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## Easier Said than Done: Intervention Sustainability in an Urban After-School Program

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### Abstract

Although sustainability is frequently described as a project goal in community-based programs, concentrated efforts to sustain interventions beyond the conclusion of research funding have only recently emerged as a focus of implementation research. The current paper describes a study of behavioral consultation to after-school program staff in low-SES, urban communities. Following consultation, staff use of four recommended tools and strategies was examined, emphasizing facilitators and barriers to sustainability. Results indicated high perceived utility and intention to use intervention components, but low sustainability at two follow-up time points within 1 year after the initial consultation concluded. Findings suggest that ongoing implementation support in community settings may be necessary to ensure the sustainability of interventions and meet the mental health needs of participating high-risk youth.

### Keywords

After-school; Sustainability; Implementation research; Intervention; Urban

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The sustainability of interventions following the conclusion of formal research support is an essential element of community-based programs that attempt to bring about meaningful behavior change. Broadly defined as “program continuation” (Shediac-Rizhallah and Bone 1998, p. 92), the construct of sustainability spans a diffuse literature across multiple disciplines focused on promoting and maintaining programs that enhance both physical and mental health (Scheirer 2005). The corresponding, independent literatures (e.g., mental health, organizational development, public health) have also attended to sustainability with varying levels of intensity and rigor. In particular, sustainability has emerged as a growing

area of emphasis for prevention researchers examining community-based health programs in a variety of settings (Shediac-Rizhallah and Bone 1998), with much discussion focused on whether “effective” programs by definition must demonstrate sustainability following the conclusion of research support. Despite widespread acknowledgment that sustainability should be central to prevention and intervention efforts (e.g., August et al. 2006; Johnson et al. 2004), specific attention to the process of sustainability in prevention and intervention research in health remains relatively sparse (Cutler 2002; Shediac-Rizhallah and Bone 1998; Shridharan et al. 2007). The discussion below presents a comprehensive, but not exhaustive, review of information from a range of sustainability-focused literatures before describing the current project.

Although there has been increasing attention to sustainability across disciplines, many intervention studies still include a “sustainability stage” toward the end of program implementation during which programs are expected to continue in the absence of external support. In such studies, sustainability is acknowledged as relevant but too often inadequately integrated or systematically assessed. This linear, sequential approach to sustainability can inhibit early or sufficient sustainability planning (Pluye et al. 2004). In response to this practice, many have suggested that sustainability be emphasized as a priority much earlier in the intervention planning process, even during the initial design and implementation of pilot projects (e.g., Johnson et al. 2004; Pluye et al. 2004; Shridharan et al. 2007). The ultimate goal of integrating sustainability into each phase of a project is to transform sustainability’s role in community-based program development and implementation from a “latent” goal, implied but not actively pursued, to a more explicit objective (Shediac-Rizhallah and Bone 1998). August et al. (2006) distinguish between sustainability at the individual level, which describes the continuation of positive health effects on participants, and sustainability at the organizational level, which describes the extent to which programs become and remain routinized. Both types of sustainability are important to the long-term success of programs and are subject to influences at different systemic levels which can enhance or impede the likelihood that a program will be sustained.

Routinization refers to the extent to which innovations become automatic or “standard practice” in organizations (Ohly et al. 2006; Yin 1981). Routinized practices, continued over time, can be said to be sustained. Recent work in the organizational development literature has demonstrated the value of routinization and transfer of new innovations and behaviors. Although some have argued that routinization hinders independence and creative thinking as a result of making some behaviors automatic, one of the only studies evaluating this claim found that routinization of tasks was positively associated with employee creativity and reports of personal initiative (Ohly et al. 2006). In addition, Szulanski (2003) identified different barriers to successful innovation transfer at different stages of the implementation process. Although some barriers were detrimental at all stages (e.g., an ambiguous link between new behaviors and outcomes), findings indicated that other barriers were relevant only (or primarily) at the integration/routinization stage. Barriers that were most strongly associated with implementation problems at the integration/routinization stage, and simultaneously less relevant to other stages, included: (1) low levels of organizational support for improvement or innovation, (2) difficulties in the relationship between the innovation “source” (e.g., a trainer/consultant) and the recipient, and (3) low recipient motivation. These findings suggest that program sustainability may be influenced by factors distinct from those that drive initial implementation.

Recommendations to guide individual and organizational sustainability efforts typically emphasize documenting intervention effects and maintaining ongoing, collaborative relationships with communities at a range of systemic levels. Shediac-Rizhallah and Bone

(1998) proposed a set of project design, organizational, and community factors that could facilitate program sustainability, including early involvement of community members, internal program champions, and adequate resources. Atkins et al. (2003) provided a similar framework for schools, suggesting that sustainable services should emphasize existing, indigenous resources, develop the capacity of families and schools to sustain change, and plan for services that can be implemented using funding sources already in place. Most recently, Han and Weiss (2005) proposed the Process Model of Enhanced Sustainability, including three phases to support high-fidelity and sustainable program implementation of a school-based psychosocial program. According to this model, teachers attribute changes in student behavior to successful program delivery in a self-sustaining feedback loop that emphasizes compatibility between setting and intervention (preimplementation), consultation and feedback to indigenous professionals (supported implementation), and reinforcing program use (sustainability). Despite the attempt to identify and incorporate contextual factors into these theoretical models of promoting sustained change, the models remain impractical or insufficient to promote mental health over time.

A lack of specific operationalization of the mechanisms by which contextual factors can promote or inhibit sustainability is a limitation of these models that is particularly salient within high-poverty, urban environments. In such settings, attention to environmental barriers is crucial to the successful implementation and continuation of programs (Atkins et al. 2006; Owens et al. 2008). For example, Rogers (2003) identified less formal education and lower socioeconomic status (SES) among his predictors of *discontinuance*, defined as the decision to stop using an innovation after having previously adopted it (i.e., an unsustainable program). Based on these predictors, as well as others, Rogers suggested that an unintended consequence of innovation diffusion is frequently the widening of existing socioeconomic inequalities as higher-SES settings or individuals adopt changes more readily than those of lower SES. Although the mechanisms responsible for the gaps in innovation adoption and sustainability are not entirely clear, national data have established a greater likelihood of disruptive events, including community violence and serious health problems, among high-risk populations such as low-income and ethnic minority families (Aday 1994; Bureau of Justice Statistics 1997). These experiences stand as potential explanatory factors for the low sustainability frequently observed in low-SES environments.

This paper describes the process of sustainability promotion in a community-based implementation of an empirically-supported behavioral intervention designed to support existing after-school programs. This project was implemented as part of a larger study (Frazier et al., under review) exploring after-school programs as a natural setting for mental health promotion for low-income, urban, ethnic minority youth. The project utilized a collaborative consultation framework to plan and initiate mental health promoting strategies with after-school staff, emphasizing behavior management, academic support, and links with home and community resources. The intervention included an early emphasis on sustainability and proceeded in four phases over 2 years. The first phase, *relationship building, needs assessment, and resource mapping*, included weekly meetings, observations, and formal and informal discussions between program staff and project consultants. The second phase, *intervention implementation and support*, involved adapting an efficacy-based intervention through an iterative process of collaborative implementation and revision of program components by consultants and staff at each program. During phase three, *sustainability planning*, consultants functioned in a less prominent but increasingly supportive role which emphasized problem solving implementation barriers in order to facilitate sustainability during the final stage and beyond. The last stage, *sustainability*, occurred in the second year of the project and included more limited, ongoing support from project consultants. All stages are discussed in greater detail below. The current paper will describe the process, outcome, and facilitators and barriers to sustainability in after-school

programs serving high-poverty, urban, ethnic minority youth. Pilot data exploring the feasibility of intervention implementation and sustainability are summarized in order to address the following research questions: (1) To what extent were recommended intervention strategies sustained at two follow-up time points? and (2) What factors can be identified as facilitators or barriers to sustainability of recommended strategies at participating parks?

## Methods

### Sample

The current study took place at three publicly-funded urban park district after-school programs in a large, Midwestern city. The programs were receiving intervention as part of a larger, controlled study of after-school programs and children's mental health which involved six parks in all (three intervention and three control sites). Child, staff, and setting characteristics for the larger study are described in greater detail elsewhere (Frazier et al., under review). Briefly, youth were 42% female, 96% African American, and ranged in age from 5 to 14 years old ( $M = 8.94$ ,  $SD = 2.19$ ). Ninety-one percent received free or reduced price lunches at school and 75% came from single-parent homes. Relative to a national peer normative sample (Youth In Mind 2007), children in the study ( $n = 107$ ) exhibited significantly more conduct problems ( $p = .006$ ), hyperactive and inattentive symptoms ( $p < .001$ ), problems with peers ( $p < .001$ ), and Total Difficulties ( $p < .001$ ) on the Strengths and Difficulties Questionnaire (SDQ; Goodman 2001), suggesting that staff were serving children with significant mental health needs. Staff participating in the current study included 3 park supervisors and 11 park staff (3 physical instructors and 8 recreational leaders, 100% African American, 57% female) who had worked in the after-school setting for an average of 8.9 years (range: <1–25). Staff ranged in age from 22 to 45+ years and in educational background from some college to some graduate-level training.

### Intervention

Intervention teams consisted of advanced doctoral students in clinical psychology and graduate students in social work, supervised by the principal investigator (second author) and a postdoctoral fellow (third author). This structure was intended to resemble the service delivery and supervision structure of community mental health agencies and, consequently, to maximize the generalizability of the approach to the public sector.

Intervention strategies were derived primarily from the efficacy-based, Summer Treatment Program manual (STP; Pelham et al. 1997), which was selected due to its demonstrated ability to integrate social emotional learning into the natural course of recreational activities. Strategies were selected and adapted through a collaborative process between project consultants and park staff that included organized weekly meetings, twice weekly participant observation, extensive informal dialogue, opportunities for modeling and demonstration, practice with performance feedback, trial-and-error implementation, and problem-solving (Frazier et al., in press). Strategies resulting from this process included: (1) *Group Discussion* (GD; Pelham et al. 1997), (2) *Good Behavior Game* (GBG; Barrish et al. 1969; Embry 2002), (3) *Peers as Leaders* (PALS), and (4) *Good News Notes* (GNN, Rubenstein et al. 2000).

**Group Discussion**—The GD was implemented to provide a structured format through which park staff and youth review rules and daily activities, discuss rewards and consequences, and transition into afternoon recreation. In the STP, the GD is utilized at the start of every new transition or activity, and youth themselves participate in naming and defining each rule in accordance with specific activity expectations. For example, a rule

labeled “Stay in your Assigned Area” may be defined differently during homework (where assigned area may be a particular seat at a table) versus sports (where assigned area may be the entire gymnasium). The GD was intended to be implemented on at least a daily basis, but was recommended at the start of each rotation in order to segue into the Good Behavior Game.

**Good Behavior Game**—The GBG is a group-based, contingency-based behavior management program designed to reward rule following and minimize disruptive behavior. The GBG has a strong evidence base drawn from decades of school-based research (e.g., Tingstrom et al. 2006). By design, the game begins with an announcement at the start of an activity, clear activity rules, and a bank of points. Rule breaking by any individual child results in the loss of a point for the entire group. If at least one point remains at the end of the activity, children earn small group rewards (e.g., additional free time). The GBG can be extended such that a planned number of activity rewards can earn the group a larger weekly or monthly reward. For example, each time the group wins the game and earns their reward they also add a puzzle piece to a board. When the puzzle is complete, they receive a larger reward (e.g., pizza party). The GBG was intended to be used at least once per day but was recommended for use during each rotation.

**Peers as Leaders**—PALS was developed to address two challenges identified by park staff: (1) a high staff:child ratio and (2) concerns that older youth in the after school program (grades 6–8) were disengaged. Through PALS, older youth were trained by the intervention team to assist younger peers academically and recreationally while supporting prosocial behavior. Peer leaders received a 5-h training related to peer-assisted learning strategies for reading (Fuchs et al. 2000), how to facilitate games and activities for younger children (Pelham et al. 1997), and how to encourage pro-social behaviors among younger children through praise and social reinforcement (Skinner et al. 2002). PALS was intended for daily use, defined as identifying at least one peer leader to work with younger children for the day. Each park created a PALS schedule, such that youth were assigned 1 or 2 days each week to assist staff; they participated in their regular after school park activities on their non-assigned days.

**Good News Notes**—GNN are small certificates that acknowledge something positive that a child achieved during a particular day, week, or month. Behaviors included athletic skill development (e.g., dribbling, tumbling), social skill development (e.g., helping a peer; problem solving), or emotional regulation or behavioral control (e.g., remained seated during homework time, followed rules). GNN were used to encourage positive feedback from staff and strengthen connections between home and park settings. A body of research supports the importance of linkages between different settings in which youth interact in order to promote optimal development (e.g., Durlak 1997; Weissberg et al. 2003). Peer leaders and park staff both had opportunities for sending children home with GNN to share with their families. Parks were encouraged to utilize GNN on at least a weekly basis.

## Measures

**Organizational Climate Survey (OCL; Glisson and James, 2002)**—The OCL is a 115-item self-report measure that assesses staff experiences of their work environment. Among its subscales, the OCL yields scores on Depersonalization, Emotional Exhaustion, and Personal Accomplishment, which were used as proxies for staff burnout (Depersonalization and Emotional Exhaustion) and self-efficacy (Personal Accomplishment). The OCL was administered to after-school staff at baseline data collection prior to the initial relationship building, needs assessment, and resource mapping phase.

**Intervention Implementation**—Staff reported how often they used each of four intervention strategies (described in Procedures below) on a three-point scale (0 = Never, 1 = Sometimes, and 2 = Always). Staff also rated the usefulness of each strategy on a three-point scale (0 = Not much, 1 = Somewhat, and 2 = Very much). This measure was administered by project consultants during staff interviews which followed the sustainability planning phase at the end of the first year of the intervention and again at 6 and 12 month follow-ups.

**Perceived behavior change**—Park staff reported on a five-point scale (0 = Much worse to 4 = Much better) the extent to which they observed changes in interactions between (a) themselves and the children, (b) themselves and other staff, (c) children with each other, (d) children with other staff, and (e) staff with one another. This measure of perceived behavior change was also administered during private interviews with park staff at the end of the sustainability planning phase (the end of year one).

**Sustainability**—Also at the end of the sustainability planning phase, park staff responded to “How likely are you to use each strategy again?” (0 = Unlikely, 1 = Somewhat likely, 2 = Very likely) and “How effective do you expect it to be?” (0 = Not effective, 1 = Somewhat effective, 2 = Very effective). This measure also was administered during individual private interviews with staff. Implementation of intervention components then was measured at approximately 6 month (winter) and 12 month (spring) follow-up during similar interviews. Frequency of use was recorded on calendars that captured specific dates on which strategies were implemented, and quality of use was recorded on feedback measures that captured the most critical elements of each intervention strategy. Mean use of each strategy per month was calculated for each time point.

In addition to findings from the quantitative measures listed above, the phases of the implementation process are described in detail in the Results section. These descriptions integrate the quantitative data with qualitative information contained within consultant field notes and interviews conducted with park staff at the conclusion of Year 1. Exemplar quotations are used to highlight important issues that arose during the process.

## Procedures

Data were collected at different phases of the intervention described above (see individual measure descriptions). The OCL was group administered to staff during a pre-arranged lunch provided by the research team at baseline, before the beginning of consultation. The remaining surveys were administered during individual interviews lasting approximately 60–90 min at the end of Year 1. During the sustainability phase, all assessments were integrated into ongoing support activities so that any troubleshooting of staff implementation could follow the assessment. Initial sustainability assessments occurred at approximately 6 months following intervention completion (winter of Year 2) and again at approximately 12 months (spring of Year 2). All intervention and data collection procedures received approval by the university Institutional Review Board.

## Results

Intervention activities proceeded in four phases: relationship building, needs assessment and resource mapping; intervention implementation and support; sustainability planning; and sustainability. The first three phases generally corresponded to each of three 10-week seasonal sessions (fall, winter, spring) in the after-school programs served. The fourth (sustainability) occurred the following year, beginning in the fall (approximately 3 months after the conclusion of the third stage) and continuing into the spring. Figure 1 displays this

timeline. In the sections that follow, results from quantitative measures and excerpts from consultant field notes and end-of-year interviews with park staff are utilized to describe the four phases and evaluate Research Questions 1 (the extent to which the strategies were sustained) and 2 (barriers and facilitators to sustainability).

### **Relationship Building, Needs Assessment, and Resource Mapping**

Prior to intervention implementation, administrative support was secured, both at the individual parks and at the larger organizational level, through extensive and ongoing meetings and dialogue between the principal investigator (second author) and park supervisors, area managers, regional manager, and senior administrators. Communications began prior to research funding and continued throughout the study. During the initial introduction of the project to after-school staff, the investigative team worked to maximize staff acceptability of consultation by familiarizing themselves with the park settings, staff, and participating children. This occurred through an extensive period of participant observation (e.g., engaging in games with the children and assisting staff in preparing for activities), providing evidence for the effectiveness of individual intervention tools during weekly meetings with staff, ensuring minimal resource requirements, inviting staff input and creativity related to intervention feasibility, and emphasizing flexibility in implementation. Collaborative planning for implementation was anticipated to facilitate the ultimate sustainability of recommended tools and strategies. Although core research team members had begun the relationship building process much earlier (via the meetings described previously), new project consultants, who were intended to provide the majority of the support to staff, began participant observation in mid October of Year 1 and had their first formal meeting with park staff 1–2 weeks later. Some anticipated barriers to sustainability were apparent during this initial phase, as evidenced by excerpts from project consultants' field notes. For example, one consultant wrote, "Virtually all of our days at the park have been dubbed 'atypical' via the park staff... someone calls in sick, there is a death in the family, so on and so forth." As outlined in the literature reviewed above, disruptive barriers such as these may be representative of the "high-risk" communities in which implementation occurred and the corresponding lower levels of day-to-day predictability and lower potential for sustainability.

Quantitative data collected during the relationship building phase included staff ratings of psychological climate. Interestingly, ratings for all six parks (including those that participated in the implementation [ $n = 3$ ] and those that did not [ $n = 3$ ];  $n = 11$  staff) yielded low mean levels of emotional exhaustion and depersonalization (i.e., burnout; .51 and .42, respectively, on a 0–4 point scale) and relatively high mean levels of personal accomplishment (a proxy for self-efficacy; 2.94 on a 0–4 scale). These setting characteristics are consistent with factors identified by Han and Weiss (2005) as facilitative of the ultimate sustainability of an intervention.

In summary, the field notes identified a salient barrier to sustainability, the unpredictability of the day-to-day schedule which may impede implementation, and thus sustainability; however the park staff indicated that the psychological climate of the setting was favorable for sustainability, consistent with Han and Weiss' (2005) theoretical model.

### **Intervention Implementation and Support**

During the first year of intervention implementation, the consultation team introduced each strategy to staff through didactic presentations followed by extensive discussion and in vivo demonstrations. The initial implementation launch varied across parks and strategies (see Fig. 1). Park staff and project consultants reached consensus at each site in order to determine the implementation timeline. Consultants helped staff adapt intervention

strategies to meet the evolving needs of their after-school students, a process that was designed to maximize intervention acceptability, utility, and ultimate sustainability. For example, in response to after-school staff feedback, a mobile version of the GBG was developed for use during sports and outdoor activities (e.g., using a necklace of binder clips as the bank of points). Consultation included scheduled weekly meetings and informal, ongoing dialogue with staff that provided opportunities for problem-solving current difficulties with implementation, in vivo feedback during staff implementation of strategies, and trouble-shooting anticipated challenges. Some challenges identified in consultant field notes during this phase included difficulties ensuring that some staff remained engaged following the initial intervention launch: “I became worried that she wasn’t completely buying into the program. It seems like she sees this as ‘our’ program...and that she likes the idea of everything we’re saying but is not taking personal ownership of it.” Early in the implementation stage, another consultant noted feeling “disappointed with the energy level of the staff.” Furthermore, park staff also varied in their level of comfort when implementing the strategies. Although some staff members were relatively quick to adopt the strategies, others required additional support.

Real-time support in the form of modeling, direct observation, and performance feedback was provided to all staff twice weekly during after-school program hours in order to boost competence and commitment. Over the course of the implementation, staff engagement and strategy use increased substantially, as did their experiences of success. For instance, one consultant’s note indicated that a staff member “attempted to implement the GBG today with overwhelmingly positive results. The children were engaged in the activity and behaved the best that I have ever observed. There were children laughing and smiling in her room. She made an effort to praise the children today, and they responded by behaving even better.” Later in the implementation phase, a consultant observed, “We saw evidence of the staff making the GBG their own, but we can still aid the troubleshooting process. The coach led the group discussion, and he was much more confident in his ability to lead.”

Recreational staff ( $n = 11$ ) reported moderately high mean use of all intervention components during the intervention implementation on quantitative measures (1.25,  $SD = .45$ , on a 0–2 scale). However, substantial variation (range = .50–1.64) was observed among the individual components, with the GBG rated as most frequently used (see Fig. 2). Staff members also indicated moderate to high mean levels of perceived strategy utility (1.42,  $SD = .60$ , on a 0–2 scale). Data on individual strategies again revealed wide variation (range = .67–1.88). The strategy that was reported to have been implemented least frequently (Good News Notes) was also rated as the least useful (.67). In addition, staff reported high levels of positive change between and among children and staff, with the highest change ratings (mean = 3.45) given to respondents’ own interactions with children in the after-school program (see Table 1).

### Sustainability Planning

The sustainability planning phase occurred during the spring of the first year. During this phase, staff members were encouraged to implement the tools and strategies independently, while consultants continued to provide real-time support and feedback. Consultants did less modeling and demonstration of strategies during this phase. Instead, their role shifted such that real-time support consisted of reinforcing park staff for using recommended strategies and for enhancing them with their own unique style and adaptations, offering feedback related to fidelity of implementation, and inviting discussion regarding which components they felt competent and comfortable using versus which components they could anticipate would present challenges. This change was apparent in consultant field notes: “Rather than teaching and assisting the staff in using the interventions, the majority of our conversations are question-based [i.e., in response to specific staff questions]. Our focus has shifted from



the [GBG] almost entirely to the PALS program. I am excited to see the interventions take hold, especially the PALS aspect.”

Scheduled weekly meetings were less frequent during sustainability planning, occurring closer to biweekly or once per month rather than every week. Twice weekly, real-time support accompanied by informal discussions continued and focused on planning for sustainability and promoting generalization. For this reason, discussions were often centered on the application of the identified tools and strategies during an upcoming annual summer camp provided by the parks. Much of the attention during the sustainability planning phase focused on troubleshooting or tweaking the implementation of strategies rather than simply prompting their use. Indeed, one consultant noted, “The momentum has continued to snowball! ...the PALS leader has begun to track their [the peer leaders’] attendance on the PALS poster, and the [GBG] binder clip necklace was in use!” In some cases, individual staff members were identified and approached to take specific ownership of certain strategies (e.g., PALS) for the remainder of Year 1 and beyond. Sustainability planning concluded at the end of the year at which point individual “exit interviews” were completed with each staff member. These provided a final opportunity to gather feedback, reinforce staff accomplishments, and solidify plans for sustainability.

Exit interviews generally revealed satisfaction with the strategies implemented, especially the GBG and PALS (other strategies were mentioned much less frequently), and the majority stated that they intended to continue their use in Year 2. Many staff also made positive comments about the support provided by consultants; for example: “In some instances, when we were not working with the kids appropriately, you stepped up. I valued the input.” One staff member indicated that the consistency that accompanied the strategies had created positive norms for behavior and noted that children at the park “could be doing something wrong, but once I come around they stop because they understand my expectations.” Nevertheless, other staff described problems with implementation. One staff member reported not finding the GBG helpful, “not because it was a bad idea, but because we [the park staff] were inconsistent.” In addition, staff who reported positive changes in their own behavior sometimes expressed reservations about changes in others. When discussing her colleagues, a staff member stated, “People are resistant to change and if people are used to yelling at the kids then that is what they will keep doing.” This sentiment was echoed by another staff, who stated that “everyone seems to be for themselves” when commenting on the lack of change he observed among his coworkers. One staff described this lack of change more positively and explained that his colleagues “are still being themselves. They still know how to deal with kids and kids’ behaviors.”

At the conclusion of the sustainability planning phase, staff also provided ratings of the degree to which they expected to implement each intervention strategy in the future and the extent to which they expected each recommended strategy to be effective (Fig. 2). Consistent with staff reported use of strategies during the first year, ratings of expected use and utility revealed a high level of confidence in their ability to continue successful implementation. One hundred percent of staff reported that they were “very likely” to use at least one of the four primary intervention strategies during the subsequent school year. In addition, three of the strategies (i.e., GD, GBG, PALS) received an average rating of 1.5 on the 0–2 scale, indicating a relatively high level of expected use. As displayed in Fig. 2, ratings of expected utility largely mirrored staff reports of expected use. Staff indicated that they expected to use PALS most frequently and they expected PALS to be the most useful.

## **Sustainability**

Despite the enthusiastic endorsement and support of regional managers/administrators, active contributions of supervisors and staff, and the successes of Year 1, it was expected

that staff would find it challenging to implement the intervention with fidelity and without support the following fall due to the extensive environmental demands (e.g., unpredictability, community violence) and limited resources in an urban, low-income setting; indeed, many of these factors, such as staff shortages, were mentioned in park staff exit interviews. A single consultant maintained involvement at each park throughout the second year to continue problem-solving implementation challenges and collect follow-up data. Consultants made bimonthly visits to the park and remained available to park staff upon request. It was intended that Year 2 consultants would make less frequent visits to after-school sites than in Year 1 and use assessments of frequency and quality of staff strategy implementation to structure dialogue around intervention use and barriers to implementation. During these discussions, consultants provided feedback to staff regarding their use of interventions. Between November and May, project consultants visited the three parks a total of 25 times for an average of 56 min per visit.

Year 2 consultant field notes reflected ongoing staff support for project strategies, but little continued use. One note indicated that the rules posters at one park, which were created during Year 1 and routinely referenced during the Group Discussion, were no longer hanging on the walls during the Year 2 visits. In interactions with staff, consultants described that nearly all staff reported a desire or intention to use the strategies, especially the GBG. One staff member even taught the GBG to all of the summer camp counselors with whom she had worked. Although only one counselor reported actually using the game, she had apparently done so with great success. Nevertheless, no staff members appeared to have reinitiated the GBG in the after-school context in the fall of Year 2.

Most commonly, staff cited the slow pace at which attendance at the park tends to pick up over the course of the fall, and the corresponding low level of behavior problems, for their lack of implementation. This sentiment was captured in one of the sustainability consultants' field notes: "With regard to the rules and playing the GBG, she [the staff member] explained similar reasons as [other staff member] as to why it had not been implemented...the students had really not been coming in high numbers until recently, so it was not needed." Early in the sustainability phase, one staff reported that she still had a peer leader working with her at the park on a daily basis. She also indicated that, although she appreciated the GBG, she felt that it was sometimes too cumbersome and that the long-term reward (e.g., a pizza party) was less useful than more immediate rewards (e.g., activities, small, inexpensive snacks). Nevertheless, this staff member expressed strong interest in re-implementing the GBG under specific conditions (e.g., during transitions from other activities to the gym when behavior problems most commonly occurred). Although support was provided by project consultants in the form of written materials and individualized troubleshooting meetings, the GBG was not reintroduced successfully. This situation also occurred at the other two park sites, each of which had one or more staff who met with consultants in order to plan the launch of the GBG but where the Year 2 launch did not actually materialize.

At the first follow-up time point (Fall of Year 2), seven of the initial eleven staff were available for interview and data collection. Reasons for staff attrition included transfer to a different park or position or termination of employment. This level of staff turnover was not atypical and is described further in the discussion. Staff who left their positions were frequently not immediately replaced, often resulting in an increased workload for staff who remained. Of the seven remaining staff, five reported using at least one strategy in the preceding month on the calendar assessments, and four of them indicated using PALS. Across staff, PALS was reported used an average of 4.57 ( $SD = 7.16$ ) times during the preceding month on the calendars. All other strategies were used an average of less than once per month (see Table 2). The second sustainability follow-up (Spring of Year 2) yielded similar, but somewhat more attenuated results. Between the first and second

sustainability assessments, one additional staff member left her position, leaving only 6 staff available to be interviewed. Findings at the second follow-up revealed declining overall use of the intervention strategies and were consistent with the lack of use reported in consultant field notes. Nevertheless, PALS was again used more than the other strategies (mean = 3.00 times per month,  $SD = 5.93$ ), although all strategies were used infrequently.

Re-administration of the intervention implementation measures with remaining staff at the second sustainability time point (see Fig. 3) yielded results similar to those from the field notes and calendar assessments. Staff reported low levels of use (all strategies  $\leq .50$  on a 0–2 scale, indicating a level of use between “Never” and “Sometimes”). In addition, findings at the second sustainability assessment were compared to staff reports from the end of implementation, approximately 1 year earlier. As expected, staff-reported use of each strategy was considerably lower at the sustainability assessment than at the end of initial implementation. Interestingly, PALS replaced the GBG as the most frequently used strategy. At the second sustainability follow-up, recreational staff reported use of the GBG had essentially disappeared, decreasing from 1.64 following the implementation, support, and sustainability planning phase to .17 on a 0–2 scale.

## Discussion

The current study was designed to examine two research questions. First, to what extent were recommended intervention strategies sustained at two follow-up time points? Second, what factors can be identified as facilitators or barriers to sustainability of recommended strategies at participating parks? Despite an early emphasis in this service model on sustainability, findings indicated that use of four intervention tools was low at two follow-up assessments. Among the four strategies, only Peers As Leaders (PALS) demonstrated any notable continuation at the first follow-up, but its reported use of less than five times per month was well below the target level of once per day and use continued to deteriorate between the first and second sustainability time points. Below, facilitators and barriers to implementation sustainability are discussed as well as implications for future interventions and sustainability research in similarly high-risk settings.

### Facilitators to Sustainability

Factors that facilitated sustainability included a positive implementation climate, efforts to maximize intervention-setting fit, high levels of use during supported implementation, and positive staff perceptions about the strategies. In the current project, programs in highest need of interventions to promote psychological health were selected by park administrators. This approach differs from the field’s emphasis on site “readiness” for intervention, which can have the unfortunate consequence of neglecting the lowest functioning sites in highest need of support. Despite selection of sites with extraordinary needs and limited resources, the data revealed positive climates characterized by low burnout and high personal accomplishment. According to Han and Weiss’ (2005) Process Model of Enhanced Sustainability, the combination of a positive climate with leadership endorsement and administrative support positions programs well for a successful and sustainable intervention. However, with regard to these preimplementation factors in the current study, quantitative findings differed somewhat from anecdotal staff reports of their work-related experiences. Specifically, ongoing conversations with staff suggested that the preimplementation environments may not have been as conducive to sustainability as the quantitative data suggested. For instance, one staff member described the individuals who worked for the Park District as “go along employees,” meaning that staff do what is required and avoid making waves, but simultaneously believe that little work-place change is possible. Since positive expectations surrounding change have been identified as a crucial step toward

actual behavior changes (Prochaska et al. 2002), the potential for sustainability may be lower in such an environment.

Furthermore, staff reported frequent stress related to the conflicting expectations of supervisors and parents about the homework assistance rotation. On the one hand, supervisors emphasized to staff that the after school program is designed primarily for recreation, and that the role of the homework instructor is to provide adequate space and supplies for homework completion, and to supervise but not tutor individual children. On the other hand, parents often requested that their children complete homework before beginning their recreational rotations and often complained to the homework instructor when their child's homework was incomplete or inaccurate. The fact that children bring homework that is often too difficult for them adds further stress, when homework instructors find themselves (despite their supervisor's directive) spending extensive time with one or two students who require more support while the rest of the students become distracted and disruptive.

As described previously, extensive collaboration occurred between park staff and project consultants in order to develop an intervention package that fit well within the after-school context and was responsive to staff needs. This process, which began prior to the relationship building, needs assessment, and resource mapping phase and continued throughout the project, resulted in the selection and adaptation of the specific strategies implemented. Scheirer (2005) has identified good intervention-setting fit (i.e., fit between what is being implemented and the organizational mission and procedures) as an essential element of sustainability, due largely to the increased likelihood of internal support from staff and administrators. In the current project, the fit between the intervention and the after-school programs may have contributed to the high utility ratings for the GBG and PALS (Fig. 2).

Other facilitating factors included staff reports of high initial implementation of the intervention, experiences of success implementing the strategies based on staff-reported improvements in interactions between and among children and staff, and high expectations for future implementation and effectiveness. In their model, Han and Weiss (2005) identified how implementation linked to experiences of success and changes in children's behavior can result in a self-sustaining feedback loop, after which implementation continues without external support. The authors also described how expectations about skill effectiveness are likely to increase motivation to continue to implement an intervention, further enhancing the likelihood of sustainability. On the basis of their model and the available data, it might have been expected that the current intervention would be successfully sustained. Nevertheless, implementation at follow-up was low, suggesting that the existing model, though well-articulated and operationalized, was inadequate in the setting in which the intervention was initiated. In particular, the current findings do not appear to support the notion that early and intensive emphasis on sustainability was sufficient to achieve continued implementation after a reduction of external support.

### **Barriers to Sustainability**

Various barriers to sustainability were observed in the after-school setting, including high turnover, variable supervisor participation, potentially incomplete initial implementation and routinization, as well as other unique characteristics of the after-school context. First, staff turnover was high in participating programs, an organizational characteristic that can inhibit the successful integration of new practices (Yin 1981). In general, turnover in after-school programs averages over 40% annually (Halpern 1992). In the current study, recreational staff attrition largely mirrored this trend. All park supervisors remained in their positions during the duration of the project and, consequently, helped to contribute to a more

consistent park atmosphere. Nevertheless, supervisors demonstrated varying levels of day-to-day project involvement. For instance, the supervisor from Park 3 attended every meeting between the staff and project consultants, the Park 1 supervisor attended variably, and the Park 2 supervisor never attended. Much of this variation likely was due to the lack of a well-specified role for supervisors in this intervention, something we plan to correct in the next iteration of this work. Consequently, supervisors who participated at a high level did so on their own initiative. Nevertheless, even in parks where supervisor involvement was high, sustained implementation was not observed.

Despite low supervisor turnover, high staff turnover may impede the institutional sustainability of interventions, as fewer staff members are available to continue implementation or to model or provide support for co-workers. In light of this reality, efforts were made in the current project to provide newly hired staff with exposure to the intervention strategies. Nevertheless, lost staff was frequently not replaced or there was a considerable delay between the departure of a staff member and the hiring of a replacement. It was also not feasible to recruit new staff into the study during the sustainability phase. Furthermore, the remaining after-school staff was overburdened and had little time or resources to introduce the intervention strategies to new colleagues. Although the ultimate goal of the project was to promote sustainability at the organizational level, further research is required to identify how best to equip after-school staff to instruct new staff in intervention implementation. In the current study, the high level of staff turnover likely limited the extent to which sustainability could be achieved.

Next, despite staff reports that the implementation support and sustainability planning phase was generally well-received, intensive, and effective, the results of the present study suggest that it was still insufficient. Scheirer (2005) noted that incomplete intervention use can undermine an agency's ability to absorb and sustain it. In addition, Racine (2006) suggested that the implementation of an intervention is directly related to its complexity. Although considerable efforts were made to simplify and adapt recommended strategies for the after-school setting, staff still required fairly substantive support to implement them with sufficient fidelity to be effective. Furthermore, for practical reasons the implementation phases and activities were designed to map onto the academic calendar, and the parks' three seasonal 10-week sessions. As a result, the timeline for implementation (during Year 1) and transition to sustainability (Year 2) was artificially constrained by this self-imposed project timeline and might have moved staff prematurely into the sustainability phase. Indeed, in their review of the implementation literature, Fixsen et al. (2005) found that an effective implementation process can routinely take 2–4 years before it is possible to reach sustainability. This was apparent in one interview at the end of Year 1, in which one staff member commented that one academic year was too short a time to receive support. Considering this, it is possible that initial implementation was not able to occur fully as a consequence of the constrained timeline. A less rigid and calendar-driven approach to transitions between phases may avoid these problems and ultimately enhance sustainability.

Third, even with full initial implementation, intervention components might not have been sufficiently integrated into the existing routines of the after-school program. In the current project, there was evidence that some of the strategies (e.g., PALS) became a routine part of day-to-day operations for many recreational staff during Year 1 and were used regularly without prompts from consultants. Nevertheless, this was not ultimately continued through the Year 2 sustainability period and anecdotes from staff interviews suggested that other strategies might have been implemented inconsistently. Despite apparently successful initial implementation, routinization may be unlikely to occur if few concrete institutional-level changes have been made to support and reinforce new skills (Johnson et al. 2004). In his classic work on routinization, Yin (1981) identified that factors internal to specific agencies,

such as multiple levels of support from administrators and staff, were among the most essential to program integration. Absent such changes, environmental cues and contingencies for old behaviors are likely to remain. For this reason, longer and/or more intensive periods of implementation with consultant support may be necessary to ensure full routinization.

Finally, various factors distinguish after-school programs from the primary and secondary school settings in which some of the existing child-oriented sustainability models have been developed (e.g., Han and Weiss 2005). Differences include the expectations of the environment, institutional mission, expectations for children's attendance, and staff educational levels and experience. The unique characteristics of after-school programs, such as an organizational mission focused on recreation and enrichment, likely will necessitate approaches that differ in some ways from those employed in schools. Some identified sustainability components, such as the importance of staff attributions of child behavior changes to intervention implementation, are likely still to be relevant. Nevertheless, additional adaptations, including tapered consultation rather than abrupt transition to a sustainability phase, might be necessary to ensure success. Furthermore, the use of well-operationalized "mastery" cutoffs to indicate successful staff implementation, an approach that has been successful in some parent-training models (e.g., Zisser and Eyberg 2008), might aid in consultant and staff decision-making regarding the transition to sustainability.

### Limitations

Limitations of the current study included the low initial staff sample size ( $n = 12$ ) and lower number of staff available at sustainability follow-up ( $n = 7$ ), due primarily to staff turnover. In addition, all measures of implementation relied on staff self report, rather than direct observation. Furthermore, our assessment of initial implementation utilized a brief scale with relatively limited range. As a result, aside from anecdotal reports from project staff, it was difficult to determine the precise level of implementation. Although the calendar method used to evaluate implementation during the sustainability phase provided more detailed information regarding strategy use, the methodological discrepancy between the two assessment tools also made direct comparisons of implementation in Years 1 and 2 difficult.

Finally, sustainability assessments were conducted only at two time points, the timing and duration of which were based on practical rather than empirical factors. Although Shediac-Rizhallah and Bone (1998) have suggested that sustainability timeframes should not be arbitrary, the field has yet to establish widely accepted time intervals after which an intervention can be called "sustainable" (Scheirer 2005), and it is likely that appropriate periods may vary from one intervention setting to another. The assessment timeframe in the current study corresponded to the academic calendar of the after-school program. Thus, the first sustainability assessment occurred at the end of the fall of the second year, and the second came at the end of the school year, just before summer.

### Implications and Future Directions

This project differed from many school and community-based interventions because, rather than attempting to implement and sustain an external intervention, the primary goal of this work was to provide consultative support to help after-school staff maximize the potential of their *existing* after-school programs to meet the extensive and intensive needs of their enrolled students. This approach requires a high level of flexibility throughout all phases of implementation, sometimes at the expense of experimental control or intervention adherence.

Although the sustainability of all four of the intervention tools was low, the maintenance of PALS appeared slightly higher than other intervention strategies. Compared to the other strategies, PALS appears to have made the best use of existing after-school resources through the involvement of older children, who already were participants in the program and to whom staff already provided informal mentorship. Frequently, peer leaders had attended the same after-school program for multiple years and had built strong relationships with staff during that time. Additionally, the peer leaders had an immediate impact on staff work load, decreasing staff burden by assisting in child supervision and acting in a “junior staff” capacity. Both of these factors suggest a good fit between the setting and intervention characteristics and likely affected the extent to which PALS was sustained. For these reasons, the second author and colleagues recently received new funding to enhance and examine the peer leader intervention, targeting teacher-referred youth with conduct problems.

As previously stated, the degree to which specific organizational or setting characteristics match with an intervention or innovation has been identified as an essential element in sustainability (Racine 2006; Scheirer 2005). Existing models of sustainability potentially could be augmented by incorporating and directly targeting organizational social context variables such as climate or culture (Glisson 2002). For instance, in the example described above related to homework assistance, redesigning the academic rotation to emphasize academic enrichment (e.g., peer-assisted learning strategies for reading, math, and writing) instead of homework completion, and communicating more clearly with parents and teachers about after-school program goals and capacities are examples of how to reduce this piece of the stress experienced by park staff. To this end, the second author is currently examining associations among social context, program quality, and children’s functioning in a large, federally-funded study of park after school programs toward the further development of organizational intervention components to supplement the service model reported herein.

In light of the present findings, an alternative to the swift, linear transition to sustainability seen in most contemporary approaches may be necessary when working in high-risk settings. In future after-school research, we intend to approach sustainability as nonlinear, iterative, resource-intensive, and independent of arbitrary time lines. Specifically, sustainability will likely reflect a process in which ongoing decisions about the reduction (or increase) of intensive consultation and movement toward sustainability are data-driven and made on the basis of ongoing assessments of staff adherence, fidelity of implementation, and impact of intervention. As with the selection, adaptation, implementation, and impact of intervention components, acceptable cutoffs for intervention “mastery” and movement toward sustainability could be made collaboratively between after-school staff and intervention consultants. Furthermore, because sustainability will undoubtedly remain a resource-intensive process, implementation of intervention components may decrease or disappear when external supports are removed, as they did in the current study. For these reasons, future research may strive to avoid the previously-discussed difficulties inherent in arbitrary project timelines, such as the potential for inadequate initial implementation. Instead, opportunities to continue or reinstate implementation support in cases of staff non-adherence or staff turnover could allow for further collaborative adaptations when necessary.

Despite increasingly common discussions about dissemination, “going to scale,” and sustainability in the psychosocial intervention literature, many existing approaches to intervention dissemination and consultation in schools and communities focus purely on implementation and lack adequate follow-up assessments of intervention use. The present research suggests that these studies may over-emphasize initial uptake of intervention

components and, consequently, prematurely celebrate success. Similarly, existing sustainability frameworks may not account for the complex realities of high-poverty, urban environments. The current findings indicate that a high level of caution and ongoing evaluation are warranted when evaluating sustainability in high-risk communities.

Due to the very low-resource nature of the park setting, one of the principal goals of the current project was to identify strategies that could be implemented utilizing existing staff and resources. Aside from a modest donation to each park's equipment fund (offered as a token of gratitude for park participation in this work), few financial resources were devoted directly to intervention implementation. Furthermore, strategies were designed to be inexpensive and portable in order to decrease or eliminate the cost of implementation. Although the financial burden on program settings was designed to be low, successful sustainability efforts in high-risk settings likely will require a resource commitment from community mental health consultants that is higher in intensity (e.g., frequency of contact) and duration (period over which contact continues) than is typically allotted to sustain interventions. Nevertheless, our findings suggest that such a level of intensity may be necessary in the high-risk settings identified and potentially an efficient use of prevention and intervention resources. However, growing pressures to provide cost-effective interventions make the next steps for implementation research in high-risk settings unclear. Advocating only for longer-term, increasingly intensive consultant involvement with implementation sites is unlikely to be well-received by mental health funders, especially considering pressures to scale up interventions as quickly as possible. It may be the case that, at least in the short term, sustainability-oriented research and practice in high-risk settings will require long-term, concentrated involvement until the specific mechanisms responsible for maintenance and continuation can be clearly identified and replicated.

In sum, intervention sustainability continues to represent a significant challenge for professionals interested in supporting the mental health of youth in high-risk settings. The approach presented in this paper and the methods by which to support it represent a deviation from typical notions of dissemination and individual and organizational sustainability. Rather than transporting an external intervention to a high-need setting, emphasis is placed on providing support with the goal of assisting indigenous staff to improve the quality of their existing programs and increase their capacity to meet the needs of, and have a significant, lasting impact on, the children they serve.

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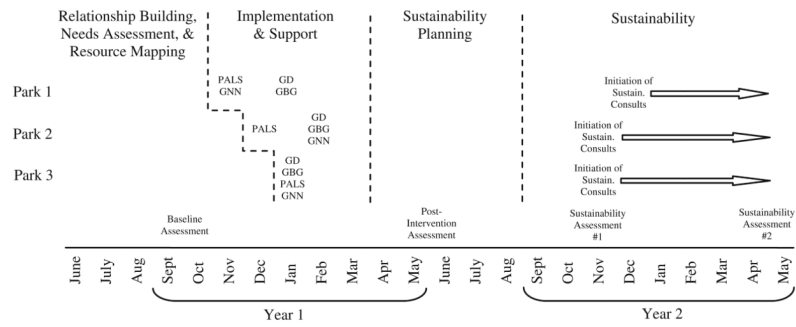
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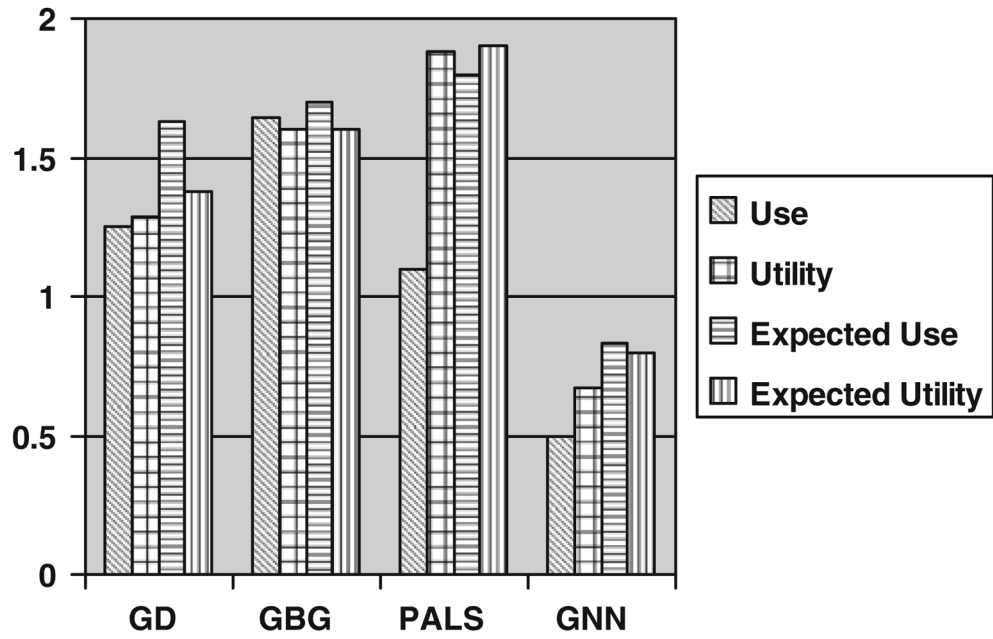


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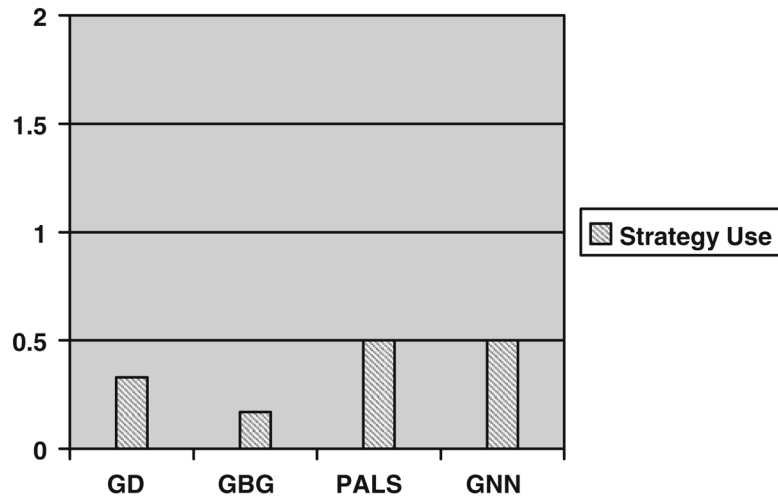
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**Fig. 1.** Implementation and evaluation timeline. Displays project stages, initial implementation of each strategy for each participating park (*GBG* Good Behavior Game, *GD* Group Discussion, *GNN* Good News Notes, *PALS* Peers as Leaders), timing of the initiation of sustainability visits, and evaluation time points



**Fig. 2.** Staff-reported strategy use (sample  $n$  range across strategies = 6–11 staff), utility ( $n$  range = 6–10), and future expectations following implementation (Expected Use  $n$  range = 6–10; Expected Utility  $n$  range = 5–10) at the end of Year 1



**Fig. 3.** Staff-reported strategy use at the second (spring of Year 2) sustainability assessment.  $n = 6$  staff. *Note:* Staff strategy use was rated on a 0–2 scale; 0 = Never, 1 = Sometimes, and 2 = Always

**Table 1**

Changes in staff perceptions of interactions at the end of Year 1

Item “What kinds of changes did you experience or observe in the following...”	Mean <sup>a</sup> (0–4) <sup>b</sup>	SD
1. Myself with children	3.45	.69
2. Myself with colleagues	3.09	1.14
3. Children with one another	3.27	.65
4. Children with other staff	3.36	.81
5. Staff with one another	3.27	.91

<sup>a</sup>  
*n* = 11<sup>b</sup>  
Anchors: 0 = “Much worse,” 4 = “Much better”

**Table 2**

## Year 2 staff strategy sustainability

Strategies	Average number of times used per month *	
	Follow-up #1 (Fall)	Follow-up #2 (Spring)
Group Discussion	.29 (.76)	.83 (1.33)
Good Behavior Game	.14 (.38)	.33 (.82)
Peers as Leaders	4.57 (7.16)	3.00 (5.93)
Good News Notes	.00	.00

\*  
n = 7