined the differences in profile membership between treatment and control groups at both the PLC and POS levels. Finally, we crossed the PLC and POS profiles to examine the relationship between management practices and staff performance at the point of service, and to evaluate how that relationship differed among treatment and control groups.

## Results

### *Descriptive Statistics*

Scale and item-level descriptive statistics for the seven Youth PQA scales are shown in Table 1. In general, mean scores decrease and standard deviations increase moving from the top to the bottom of Table 1. The far right-hand column of Table 1 presents the percentage of offerings in the overall sample where the staff person received a score of “1” on the Youth PQA, indicating that the practice named in the item was not delivered by staff during the observed offering.

Table 2 presents item level descriptive statistics for the six management practice measures. Of the six practices, site managers were most likely to observe staff sessions with youth to assess quality (87 percent of site managers did so) and were least likely to conduct

program planning or evaluate progress towards goals (58 percent of site managers did each of these).

### *Cluster Analysis of POS Practice and Management Practice*

After creating the management “practice set” variables and POS “practice set” scales, we subjected these unstandardized variables to cluster analyses using the Sleipner (version 2.1) statistical package for pattern-oriented analyses (Bergman and El-Khoury, 2002; Bergman, et al., 2003). Four modules were used in the analyses: Impute, Residue, Cluster, and Relocate. We began by using the Impute module to assign valid variable values to cases that were missing data on the variables of interest (the imputed values were taken from cases with the closest matching profile). Cases with too much missing data, or with no matching twin were deleted after this analysis. After imputing data, the Residue module was used to remove any multivariate outliers (i.e., cases whose pattern of values on the practice-set variables matched no more than two other cases).

We then used the Cluster module to obtain initial cluster solutions ranging from 2 to 20 groups (using Ward’s method and squared Euclidian distances as the dissimilarity measure). For each level of complexity, an index of the increase in the error sums of squares is produced (ESS). The explained and increased ESS from the 2 to 20-cluster solutions can then be plotted (see Figures 1 and 2) to determine the statistically justifiable upper and lower number of cluster groups that provide unique information (Bergman et al., 2003). As shown in Figures 1 and 2, the results provided statistical justification for selecting as few as three or as many as 11 cluster groups for staff practices, and as few as five or as many as 11 cluster groups for management practices. For the staff performance practices, we selected the 8-cluster solution (see Figure 3) because it was relatively parsimonious and contained sufficient variability in instructional styles.

We selected the 5-cluster solution for management practices (see Figure 4). The profiles created by the 5-cluster solution were differentiated by the presence or absence of the use of an assessment tool and training.

Finally, we used the Relocate module to conduct a *k*-means relocation analysis. This procedure re-assigned cases to cluster groups that best matched their individual profile, thereby correcting for premature classification by the hierarchical algorithm and further increasing within-group homogeneity. The centroids, standard deviations, and homogeneity coefficients for each staff performance cluster group are shown in Table 3. The characteristics of each management practice cluster group are shown in Table 4.

The eight clusters describing staff performances are independently interpretable but can also be collapsed into three categories: three profiles referred to as *Positive Youth Development Pedagogy* (PYD), three profiles referred to as *Staff-Centered Pedagogy*, and two *Low Quality or Non-Pedagogy* profiles characterized by the lack of an intentional approach or method. Likewise, the five clusters describing management practices were also collapsed into three categories: one profile representing *Full Implementation* of PLC management practices, one profile referred to as *Mid-level Implementation*, and three *Non-implementation* profiles.

Staff performance profiles were collapsed in the following manner:

- *Positive Youth Development Pedagogy* includes the PYD I, PYD II, and PYD III profiles with high levels of staff practices in nearly all areas. These profiles represent 32% of all offerings in the sample, providing youth with a supportive environment (welcoming atmosphere, inclusion practices); active learning (mix of hands-on and abstract materials and ideas, encouragement for skill practice, divergent questions, staff involvement); and opportunities for engagement through planning, goal setting,

and reflection. Only support for group participation, choice, and planning distinguishes the three PYD profiles.

- *Staff Centered Pedagogy* profiles represent 38% of offerings. These three profiles include offerings with youth workers who provide a supportive environment for learning and active learning but give youth few opportunities for choice, planning, and reflection. Again, support for group participation is the predominant difference between the three Staff Centered profiles. The term “staff centered” is used because these profiles lack practices that invite youth to make their own choices, plans and evaluative judgments.
- The *Low Quality (non-pedagogy)* profiles constitute 30% of offerings. The Low Quality I and II profiles are characterized by lower levels of basic support and skill building than the other pedagogies, and fewer opportunities for youth to make plans and reflect. The Low Quality I profile differs from the Low Quality II profile by having significantly lower levels of support for group participation and opportunities for choice.

Management practice profiles were collapsed in the following manner:

- The *Full implementation* profile represents 42% of the sample of site managers and is characterized by high levels of management practice in all areas. Nearly all site managers in this category used an assessment tool to observe staff sessions, attended trainings, and participated in a planning and quality improvement process.
- The *Mid-implementation* profile represents 13% of site managers in the sample. The profile includes site managers who attended trainings and participated in

- assessment/observation, but who did not have high participation in program planning or evaluation of their site's progress towards goals.
- *Non-implementation* profiles constitute 46% of site managers. The Non-implementation I profile is characterized by some observation and use of an assessment tool, but no training attendance or participation in program planning and evaluation. The non-implementation II profile is characterized by high levels of observation and collection of written evidence, moderate levels of training and planning, but no use of an assessment tool. The non-implementation III profile is characterized by high levels of assessment tool use and observation, but no evidence of participation in training. Site managers in the *Non-implementation* category did not exhibit *all three* of the core YPQI management practices which we hypothesize to have an effect on the quality of instructional performances: structured assessment and data collection through observation, leading a site team in data driven planning for improvement, and participation in aligned youth worker methods training.

#### *Relationship between YPQI participation and front line staff performance*

To explore the relationship between YPQI participation and the performance of staff at the point of service, we estimated the standardized differences between expected and observed cell counts for distributions of staff practice profiles within treatment and control groups. These results are presented in Table 5 and reveal significant differences between treatment and control groups in the distribution of staff performance profiles ( $X^2(N=133)=7.28, p<.05$ ). A higher proportion of offerings in treatment sites were characterized by PYD than in control sites. In our sample, 42% of offerings in treatment sites were characterized by the PYD profile, compared

with only 20% of offerings in control sites. These cell counts were significantly different than expected by chance.

*Relationship between YPQI participation and management practices*

The results presented in Table 5 also reveal significant differences between treatment and control groups in the distribution of management practice profiles ( $X^2(N=79)=30.53, p<.001$ ). In our sample, 65% of managers in treatment sites fully implemented the desired PLC management practices (i.e., full implementation), compared with only 18% of managers in control sites. On the other hand, managers in treatment sites were underrepresented in the non implementation profile, with only 15% of managers in treatment sites failing to implement desired PLC management practices, compared with over three-quarters of managers in control sites (77%).

*Relationship between PLC management practices and POS staff performance*

In order to explore the relationship between the management practices of site managers and the performance of staff at the point of service, we conducted a crosstabulation of the two sets of practice profiles (see Table 6). For the entire sample, without regard for assignment to treatment or control status, the hypothesized relationships between management practices and staff performance are in the expected direction, but are not statistically significant (but are significant using a one-tailed test). In particular, sites characterized by full implementation of management practices were slightly more likely to include offerings in the PYD category and slightly less likely to include offerings in the Low Quality category. As a final step, we then examined patterns of cross-level relationships broken out by assignment to treatment or control status.

While none of the standardized residuals presented in Table 7 are statistically significant within each group, our primary purpose is to examine the pattern of PLC-POS pairings in the

two groups. To further explore this pattern, we calculated the percent of offerings that were characterized by positive youth development staff practices and were located in sites where managers fully implemented PLC management practices (i.e., PYD staff practice and Full implementation management practice). Twenty-eight percent of offerings in the treatment group fell into this category, compared with only 2% of offerings in the control group. Conversely, only 3% of the treatment group offerings fell into the low PLC – low POS pairings (i.e., Low Quality staff practice and Non-implementation management practice), compared with 28% of the control group offerings. Differences were statistically significant in both instances, based on an independent samples t-test.

### Discussion

In this study we examined profiles of management practices that support effective professional learning communities and profiles of front line staff performances at the point of service in corresponding afterschool programs. Managers' and front line staff peoples' membership in these profiles were shown to differ in the hypothesized directions for a randomly assigned experimental group that received the Youth Program Quality Intervention. For both managers and staff, assignment to the treatment condition resulted in higher levels of membership in higher quality profiles. Further, relationships between management practice profiles and frontline performance profiles were crossed to examine cross-level relationships. The hypothesized relationships—high PLC associated with high POS; low PLC associated with low POS--were evident at the trend level (significant using a one-tailed test) for the combined sample. However, when cross-level relationships between management practices and front-line staff performances were examined for the treatment and control groups separately, substantial and statistically significant differences in coupling patterns were evident. Assignment to the

treatment group resulted in substantially higher incidence of high management-high staff performance configurations and much lower incidence of low-low configurations.

#### *Adult Learning and Tightly Coupled Systems*

This study provides rare empirical and experimental evidence regarding management practices that result in instructional performance change. Our findings suggest that it is possible to more tightly couple management and instructional systems in afterschool programs and thereby raise the quality of staff performance with the children and youth they meet at the point of service. Furthermore, our evidence suggests that it is possible to achieve conditions of tight coupling and improved performance by intervening with program management to build skills focused on adult learning in the supportive context of a professional learning community.

#### *Next Steps*

We anticipate two additional steps in the refinement of the study. First, we plan to eliminate some variables from the measures of PLC and POS practice. At the PLC level we will combine or eliminate two of the three management practice indicators focused on quality assessment in order to have a single measure for this practice. At the POS level we will explore the implications of removing the grouping and choice variables, potentially producing a final set of POS profiles with fewer clusters. Second, we will anchor the POS-level measures of pedagogy in child reports of interest, challenge and learning during the offerings during which the staff performance data is collected.

## References

- Barker, R., G. (1968). *Ecological Psychology*: Stanford, CA.: Stanford University Press.
- Bergman, L. R., & El-Khoury, B. M. (2002). SLEIPNER: A statistical package for pattern-oriented analyses. Version 2.1 (Manual). Stockholm: Stockholm University, Department of Psychology.
- Bergman, L. R., Magnusson, D., & El-Khoury, B. M. (2003). *Studying individual development in an interindividual context: A person-oriented approach*. Mahwah, NJ: Erlbaum.
- Bronfenbrenner, U. (1999). Environments in developmental perspective: Theoretical and operational models. In S. L. Friedman & T. D. Wachs (Eds.), *Measuring environment across the life span* (pp. 3-28). Washington, DC: American Psychological Association.
- Cairns, R. B., & Rodkin, P. C. (1998). Phenomena regained: From configurations to pathways. In R. B. Cairns, L. R. Bergman, & J. Kagan (Eds.), *Methods and models for studying the individual: Essays in honor of Marian Radke-Yarrow* (pp. 245-264). London: Sage.
- Early, D., Maxwell, K. L., Burchinal, M., Alva, S., Bender, R., & Bryant, D. M., et al. (2007). Teacher education, classroom quality, and young children's academic skills: Results from seven studies of preschool programs. *Child Development*, 78(2), 558-580.
- Granger, R., Durlak, J.A., Yohalem, N., & Reisner, E.R. (2007). *Improving after-school program quality*. Unpublished manuscript.
- Glisson, C. and James, L. R (2002). The cross-level effects of culture and climate in human service teams. *Journal of Organizational Behavior*, 23, 767-794.
- Hallinger, P., & Heck, R. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995. *Education Administration*, 32.

- High/Scope Educational Research Foundation. (2005). *The Youth Program Quality Assessment: Administration manual*. Ypsilanti, MI: High/Scope Press.
- InPraxis Group Inc. (2006). *Professional learning communities: An exploration*. Edmonton, Alberta: Alberta Education, School Improvement Branch.
- Jaskyte, K. (2003). Assessing changes in employee's perceptions of leadership, job design, and organizational arrangements in their job satisfaction and commitment. *Administration in Social Work, 27*(4): 25-39.
- Konstantopolous, S., & Hedges, L. (2008). How large of an effect can we expect from school reforms. *Teachers College Record, 110*, 1611-1638.
- LoCasale-Crouch, J., Konold, T., Pianta, R., Howes, C., Burchinal, M., Bryant, D. M., et al. (2007). Observed classroom quality profiles in state-funded pre-kindergarten programs and associations with teacher, program, and classroom characteristics. *Early Childhood Research Quarterly, 22*, 3-17.
- Mashburn, A. J., Pianta, R., Hamre, B., & Downer, J. T. (in process). *Pre-k program standards and children's development of academic, language and social skills*.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*, 370-396.
- Murphy, J. (1988). Methodological, measurement, and conceptual problems in the study of instructional leadership. *Educational Evaluation and Policy Analysis, 10*(2), 117-139.
- Nye, B., Konstantopoulos, S. & Hedges, L. (2004). How large are teacher effects? *Educational Evaluation and Policy Analysis, 26*(3): 237-257.
- Peck, S. (2007). Tempest in gallimaufry: Applying multilevel systems theory to person-in-context research. *Journal of Personality, 76*(6), 1127-1156.

- Peck, S. C., Roeser, R. W., Zarrett, N., & Eccles, J. S. (2008). Exploring the roles of extracurricular activity quantity and quality in the educational resilience of vulnerable adolescents: Variable- and pattern-centered approaches. *Journal of Social Issues*, 64, 135-155.
- Schoggen, P. (1989). *Behavior settings: A revision and extension of Roger G. Barker's ecological psychology*. Stanford, CA: Stanford University Press.
- Smith, C., Akiva, T., Devaney, T., & Sugar, S. (in press). Quality and accountability in the out-of-school time sector. In R. Granger, K. Pittman & N. Yohalem (Eds.), *New directions for youth development: Vol. 121. Defining and measuring quality in youth programs and classrooms*. San Francisco, CA: Jossey-Bass
- Smith, C., Frank, K., Pearson, L.M., Lo, Y., & Sugar, S. (2009, January). *Youth Program Quality Intervention Study: Impact findings for staff behavior in afterschool settings*. Paper presented at the William T. Grant Foundation School and Afterschool Grantees Meeting, Chicago, IL.
- Smith, C. & Hohmann, C. (2005). *Full validation findings for the Youth Program Quality Assessment*. Ypsilanti, MI: High/Scope Foundation.
- Smith, C., Peck, S. J., Denault, A., Blazeovski, J., & Akiva, T. (in press). Quality at the point of service: Profiles of practice in afterschool settings. *American Journal of Community Psychology*.
- Tseng, V., & Seidman, E. (2007). A systems framework for understanding social settings. *American Journal of Community Psychology*, 39(3/4), 217-228.
- von Eye, A., & Bogat, G. A. (2006). Person-oriented and variable-oriented research: Concepts, results, and development. *Merrill-Palmer Quarterly*, 52, 390-420.

Wicker, A. W. 1992. Making sense of environments. In W. B. Walsh, K. H. Craik, & R. H. Price (Eds.), *Person environment psychology* (pp. 157–192). Hillsdale, NJ: Lawrence Erlbaum Associates.

Table 1

*Scale and Item-level Descriptive Statistics for the Seven Youth PQA scales*

	<i>M</i>	<i>SD</i>	<i>% Scoring 1</i>
<b>Welcoming atmosphere (r = .50)</b>	<b>4.81</b>	<b>.53</b>	-
1. Staff use a warm tone of voice and respectful language	4.85	.52	0
2. Staff smile, use friendly gestures, and make eye contact	4.76	.69	0
<b>Inclusion practices (r = .43)</b>	<b>3.90</b>	<b>1.09</b>	-
3. Inclusive rather than exclusive climate among youth	3.81	1.37	.7
4. Evidence of shared traditions or youth-owned climate	3.98	1.20	5.3
<b>Skill building (<math>\alpha = .66</math>)</b>	<b>4.06</b>	<b>1.06</b>	-
5. The bulk of the activities involve youth in engaging with (creating, combining, reforming) materials or ideas or improving a skill through guided practice.	4.36	1.16	6
6. All youth are encouraged to try out new skills or attempt higher levels of performance.	3.89	1.53	16.6
7. All youth who try out new skills receive support from staff despite imperfect results, errors, or failure; staff allow youth to learn from and correct their own mistakes and encourage youth to keep trying to improve their skills.	3.97	1.33	9.4
<b>Support for Group Participation (r = .84)</b>	<b>2.51</b>	<b>1.59</b>	-
8. Activities carried out in different groupings	2.21	1.38	51.4
9. Groups have purpose/goal and members cooperate to accomplish it	2.78	1.91	51.4
<b>Opportunities to Make Choices (r = .39)</b>	<b>3.50</b>	<b>1.46</b>	-
10. Opportunities to make content choices	3.34	1.78	32.2
11. Opportunities to make process choices	3.66	1.73	26.2
<b>Opportunities for Planning (r = .85)</b>	<b>2.03</b>	<b>1.40</b>	-
12. Opportunities to make plans for projects and activities	3.12	1.53	60.7
13. Opportunities to use multiple planning strategies	1.93	1.38	64.7
<b>Opportunities to Reflect (<math>\alpha = .75</math>)</b>	<b>2.48</b>	<b>1.32</b>	-
14. Opportunities to reflect on work in progress or completed work	2.58	1.80	53
15. Opportunities to reflect on work in multiple ways	2.06	1.30	55.6
18. Opportunities to make presentations to the whole group	2.81	1.70	41.1

*Note:* “% Scoring 1” in column three refers to the percentage of 151 offerings that received a score of 1 on the Youth PQA for that item, indicating that the practice named in the item did not occur.

Table 2

*Item-level Descriptive Statistics for the Six Management Practices*

	<i>M</i>	<i>SD</i>
1. Site currently uses any type of assessment tool	.73	.44
2. Site manager attended at least one training	.62	.49
3. Site manager observed staff sessions with youth to assess quality	.87	.33
4. Site manager collected written evidence on quality	.70	.46
5. Site manager conducted program planning	.58	.50
6. Site manager evaluated progress toward goals	.58	.50

Table 3  
*Centroids, Standard Deviations, and Homogeneity Coefficients for the Cluster Groups of Staff Practices (n = 133)*

Cluster	I	II	III	IV	V	VI	VII	VIII
Label	Low Qual I	Low Qual II	Staff Cent I	Staff Cent II	Staff Cent III	PYD I	PYD II	PYD III
	n = 24	n = 16	n = 16	n = 14	n = 21	n = 16	n = 13	n = 13
Homogeneity coefficient	1.06	1.57	.83	1.04	1.30	.87	.96	.65
Practices								
Welcoming atmosphere	4.83 (.48)	4.75 (.45)	5.00 (.00)	5.00 (.00)	4.81 (.52)	4.88 (.34)	5.00 (.00)	5.00 (.00)
Inclusion practices	3.46 (1.14)	3.25 (1.18)	4.19 (.83)	4.43 (.76)	4.00 (1.00)	4.06 (.77)	4.38 (.87)	4.77 (.44)
Skill building	3.51 (.81)	3.13 (1.22)	4.25 (.87)	4.71 (.43)	4.49 (.66)	4.54 (.58)	4.64 (.44)	4.90 (.25)
Support for group participation	1.13(.45)	3.50 (.52)	1.00 (.00)	4.50 (.52)	4.14 (.48)	1.00 (.00)	1.15 (.55)	4.38 (.51)
Opportunities for choices	2.13 (.99)	3.25 (1.44)	4.75 (.44)	2.21 (.80)	4.57 (.60)	2.19 (.91)	4.85 (.38)	4.85 (.38)
Opportunities for planning	1.13 (.45)	1.00 (.00)	1.13 (.34)	2.42 (1.16)	1.71 (.85)	1.50 (.82)	4.00 (.93)	4.23 (.93)
Opportunities to reflect	1.17 (.35)	1.08 (.23)	2.00 (1.06)	3.14 (.79)	2.46 (1.24)	3.62 (.71)	3.00 (1.05)	4.13 (.88)

*Note.* PYD = Positive Youth Development; Staff Cent = Staff-Centered; Low Qual = Low Quality. Lower homogeneity coefficients indicate more homogeneous subgroups.

Table 4  
*Centroids, Standard Deviations, and Homogeneity Coefficients for the Cluster Groups of Management Practices (n = 79)*

Cluster	I	II	III	IV	V
Label	Non-imp I	Non-imp II	Non-imp III	Mid imp	Full Imp
	n = 15	n = 9	n = 12	n = 10	n = 33
Homogeneity coefficient	.18	.25	.27	.30	.05
Practices					
Assessment Tool	.40 (.51)	.00 (.00)	1.00 (.00)	.70 (.48)	1.00 (.00)
Attended at least one training	.00 (.00)	.67 (.50)	.00 (.00)	1.00 (.00)	1.00 (.00)
Observed staff sessions	.80 (.41)	1.00 (.00)	.92 (.29)	.60 (.52)	.94 (.24)
Collected written evidence	.13 (.35)	1.00 (.00)	.83 (.39)	.20 (.42)	.97 (.17)
Conducted program planning	.00 (.00)	.56 (.53)	.50 (.52)	.30 (.48)	.97 (.17)
Evaluated progress toward goals	.00 (.00)	.56 (.53)	.67 (.49)	.00 (.00)	1.00 (.00)

*Note.* Non-imp = Non-implementation; Mid imp = Mid implementation; Full imp=Full implementation. Lower homogeneity coefficients indicate more homogeneous subgroups.

Table 5

*Counts and Adjusted Standardized Residuals for Crosstabulations of Treatment Status by Staff Pedagogy Profiles and Management Practice Profiles*

	Staff Practice Profiles				Management Practice Profiles			
	Low Qual	Staff Centered	PYD	Total	Low Imp.	Mid Imp.	Full Imp.	Total
Treatment	22 (1.0)	29 (1.6)	13** (2.7)	64	6***(-5.5)	8* (2.0)	26*** (4.2)	40
Control	18 (-1.0)	22 (-1.6)	29** (-2.7)	69	30*** (5.5)	2* (-2.0)	7*** (-4.2)	39
Total	40	51	42	133	36	10	33	79

*Note.* Adjusted standardized residuals are in parentheses. These values can be interpreted as z-scores (absolute values above 1.96, 2.58, and 3.29 are significant at the two-tailed .05, .01, and .001 levels, respectively). Positive residuals indicate that the observed counts are higher than expected by chance; negative residuals indicate that the observed counts are lower than expected by chance.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 6. Counts and Adjusted Standardized Residuals for Crosstabulation of Staff Pedagogy Profiles by Management Practice Profiles

Staff Pedagogy Profiles	Management Practice Profiles			Total
	Non Imp.	Mid Imp	Full Imp.	
Low Quality	20 (.7)	6 (.4)	13 (-1.0)	39
Staff Centered	24 (.7)	6 (-.2)	17 (-.6)	47
PYD	15 (-1.4)	5 (-.2)	20 (1.6)	40
Total	59	17	50	126

*Note.* Adjusted standardized residuals are in parentheses. These values can be interpreted as z-scores (absolute values above 1.96, 2.58, and 3.29 are significant at the two-tailed .05, .01, and .001 levels, respectively). Positive residuals indicate that the observed counts are higher than expected by chance; negative residuals indicate that the observed counts are lower than expected by chance.

Table 7. Counts and Adjusted Standardized Residuals for Crosstabulation of Staff Pedagogy Profiles by Management Practice Profiles, By Treatment Status

	Management Practice Profiles			
	Treatment Group			
Staff Pedagogy Profiles	Non Imp.	Mid Imp	Full Imp.	Total
Low Quality	2 (-.6)	5 (1.2)	10 (-.5)	17
Staff Centered	4 (.5)	3 (-.6)	13 (.2)	20
PYD	5 (.1)	5 (-.4)	19 (.3)	29
Total	11	13	42	66
	Control Group			
	Non Imp.	Mid Imp	Full Imp.	Total
Low Quality	18 (.3)	1 (-.5)	3 (.1)	22
Staff Centered	20 (-1.0)	3 (1.2)	4 (.3)	27
PYD	10 (1.0)	0 (-1.0)	1 (-.5)	11
Total	8	4	48	60

*Note.* Adjusted standardized residuals are in parentheses. These values can be interpreted as z-scores (absolute values above 1.96, 2.58, and 3.29 are significant at the two-tailed .05, .01, and .001 levels, respectively). Positive residuals indicate that the observed counts are higher than expected by chance; negative residuals indicate that the observed counts are lower than expected by chance.

Figure captions

Figure 1: Staff Practices: Change in the explained sum of squares for the 2 to 20-cluster solutions. Note: Exp ESS=Explained Error Sum of Squares; INC ESS=Increase in Error Sum of Squares

Figure 2. Management Practices: Change in the explained sum of squares for the 2 to 20-cluster solutions. Note: Exp ESS=Explained Error Sum of Squares; INC ESS=Increase in Error Sum of Squares

Figure 3. Profiles of staff pedagogical practices.

Figure 4. Profiles of management practices.







