Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health

Integrated Plan

Duke

CENTER for CHILD and FAMILY POLICY

center for
CHILD & FAMILY HEALTH

Integrated Plan
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I. Executive Summary

THE LEADING APPROACH RECOMMENDED BY THIS PROJECT IS TO FOCUS ON KEY STRATEGIES CUSTOMIZED TO THE SETTING, WITH ATTENTION TO SHORT- AND LONG-TERM MANAGEMENT OF THE STRATEGIES AND AN UNDERSTANDING OF HOW THEY RELATE TO ONE OR MORE OF THE FIVE KEY BEST PRACTICE INDICATORS.

This is the Integrated Plan of the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project. The project, supported through funding from the John Rex Endowment, examined the intersection between what contributes to the positive mental health of children – with a focus on children ages birth to 8 years – and how the physical and social elements of places and spaces affect those contributory factors.

Information from a literature review, case studies, expert and stakeholder interviews, surveys and focus groups, formed the basis for developing a framework of Best Practice Indicators (BPIs) and accompanying Quality Improvement Tools (QI) for implementing strategies to improve outcomes for children. Best Practice Indicators are areas of practice that have been determined to be central to address in order to maximize the impact of environment on children's positive mental health. Each of these areas of practice are linked or anchored to one or more key developmental tasks.

This Integrated Plan provides both broad and specific opportunities for participation, engagement, and investment within Wake County and beyond. The Plan also envisions building upon the many resources and initiatives already in place in Wake County and leveraging those through new and ongoing collaboration and partnership. The process revealed that complementary initiatives involving experts in the field and direct service providers serve not only as models of some of the implementation strategies featured in the Integrated Plan but also are potential providers of technical assistance and consultation to organizations seeking to implement those strategies.

Best Practice Indicators

This Plan highlights five best practice indicators:

- Supporting positive, developmentally-appropriate interactions among caregivers, parents/guardians, providers, and children
- Use of nature/natural elements
- Diversity of space and activities
- Safety and support
- Accessibility and inclusiveness

The list of strategies that accompany the Best Practice Indicators are meant to provide guidance and to support innovation. They are not exhaustive. Moreover, the Best Practice Indicators are universal and the strategies for implementation are customizable.

Approaches to Implementation

This Plan highlights four approaches to implementation:

- Focusing on the active engagement and leadership of the community in which the strategies are intended to be enhanced or developed;
- Designing and delivering professional development that promotes understanding of the BPIs and implementation of the strategies;

- Physical enhancements to current spaces; and
- Strategies that use mobile services to bring a space such as a library to the community where families live or work.

The Integrated Plan focuses on maximizing the current initiatives and resources within Wake County but also is designed for the use and benefit of others. The project encourages and will promote the adoption of the Integrated Plan and the implementation of its suggested strategies by the broader Wake County community and hopes that its lessons and recommendations will be useful across North Carolina and beyond.

II. Background

The mission of the John Rex Endowment is to support an environment where children and families in greater Wake County can live healthy lives. In 2013, the John Rex Endowment released a five-year plan Our Plan for Impact, 2013 – 2018. Within its Mental Health, Social and Emotional Well-Being funding area, is a focus on achieving this goal:

Develop and enhance the contribution of Wake County children's places and spaces to the positive mental health of children.

In September 2013, the John Rex Endowment released a Special Request for Proposals (RFP) to identify a grant partner to conduct a research and planning project related to the work.

The RFP outlined the following three strategies for accomplishing this work:

1. Research evidence-based standards and guidelines related to the people, policies, practices, programs, and physical elements in children's places and spaces.

2. Develop and/or adapt quality improvement tools aimed at the people, policies, practices, programs, and physical elements in children's places and spaces.

3. Develop an integrated plan guided by Wake County stakeholders that develops and enhances through various strategies the contributions of children's places and spaces to the positive mental health of Wake County children by:

   • Supporting activities that foster learning and commitment related to the role of children's places and spaces in promoting children's positive mental health.

   • Promoting evidence-based standards and guidelines related to the people, policies, practices, programs, and physical elements in children's places and spaces.

   • Implementing quality-improvement pilot projects that focus on the people, policies, practices, programs, or physical elements in children's places and spaces.

   • Sharing success stories and learning related to quality improvement activities and projects in Wake County children's places and spaces.

   • Encouraging advocacy for local or state policies that promote high-quality standards in children's places and spaces.

Of particular importance is the John Rex Endowment's interest in developing an Integrated Plan not only for the John Rex Endowment's consideration in its grant making activities, but also to serve as a blueprint for action for other funders in Wake County, for policymakers, and for providers and practitioners. In fact, because of the universal nature of the Best Practice Indicators and the focus on customizing to setting, many of the strategies are easily transferable to other communities and contexts.

Furthermore, the Integrated Plan reflects certain priorities of the John Rex Endowment established for this specific project, including:

• A focus on young children ages birth to 8 years.

• Strategies that have the potential to influence vulnerable Wake County children. Vulnerable children, as conceptualized by the John Rex Endowment, are children for whom there are disparities in health and well-being because of race/ethnicity, low-income status, disability, or other factors. For this project particularly, the factors that

THE JOHN REX ENDOWMENT BELIEVES SHAPING CHILDREN'S PLACES AND SPACES, SUCH AS CHILD CARE CENTERS, PARKS AND RECREATION FACILITIES, AND PRESCHOOLS, IS OUR FOUNDATION'S BEST OPPORTUNITY TO SUPPORT WAKE COUNTY CHILDREN'S POSITIVE MENTAL HEALTH.

– JOHN REX ENDOWMENT

influence children's mental health are numerous and complex. Thus relevant factors considered in this project include but are not limited to: immigrant status, poverty, parental low education, racial and ethnic disparities, and experiencing significant early childhood adversity (e.g., trauma, toxic stress).

- An understanding that young children's social emotional development or positive mental health takes place within, and cannot be separated from, the caregiving environment around them including the social and physical environment. Young children's environments are varied and multifaceted, and children spend differing amounts of time in various settings.

For the purposes of this project, the primary settings to be considered are those in which children and their families spend a significant amount of time. Although other settings may affect a large number of children (e.g., doctor's offices, court or office waiting rooms), it is expected that the amount and depth of time spent in a space will influence the impact of the space on development and mental health. Key types of spaces considered include but are not limited to:

- Early childhood education/child care settings (indoor and outdoor)
- Pre-Kindergarten and elementary schools (indoor and outdoor)
- Parks/natural learning environments/playgrounds (outdoor)
- Recreation facilities/museums (indoor)
- Family and community spaces such as community centers and libraries
- Common areas in public housing/neighborhoods
- Emergency housing facilities

Strategies need not be singularly implemented and in fact, should sometimes be undertaken jointly or in sequence. For example, a child care center may decide to participate in professional development while at the same time undertaking an audit for the purposes of enhancing its outdoor space. The Integrated Plan prioritizes leveraging the benefits of current spaces over building new ones.

III. Project Description

Launching the Project

The John Rex Endowment selected the proposal from the Center for Child and Family Policy at Duke University, which proposed partnering with the Center for Child and Family Health and consultants to:

- Establish a Stakeholder Council to provide guidance and review project materials;
- Conduct a literature review related to the impact of space and environmental design for children's places or spaces. Use the literature review to identify up to five case studies for more thorough review and analysis;
- Develop case studies to include detailed descriptions and interviews with space developers, implementers and users;
- Conduct a survey of Wake County service providers to establish baseline practices and solicit input about priority initiatives and investments;
- Conduct a survey of Wake County parents/guardians to solicit input about which spaces and components of spaces were of most importance and interest;
- Conduct focus groups with parents/guardians and service providers;
- Interview Wake County service providers to learn more about their spaces, solicit their input about priority focus areas and investment, and solicit their expertise in the area of promoting mental health through healthy spaces and places;
- Conduct an Expert Panel to include Stakeholder Council members and experts to review and refine a Best Practice Indicator framework and determine Quality Improvement Tools; and
- Develop an Integrated Plan to include findings and recommendations stemming from the above project components.

Activity	Apr. 2014	May 2014	June 2014	July 2014	Aug. 2014	Sept. 2014	Oct. 2014	Nov. 2014	Dec. 2014
PHASE I									
Identify research staff, project orientation	X	X							
Stakeholder Council			X	X	X	X	X	X	X
Best practice research		X	X	X	X	X			
Case study compilation					X	X			
Interviews			X	X	X	X			
Focus groups				X	X	X			
Surveys					X	X	X		
PHASE II									
Expert Panel							X		
PHASE III									
Finalize best practice profiles							X		
Develop integrated implementation framework							X	X	X
Develop key metrics for implementation							X	X	X
Develop TA manual including CQI tools & resources								X	X
Develop Integrated Plan								X	X
Ongoing evaluation	X	X	X	X	X	X	X	X	X

Project timeline

The initial phase of the project (April - October 2014) included: an extensive review of peer-reviewed literature; interviews with local, national, and international experts in the field; a catalog of innovative and effective case studies exemplifying best practice; focus groups with local providers, parents/guardians, and young child experts; surveying service providers and parents/guardians; and touring two spaces that contained best practice components.

In addition to these products, a *Stakeholder Council* was established that met throughout the project to provide input about Wake County conditions, review materials, and provide guidance regarding future directions and activities of the project. The Stakeholder Council reviewed the products of the first phase of the project to identify the key quality indicators and to recommend more in-depth exploration of a subset of projects and discuss Best Practice Indicators that would form the foundation of the project's subsequent phases. Specifically, members considered the literature review and case study catalog in addition to expert interviews. Based on input from the Stakeholder Council, the project selected five programs for further investigation through case studies.

The programs selected for case studies are:

1. **Blanchie Carter Discovery Park at Southern Pines Primary School**, Southern Pines, NC. This is a schoolyard at a primary school, which uses universal design and focuses on nature and imaginative play. It serves 425 children in Kindergarten through second grade.

2. **Mothers' Club Family Learning Center,** Pasadena, CA. This is a family/community center integrating two-generation learning, caregiver mental health services, and developmentally appropriate design. It serves 120 children, ages six weeks to five years old.

3. **Kids Together Playground at Marla Dorrel Park**, Cary, NC. This public park has a diversity of play areas and structures based on universal design principles and with an emphasis on nature. It primarily serves families in Cary with children, ages two to twelve years.

4. **Great Beginnings Early Education Center**, Lee's Summit, MO. This early education center for special needs students incorporates family counseling services and a community space. It serves 229 low-income children ages three to five years.

5. **Mariposa Redevelopment Master Plan and Healthy Living Initiative**, Denver, CO. This is a low-income housing development and a neighborhood that is transit-oriented and fosters community engagement to develop improvements in safety and attractiveness.

Stakeholder Interviews

In addition to the individuals interviewed by phone for the five case studies, project team members conducted in-person interviews with many other individuals including Wake County funders, design experts, and providers/practitioners. These interviews helped to identify the landscape of financial support and practice where efforts are underway to build upon and maximize current programming. These interactions provided candid observations about aspects of current spaces that are viewed as superior as well as those that appear to be inadequate and needing improvement. The interviews also highlighted important issues of workforce capacity.

Expert Panel Meeting Summary

The project team convened a two-day expert panel meeting near the conclusion of the project's data collection and input gathering phase. Participants used the key themes identified by the Stakeholder Council to refine a framework of Best Practice Indicators and sustainability drivers. Sustainability drivers for purposes of this project are key processes, procedures, policies, or resources that support and facilitate implementation and ongoing improvement. Such drivers increase the likelihood that the project will maintain the gains achieved during implementation and

maximize the project's success. The strategies and drivers included corresponding strategies, all with the goal of supporting and enhancing children's positive mental health.

Through a series of facilitated small group discussions and development sessions, experts from diverse fields and experiences (young child mental health, indoor and outdoor space design, early childhood education, schools, parks/recreation, child welfare, crisis intervention, physical health, public health, developmental disabilities, museums, program implementation, and community advocacy for vulnerable populations) came to consensus regarding considerations, strategies, and desired outcomes with regard to the potential effect of places and spaces that promote children's positive mental health.

Following the meeting was the development of Quality Improvement Tools for use in implementing the recommended strategies.

Integrated Plan

The planning project's final phase consisted of the development of the Integrated Plan, which includes all of the project products and a set of guidance documents that emphasize ways in which stakeholders across Wake County can improve places and spaces to promote children's positive mental health. Consistent with the John Rex Endowment's overall approach to the project, the Integrated Plan will be publicly available online with the hope that users of all types, including public and private funders, researchers, and policymakers, will benefit from the Plan's information and resources that the Plan provides.

IV. Using the Integrated Plan

Using the Integrated Plan

The Integrated Plan is a blueprint for service providers, policymakers, funders, and others who are interested in leveraging the positive aspects of places and spaces for the purposes of promoting mental health in children. Stakeholders who are interested in implementing the work or supporting it through policy changes or financial and other investments will find guidance about how to approach, implement, and evaluate their work. The Integrated Plan is also written for broad consumption by the public for those interested in learning about how the physical and social elements of space can promote mental health in children and the status of spaces for children in Wake County as it relates to those elements.

Many sections of the Integrated Plan function both as standalone documents and as pieces of the complete plan. Below is a description of the sections of the Integrated Plan, their intended use, and likely audiences. The descriptions also note whether the section being described would be most meaningful when reviewed in conjunction with other sections of the Integrated Plan.

Executive Summary, Background, and Project Description

These sections are for readers who want to understand the motivation and context for the project and what it set out to accomplish. The sections are likely to be most useful when read together. They provide a history and overview of the project, a snapshot of project components, and a discussion of the project purposes and goals.

Implementation Priorities: Sample Approaches to Implementation, Best Practice Indicator Framework, Quality Improvement Tools

These sections are for readers interested in leading or participating in making changes to places and spaces to promote children's mental health and include service providers, policymakers, and funders.

The Best Practice Indicator framework should be used in combination with the Quality Improvement Tools after reviewing the Sample Approaches to Implementation. Doing so will orient the reader not only to the key recommended approaches for developing spaces but also to the related strategies and activities associated with that approach.

The Best Practice Indicator framework and the Quality Improvement Tools feature the nuts and bolts for service providers who are seeking to enhance their spaces and as an orientation for policymakers and funders to understand where they might influence the work through policy changes and investments. The Best Practice Indicator framework reviews five Best Practice Indicators focused on implementation and a sixth indicator that addresses sustainability. A Best Practice Indicator is an area of practice that has been determined to be central to maximizing the impact of environment on children's positive mental health. The Indicators are examined and described from the perspective of policy, practice, physical characteristics and people needed to adopt the Best Practice Indicator. For example, if an organization chose to diversify its space (for the purposes of accommodating families with children of different ages), the organization would review the types of policies the organization should have in place, the various practices that should be utilized, the physical characteristics to consider for the space, and what qualities or credentials the people working in that organization need to be successful. The Best Practice Indicator framework also provides a summary statement about what an organization fully adopting the Indicator would need to do and supplies information about the key early childhood mental health developmental tasks associated with that particular Best

Practice Indicator. The Sustainability Best Practice Indicator should be reviewed in combination with any of the other Indicators as it addresses how organizations can have a lasting impact and maintain their efforts.

The project recommendations advise service providers to review the Best Practice Indicator framework and identify their own starting point or points for making changes to their organizations, programs, and partnerships.

The Quality Improvement Tools support the implementation of the Best Practice Indicators. The Quality Improvement Tool document contains four tools with directions for how to use each of them. These tools provide a process for undertaking the work and a way of organizing implementation in order to track readiness, progress and impact.

Supporting Deliverables

The supporting deliverables included in the Integrated Plan contain the background materials developed by the project team. These deliverables include extensive information collected from Wake County stakeholders regarding their current levels of engagement in this work, their capacity for expanding their scope and adopting the strategies suggested in the Best Practice Indicator framework, and their organizational and personal goals and concerns. Importantly, reviewing these documents can provide service providers, policymakers, funders, and others with ideas for partnership and can educate them about valuable resources that already exist in Wake County and elsewhere.

Supporting Deliverables: Literature Review

The literature review is an extensive review of the academic research about the impact of various types of spaces, as well as specific elements and components of spaces, and, the intersection of the impact of spaces upon children's mental health. Readers interested in this area of study or the research basis for the physical and social design of spaces, will find this section of particular interest. The literature review also contains expert interviews with professionals from across the country.

Supporting Deliverables: Case Studies

The case studies provide an in-depth analysis stemming from research and interviews with leaders of five spaces that have endeavored to promote children's mental health through spaces and places. The case studies are examples from North Carolina and across the country of the implementation strategies for these space-related elements. They highlight successes and challenges as well as the critical components to consider when building or changing spaces to promote positive mental health for children. The case studies focus on a number of different types of settings: a school playground, an early education center, a public park, a low-income housing development, and a family/community center. Service providers, policymakers, funders, and others may find it a helpful orientation to read about factors to consider when undertaking an enhancement to an existing space or the creation of a new space that is similar to their own setting(s) or settings of interest to them. For example, planners of public recreation space may want to pay particular attention to the public park and school playground case studies.

Supporting Deliverables: Service Provider and Parent/Guardian Focus Groups, Service Provider and Parent/Guardian Surveys

These documents are reports on project activities that collected information from Wake County-based service providers and parents/guardians. The reports provide a basis for understanding the types of spaces within Wake County, how they are used, and what service providers and parents/guardians identify as important conditions and elements related to a space that they and their children use.

Supporting Deliverables: Expert Panel Meeting Summary, Overview of Project Process

The Best Practice Indicator framework and Quality Improvement Tools were outcomes of the project's Expert Panel process. A description of this process and a summary of the Expert Panel are in the Expert Panel Meeting Summary document. The Expert Panel relied on all of the other supporting deliverables to develop the Best Practice Indicators, which are documented and described in the Overview of Project Process document. These documents reference other documents in the Integrated Plan and provide additional context for the project.

V. Implementation Priorities

The following section summarizes the implementation priorities, Best Practice Indicators, and Quality Improvement Tools. As noted above, the section begins with sample approaches to implementation in order to orient the reader to the recommended priorities, followed by more detailed information and guidance on the BPIs and QI tools.

A. Sample Approaches to Implementation

The following four charts summarize possible approaches that service providers, public officials, funders, parents/guardians, and other stakeholders can pursue to enhance positive children's mental health. Each chart highlights an approach that emerged as a priority during the project – engaging the community and its leadership in planning for spaces; attending to the need for professional development; making physical enhancements to current spaces; and delivering spaces or initiatives to the families for whom the space is intended for use. These approaches can overlap and often share the same elements.

Importantly, there are overarching themes that cut across all of the approaches. One theme is the value of regular and routine convening and collaborative planning to discuss enhancing the space, to identify or build professional development opportunities, and to identify existing resources for the purposes of sharing or expanding these resources. It should be noted that in addition to convening related to particular initiatives or communities - which could happen for a specified period of time or on a short or long-term basis - convening for the broader purposes of continuing to survey the landscape of efforts within Wake County is highly recommended and should occur regularly and routinely and over the long-term. A second overarching theme is engaging users and potential users of the space and the local communities intended to be served in the planning, execution and overall management of the space or initiative.

The examples in the following tables are for illustrative purposes. While they reflect information gathered and evidence reviewed throughout the project, they are intended neither to be comprehensive nor to establish the "best" approach for any particular entity in Wake County or beyond. They represent a synthesis of a range of strategies that may apply to different settings with the hopes of catalyzing further attention to and action in the critical area of children's mental health, and in the context of places and spaces. They also may be considered in combination rather than as a single strategy for a particular community or setting.

In many cases, all of the BPIs could be relevant to the implementation approach in question thus there was an effort to emphasize those that appear to be most relevant in each case. Stakeholders of any implementation effort would do well to determine what fits best based on context, available resources, short- and long-term goals, and other factors.

Table 1: Community Engagement and Leadership

A high priority is to make current and new spaces more accessible in terms of physical, financial, and overall user-focused access for community members with a diversity of needs and levels of resources. To do so as effectively as possible, it is essential to involve a range of community leaders and users of the spaces.

Engaging the community in the planning, execution and management of new spaces or enhancing the use of current spaces accomplishes a number of goals. First, it is important to ensure that community input is a primary source of information about why current spaces are underutilized. It may be particularly effective to include community members both in providing and collecting input. Second, community engagement provides a process for identifying the strengths of a community's people and places and increases the likelihood that new or improved spaces will reflect what is desired

and feasible for the community. Simply put, it is both what the community wants and needs, and can be supported. Developing and utilizing leadership within the community also makes it more likely that the community will "own" the new or enhanced space. Such ownership will help to sustain the space generally and in particular during times of fiscal constraints or other possible community challenges such as leadership changes or neighborhood unrest. The community engagement and leadership approach can play an important role in many space design and improvement processes, processes that have the potential to enhance neighborhood pride and quality of life more broadly.

Table 2: Professional Development

A space is only as good as the relationships that occur within it. There is a need for adults who are responsible for operating the space – and those using it – to understand what benefits should be derived from using the space and how these benefits are connected to children's well-being. This includes understanding and being able to operationalize how to encourage and guide users in attaining these benefits by engaging in nurturing and responsive interactions with children, and understanding how the space should be managed for maximum positive impact.

There is also a need to help parents/guardians or caregivers understand how to transfer the benefits of the space to other venues including, importantly, the home. To do so, it would be beneficial for professionals to learn how to guide parents/guardians to transfer lessons that they learn from external spaces to opportunities for using space at home.

To maximize the impact of professional development efforts, it is necessary to consider a number of factors when designing professional development activities and to diversify these efforts to account for different learning styles and settings. In particular, activities should account for employee attrition and consider how new employees will be trained; employee capacity for adopting new knowledge, skills, and behaviors; the role of organizational leadership, including culture; and the ability and willingness to make changes.

Table 3: Physical Enhancements to Current Spaces

Wake County is fortunate to have a high number of quality spaces for children and families. Some of these spaces are models for the promotion of positive mental health for children. Other spaces could be improved in a variety of ways that would make them:
• Safer to use
• Better (fun, age appropriate, promote learning, achieve developmental milestones)
• Used more often
• More comfortable for parents/guardians and caregivers
• More responsive to the need for child supervision and balanced by safe exploration and risk-taking
• Outdoor learning environments
• More accessible
• Attend to the needs of diverse ages, abilities, and cultures.

Wake County is also home to experts in space design, space utilization, and ongoing space management who could assist in recommending and making physical enhancements to current spaces that maximize their impact. It is highly recommended to connect design experts with implementers of current or new spaces with the provision that ongoing maintenance/management of the space is a part of the consultation.

Table 4: Bringing the Space Benefits to Potential Users

There are significant barriers to families using spaces outside of their immediate neighborhoods and home environment. They include lack of adequate transportation, insufficient finances, and the time needed to travel to and

from the spaces and spend time there. They also include not knowing or trusting that the space will meet their interests or believing that the space will welcome them.

In addition to removing the barriers that keep them from accessing spaces near their homes and elsewhere in Wake County, the project recommends that spaces consider offering a mobile option to literally bring the space, such as a library, to people's neighborhoods. If a family develops trust and familiarity with a program through mobile delivery, they are more likely to visit the program's main location. There are museums, libraries, and other programs that visit a neighborhood, establish a relationship, and then encourage families to come to the main program location, which almost always has more options than the mobile versions both in terms of hours of operation and scope of programming.

If families are more easily and frequently able to access and use community programs when the programs offer resources close to home, the hope is that this experience will lead to positive relationships with the program staff and that this in turn will create a pathway for families to access the benefits of the mobile space at the main program sites as well. Another anticipated benefit of delivering spaces and initiatives in families' neighborhoods and the resulting relationships with program practitioners is that the practitioners learn what modifications to their spaces would make the spaces more accessible and welcoming to a larger and more diverse group of users.

Table 1: Community Engagement and Leadership

What is the community engagement effort?	Where would the effort take place?	What are the necessary resources?	Is this effort short-term or long-term?	How great an impact is it likely to have, based on the available evidence?	What are the partnership opportunities?	What are the policy implications?	Which Best Practice Indicators are most relevant?
• Community meetings to identify, discuss, and prioritize assets and gaps in community spaces with regard to children's mental health	• Community halls, early learning organizations, elementary schools, public housing community spaces	• Planning leader and committee, skilled facilitator	• This could be a one-time meeting or multiple meetings over weeks or months; will depend upon the type of space and the continuity of meeting participants	• Recommended as a critical and early component for ultimate success of all related efforts • Careful and intentional selection of community leaders, potential users, and trusted partners is necessary to maximize chances of success	• Extensive partnership opportunities between and among community members, local business and service organizations, users of the space, and funders	• Possibility for community to approach policymakers with recommendations and requests regarding improvement to and uses of space	• All BPIs are relevant and should be used as a basis for meetings and discussions
• Design audit of current space	• In areas of a community such as unused natural areas, donated commercial sites, underutilized playgrounds or community centers	• Donated or purchased technical expertise in design, community convener	• Likely to be relatively short-term effort depending on size and complexity of space and community participation	• The design audit itself will have minimal impact • Actions stemming from the design audit, such as plans to implement enhancements, have potential for high impact and likely to be on a continuum of cost	• Design and architecture experts, city/county planning departments • Observations of how similar communities address needs	• Possible identification of policies/regulations that need attention and/or could improve conditions such as land use restrictions or subsidies, environmental safety	• BPIs depend on type and intended use of the space; all may be relevant. For example, an audit may find that a playground needs better lighting and seating for safety and to promote the comfort of caregivers
• Needs assessment	• An expansive examination of community space needs (of which a design audit may be a part) to identify individuals or groups already working in the community who would be trusted to develop efforts; and to identify what human and other resources exist or could be available	• May occur in some or all of community (process leaders should determine in advance what space to include)	• Community leaders and potential users of the space, individuals with expertise in documenting a community's or neighborhood's as, decision makers	• Potential for positive impact of education stemming from needs assessment • Longer term impact depends on response to identified needs	• Opportunities for assigning responsibility for components of the needs assessment to range of stakeholders and partners	• Possible tie-in to elected officials focus areas, budget requests, etc.	• Same as above

Table 2: Professional Development

	Where would the effort take place?	What are the necessary resources?	Is this effort short-term or long-term?	How great an impact is it likely to have, based on the available evidence?	What are the partnership opportunities?	What are the policy implications?	Which Best Practice Indicators are most relevant?
Use of indoor and outdoor space and the impact of certain design elements	• Training could be in a central location and include different types of providers of spaces (child care centers, homeless shelters, parks, playgrounds, neighborhoods and outdoor common areas), or by similar organizations	• Individuals with expertise • Funds for expertise • Space in which to conduct the professional development activities	• Short-term with regular updates to accompany management and sustainability efforts	• High for activities or design elements that promote child development • Small adjustments may have lasting impact • Low impact if not attentive to relationships within the space	• Peer learning through coaching and mentoring • Joint use of space • Joint training	• Parks and recreation design policy • Child care center ratings that considers design	• Use of nature and natural elements for outdoor space • Supporting positive interactions for all types of space • Safety and support
Enhancing knowledge and understanding of the importance of relationships within the space between parent/guardian or caregiver and child	• All types of spaces	• Individuals with expertise • Funds for expertise • Space in which to conduct the professional development activities	• Intended to be ongoing and long-term, dependent on staff retention and extent of focus on implementation of professional development learning	• Potential for high impact as this understanding is what yields benefits of any space	• Peer learning through coaching and mentoring • Joint use of space • Joint training	• Primarily related to organizational policy for employee credentials and training requirements	• Supporting positive, developmentally appropriate interactions among caregivers, parents/guardians, providers and children
Interacting with children to promote safe risk-taking for the key developmental tasks of exploring/ experimenting, and self-regulation	• Early learning	• Children with time for focused interaction with staff • Funding for support of staff time	• Long- term/ ongoing	• Difficult to predict given changing nature of makeup of children	• Possible ad hoc and strategic interaction with other child-serving organizations such as schools, and government and private recreation organizations	• Primarily implications related to organizational policy	• Safety and support • Diversity of space and activities

Table 2: Professional Development *continued*

Where would the effort take place?	What are the necessary resources?	Is this effort short-term or long-term?	How great an impact is it likely to have, based on the available evidence?	What are the partnership opportunities?	What are the policy implications?	Which Best Practice Indicators are most relevant?
• Working with parents/guardians to promote an understanding of the benefits of space and the importance of parent/guardian and child interaction with an emphasis on the key developmental tasks of exploring and experimenting, self-regulation, mastery and challenge and coping • All types of spaces	• Need for willing and available parents/guardians and individuals with expertise • Possible need for translators	• Both short-and long-term. Potential for one-time and sustained work with parents/guardians	• Level of impact highly depend on availability and level of commitment by parents/guardians and consistent participation in process	• Possibilities for collaboration with existing parent/guardian groups of faith-based organizations and other entities	• Minimal policy implications other than policies specific to individual organizations	• Supporting positive, developmentally appropriate interactions among caregivers, parents/guardians, providers and children
• Technical expertise in design, use and maintenance of space • On-site at relevant space as well as in instruction-focused settings such as trainings and workshops	• Specific training and expertise regarding design of certain types of spaces specific to organizations' work and needs	• Short-term with potential for updates	• High and potentially long-lasting impact	• Possible partnerships with design and architecture firms and education institutions such as NC State University	• Possible federal, state, and local policy implications concerning allowable use of space and required updates	• Diversity of space and activities • Accessibility and inclusiveness
• Instruction on strategies to transfer the benefits of spaces to the home or to spaces close-to-home • At spaces or organizations currently delivering these benefits • Spaces could include unstaffed play areas, homeless shelters, early learning organizations	• Support for purchase and sharing of tangible resources (e.g., books and educational toys) • Infrastructure for outreach to potential users about value of such resources for children's mental health • Signage in unstaffed spaces that convey the benefit and how to transfer the benefit	• Long-term and ongoing	• Potential for long-term and high impact depending on take-up rate of households and understanding of positive effects • May be difficult to document impact given spaces are personal homes	• Partnership with neighborhood groups, parks and recreation departments, public/mental health entities for information about resources available for in-home use	• Less likely to have policy implications than other efforts, given focus on individuals' homes	• Supporting positive, developmentally appropriate interactions between caregivers, parents/guardians, providers, and children

Table 3: Physical Enhancements to Current Spaces

What is the physical enhancement to the current space?	Where would the effort take place?	What are the necessary resources?	Is this effort short-term or long-term?	How great an impact is it likely to have, based on the available evidence?	What are the partnership opportunities?	What are the policy implications?	Which Best Practice Indicators are most relevant?
• Installation of natural elements in outdoor spaces that promote learning, safe physical activity that encourages risk-taking, and supervision by a parent/guardian or caregiver	• Playgrounds, open natural spaces, school yards, outdoor space at service organizations including family shelters	• Repurposed, donated or purchased rocks, logs, plants	• Short- term	• Likely to have a significant degree of impact	• Organizations that are successful in utilizing natural elements in outdoor spaces as relates to positive mental health, including museums and efforts such as the Natural Learning Initiative at NCSU	• Following national and NCSU's Natural Learning Initiative's guidelines for natural learning environments	• Use of nature/natural elements • Supporting positive, developmentally appropriate interactions between caregivers, parents/guardians, providers, and children • Safety and support
• Planting trees, bushes, and natural grasses to enhance shading for users of the space and their caregivers	• Child care centers' outdoor play areas, family shelters, playgrounds	• Donated or purchased plant materials	• Short-term	• Increasing comfort in the space should impact the amount of time and quality of time spent in the space by children and parents/guardians or caregivers	• Partnerships with other organizations and users of the space	• Technical assistance in the design of the space and planting guide	• Use of nature/natural elements • Supporting positive, developmentally appropriate interactions between caregivers, parents/guardians, providers, and children
• Installation of ramps, accessible play equipment to promote comparable play experiences for children with sensory integration concerns or physical disability	• Indoor play areas in child care centers, family shelters	• Technical/design assistance and donated or purchased materials	• Short- and long-term and ongoing	• Likely to have a significant impact on accessibility	• Collaborative planning for multiple users/organization	• Compliance with manufacturers' guidelines for play equipment	• Diversity of space and activities • Accessibility and inclusiveness • Safety and support

Table 4: Bringing the Space Benefits to Potential Users

What is the space/initiative to bring to potential users?	Where would the effort take place?	What are the necessary resources?	Is this effort short-term or long-term?	How great an impact is it likely to have, based on the available evidence?	What are the partnership opportunities?	What are the policy implications?	Which Best Practice Indicators are most relevant?
• Food production/gardening/hunger reduction	• In neighborhoods, e.g., common parking areas, common community spaces, playgrounds, community centers	• Human resources to deliver information and guidance about gardening to parents/guardians and children, gardening materials including plants, equipment • Vehicles to deliver the human resources, the initiative or both	• Short-/long-term and ongoing • Short-term guidance and production of food and long-term relationship building to establish the initiative and to create potential for families to leave the community to pursue resources associated with mobile provider	• Impact is significant for potential to build relationships in neighborhoods that increase the likelihood that residents will use other existing spaces • Also significant impact through removing important barriers without intensive resources	• Museums such as Marbles Kids Museum, mobile space initiatives such as Read and Feed • Service providers willing and able to deliver services directly to neighborhoods	• Possible organizational policies to support integration of physical health considerations with mental health–related efforts and to connect community-based healthy eating efforts to potential for related home-based efforts	• Supporting positive, developmentally-appropriate interactions between caregivers, parents/guardians, providers, and children • Accessibility and inclusiveness
• Child care/after school/natural learning environments	• In neighborhoods, e.g., common parking areas, common community spaces, playgrounds, community centers	• Human resources to deliver services, mobile space or existing space within the community to deliver services	• Long-term and ongoing	• Lacks evidence?	• Wake County Smart Start	• Natural learning environment guidelines, child care rating guidelines	• Use of nature • Accessibility and inclusiveness
• Increase availability of positive children's mental health opportunities at home and in spaces close-to-home	• At home, in public areas of community such as parks and community centers	• Residents willing to participate • Possible needs for translator • Funds to bring opportunities to peoples' homes or home environments on short-term or permanent basis	• Could range from one-time to ongoing	• Potential for short-term impact in form of one-time opportunities • Potential for long-term impact in form of community members' increased knowledge of available opportunities and increased use of positive spaces in home environment and throughout community	• Bring mental health experts into the community via mobile units and at community events • Develop connections between education-focused efforts and their potential for positive impact on children's mental health	• Outreach to self-described partners such as public and non-profit museums, health institutions, and out-of-school enrichment programs	• Safety and support • Accessibility and inclusiveness

Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health
Integrated Plan

Best Practice Indicator Framework

B. Best Practice Indicator Framework

USING THIS DOCUMENT

The Best Practice Indicator framework is a resource for organizations seeking to affect young children's positive mental health using their environments and spaces. The framework provides guidance on the following questions:

1. **What** do places and spaces need to best promote children's positive mental health?

   Each Best Practice Indicator (BPI) section of this document represents an area of practice that emerged as critical for maximizing the impact of space and environment on children's positive mental health. The indicators stem from the research literature review and expert interview components of the project.

2. **Why** is each of the Best Practice Indicators important?

   Research and practice link each BPI to one or more "Key Early Childhood Mental Health Developmental Tasks." These tasks indicate the most likely effect on young children of implementing and/or improving performance in the practice area.

3. **How** can an organization implement these best practices?

   The featured implementation strategies are grouped according to policy, practice, physical characteristics, and person-centered approaches. The strategies listed with each BPI are neither exhaustive nor required but provide a basis for initiating innovation and change within a space or environment.

Depending on their areas of interest and other factors, organizations may wish to consider one or multiple BPIs. For example, an organization whose primary goal is to add an outdoor learning environment may focus exclusively on the Use of Nature/Natural elements Indicator. A different organization might initially focus on all of the BPIs if the organization has not yet chosen its focus area or areas. Being able to select the most appropriate and meaningful BPIs at different times and for different contexts is an important feature of the project's recommendations.

It is hoped that through the use of this document, in addition to other assessment and quality improvement tools and supports, organizations will be able to develop implementation and sustainability plans for their spaces that will promote positive mental health for the young children they serve.

Supporting Positive, Developmentally Appropriate Interactions Among Caregivers, Parent/Guardians, Providers, and Children

Use of Nature/Natural Elements

Diversity of Space and Activities

Safety and Support

Accessibility and Inclusiveness

Sustainability

> **THE JOHN REX ENDOWMENT BELIEVES SHAPING CHILDREN'S PLACES AND SPACES, SUCH AS CHILD CARE CENTERS, PARKS AND RECREATION FACILITIES, AND PRESCHOOLS, IS OUR FOUNDATION'S BEST OPPORTUNITY TO SUPPORT WAKE COUNTY CHILDREN'S POSITIVE MENTAL HEALTH.**
>
> **– JOHN REX ENDOWMENT**

BACKGROUND

In 2013, with the fundamental belief that all children should be able to reach their full potential, the John Rex Endowment developed its five-year *Our Plan for Impact, 2013-2018.* In recognition of the changing landscape in Wake County (e.g., rapidly growing population, increased land development, increased cultural diversity, and areas of growing need), the John Rex Endowment focused this plan on supporting an environment that optimizes community resources and extends the reach of innovative and sustainable programs. The third of five goals outlined in the plan states the John Rex Endowment's recognition that healthy environments must be actively supported in

order to promote positive mental health in young children ages birth through eight years. In support of this goal, the John Rex Endowment, which **"supports an environment where children and families in greater Wake County live healthy lives"** (John Rex Endowment mission), intends to focus not only on how the physical characteristics of spaces can influence emotional development but also on how the p**eople, policies, practices, programs, and physical elements of a place or space can become more intentional and effective** in promoting children's positive mental health (John Rex Endowment, 2013).

PROJECT PHASES

In April 2014, the John Rex Endowment awarded a grant to the Duke Center for Child and Family Policy (CCFP). In collaboration with the Center for Child & Family Health and consultants, CCFP created an Integrated Plan to support Wake County organizations seeking to integrate, into their existing spaces, design and implementation practices that support positive mental health in young children. The project team assembled an immense catalog of information, including input from providers, parents/guardians, other community stakeholders, and researchers, and literature.

Activity	Apr. 2014	May 2014	June 2014	July 2014	Aug. 2014	Sept. 2014	Oct. 2014	Nov. 2014	Dec. 2014
PHASE I									
Identify research staff, project orientation	X	X							
Stakeholder Council			X	X	X	X	X	X	X
Best practice research		X	X	X	X	X			
Case study compilation					X	X			
Interviews			X	X	X	X			
Focus groups					X	X	X		
Surveys						X	X	X	
PHASE II									
Expert Panel							X		
PHASE III									
Finalize best practice profiles							X		
Develop integrated implementation framework							X	X	X
Develop key metrics for implementation							X	X	X
Develop TA manual including CQI tools & resources								X	X
Develop Integrated Plan								X	X
Ongoing evaluation	X	X	X	X	X	X	X	X	X

Project timeline

The initial phase of the project (April - October 2014) included an extensive review of peer-reviewed literature; interviews with local, national, and international experts; compilation of a catalog of innovative and effective case studies exemplifying best practice; focus groups with local providers, parent/guardian and caregivers, and young child experts; surveys of service providers and families; and tours of two best practice spaces. In addition, the project team established a local *Stakeholder Council* that met throughout the project to provide input about Wake County conditions, to review materials, and to provide guidance regarding the directions and activities of the project. In July, the Stakeholder Council reviewed the products of the project's first phase. This led to recommendations for more in-depth explorations of example programs and Best Practice Indicators that would form the foundation for subsequent phases of the project. To support this effort, Stakeholder Council members considered the literature review and case study catalog in addition to expert interviews. Based on input from the Stakeholder Council, the project team produced case studies about the following organizations:

1. **Blanchie Carter Discovery Park at Southern Pines Primary School**, Southern Pines, NC. This is a schoolyard at a primary school, which uses universal design and focuses on nature and imaginative play. It serves 425 children in Kindergarten through second grade.

2. **Mothers' Club Family Learning Center,** Pasadena, CA. This is a family/community center integrating two-generation learning, caregiver mental health services, and developmentally appropriate design. It serves 120 children, ages six weeks to five years old.

3. **Kids Together Playground at Marla Dorrel Park**, Cary, NC. This public park has a diversity of play areas and structures based on universal design principles and with an emphasis on nature. It primarily serves families in Cary with children, ages two to twelve years.

4. **Great Beginnings Early Education Center**, Lee's Summit, MO. This early education center for special needs students incorporates family counseling services and a community space. It serves 229 low-income children ages three to five years.

5. **Mariposa Redevelopment Master Plan and Healthy Living Initiative**, Denver, CO. This is a low-income housing development and a neighborhood that is transit-oriented and fosters community engagement to develop improvements in safety and attractiveness.

Drawing on all the products of the initial phase of the project, the following key themes emerged that reflect Best Practice Indicators and sustainability drivers:

- Relationships among and between users of the space matter as much, or more, than the physical characteristics of the space.
- Caregivers' mental health is correlated with children's mental health. Improving spaces with an eye to both caregivers and children will maximize impact.
- Green spaces and incorporation of natural elements within a space are important to every type of space from housing to education to hospitals.
- Creativity and diversity in children's environments contributes to their social and emotional well-being.
- Safety (both physical and psychological) in the space matters.
- Spaces should attend to the suitability and usability of spaces for children with special needs (physical, emotional, developmental) and children of varied ages and cultural/linguistic backgrounds.
- Access is a major factor for both implementation and sustainability. These challenges include the cost to access a space (e.g., admission), availability of local/public transportation to access the space, and scheduling to accommodate children's needs.
- Community input and development is key to creating spaces with long-term impact within a community.
- There is a need for training of parents/guardians/caregivers and service providers on how to use spaces.

EXPERT PANEL

The Expert Panel, which met in late October 2014, used the themes outlined by the Stakeholder Council and refined a framework of Best Practice Indicators and sustainability drivers with corresponding strategies designed to achieve maximum impact relative to type of space and area of focus (e.g., policy, practice, physical characteristics).

Through a series of facilitated small group discussions and development sessions, experts from the areas of young child mental health, indoor and outdoor space design, early childhood education, schools, parks/recreation, child welfare, crisis intervention, physical health, public health, developmental disabilities, museums, program implementation, and community advocacy for vulnerable populations compiled a Best Practice Indicator framework related to the design and implementation of effective and sustainable places and spaces that promote children's positive mental health. These Best Practice Indicators framework was developed in conjunction with a set of Quality Improvement Tools (found here /hyperlink). Used together, these two resources facilitate the implementation of space design and improvement, from planning to sustainability.

BEST PRACTICE INDICATORS:

- **Supporting positive, developmentally-appropriate interactions among caregivers, parents/guardians, providers, and children**
- **Use of nature/natural elements**
- **Diversity of space and activities**
- **Safety and support**
- **Accessibility and inclusiveness**

SUSTAINABILITY DRIVERS:

- **Availability of funding**
- **Access**
- **Reach**
- **Utilization**

DEFINITIONS: SETTING THE STAGE

For this project, the concepts central to developing a Best Practice Indicator framework are young child positive mental health, vulnerability, and places and spaces.

Young Child Positive Mental Health

Mental health is "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (World Health Organization, WHO, n.d.). The positive aspects of health are underscored in this definition, which encompasses an overall state of well-being, "not merely the absence of disease or infirmity" (WHO, 2006).

This project focuses on the mental health of young children, defined as ages birth to eight. Defining positive mental health for young children, requires consideration of their developmental needs and tasks. The organization Zero to Three: National Center for Infants, Toddlers, and their Families, defines early childhood mental health as: "the child's capacity to experience, regulate, and express emotion, form close relationships, and explore the environment and learn" (Zero to Three, 2001). It is noted that the caregiving environment is central to the development of early childhood mental health, including consideration of family, community, and cultural expectations for young children (Zero to Three, 2001).

Positive mental health influences children's ability to learn, to make sound decisions, and to behave in positive and healthy ways (National Research Council, 2000; North Carolina Institute of Medicine, 2012). Further, children with high levels of social and emotional well-being also are able to form secure attachments and connections to other people, can better regulate their emotions, and can develop positive coping mechanisms and resilience in the face of adversity, all of which help to serve them and their community as they develop into adulthood (North Carolina Institute of Medicine, 2012; World Health Organization, n.d.).

Vulnerability

The John Rex Endowment is committed to supporting efforts aimed at Wake County's most vulnerable residents. The John Rex Endowment conceptualizes vulnerability as disparities in the ability to lead a healthy life, in particular in mental health outcomes. The factors that influence the ability to lead a healthy life are numerous and complex. Relevant factors considered in this project include, but are not limited to: immigrant status, poverty, parental low education, racial and ethnic disparities, and experiencing significant early childhood adversity (e.g., trauma, toxic stress).

Places and Spaces

As noted above, young children's social emotional development takes place within, and cannot be separated from, the caregiving environment around them, including the social and physical environment. Young children's environments are multifaceted, and children spend varied amounts of time in different settings. For the purposes of this project, the primary settings are those in which children and their families spend a significant amount of time. Although other settings may affect a large number of children (e.g., doctors' offices, court or office waiting rooms), it is expected that the amount and depth of time spent in a space will influence the impact of the space on development and mental health. Key types of spaces considered include (though may not be limited to):

• Early childhood education/child care settings (indoor and outdoor)

• Pre-Kindergarten and elementary schools (indoor and outdoor)

- Parks/natural learning environments/playgrounds (outdoor)
- Recreation facilities/museums (indoor)
- Family/community centers
- Common areas in public housing/neighborhoods
- Emergency housing facilities.

BUILDING A BEST PRACTICE INDICATOR FRAMEWORK

Following is the project's Best Practice Indicator framework organized according to the Best Practice Indicators and associated implementation strategies drawn from the extensive research completed in the first phase of the project and carefully considered by the Expert Panel. "Best practices" include methods or techniques that consistently demonstrate superior results. With regard to this project, the literature on the strategies and mechanisms by which environments influence young children is still growing. Thus, this list is not exhaustive. Moreover, it is expected that this framework and the strategies therein will evolve and change as researchers and practitioners develop and design improvements and practices.

Supporting Positive, Developmentally Appropriate Interactions Between Caregivers, Parents/Guardians, Providers, and Children

IMPLEMENTATION STRATEGIES

POLICY

- Organization policy supports using trained practitioners as staff.
- Organization policy specifically addresses and supports practices that promote positive caregiver-child interaction.

PRACTICE

- Space activities are structured to provide opportunities for children to work and play together, to learn to solve conflicts in productive ways, and to participate in peer-group activities.
- Space activities utilize loose parts intended for play, mobile/variable structures, and other opportunities for caregivers to interact with children and each other. "Loose parts" are materials that children can move, carry, combine, redesign, and take apart and put back together in many different ways.
- Organization practices support the use of staff as mentors within the space and modeling for parents/guardians on how to engage children in developmentally appropriate play activities.
- Space activities provide opportunities for interaction between caregivers and organization staff to support collaboration and to foster a sense of community.
- Space activities provide opportunities for families to extend the play in the home environment.
- Space activities promote the use of materials that encourage communication and cooperation among users of the space, namely children, parents/guardians, other caregivers, and staff members.
- Organization practices and activities support playful and curiosity-building caregiver interactions that promote literacy and numerical concepts through coaching and signage.
- Organization practices and activities provide opportunity for choice in how parent/guardians and caregivers engage in the space (e.g., play or respite).
- Organization practices support and encourage a feedback loop between space users and staff to monitor the implementation progress and areas for improvement.

SUPPORTING POSITIVE INTERACTIONS

Spaces fully implementing this practice attend to the role of relationships and personal interaction within the space. Specifically, the spaces have policy, practice, or physical characteristics that allow for optimal interaction between caregivers (either parents/guardians or staff) and children as well as peer-to-peer interactions among children.

KEY EARLY CHILDHOOD MENTAL HEALTH AND DEVELOPMENTAL TASKS:

- Developing healthy, warm, trusting relationships with caregivers
- Communication
- Self-regulation
- Promoting positive peer relationships
- Exploring/experimenting

PHYSICAL CHARACTERISTICS

- Permanent installations/features are tiered in size to allow caregivers to easily observe, interact, and play with children in the space.
- Graphic and written signage within the space clearly indicates the types of activities or materials available and provides suggestions for developmentally appropriate interactions.
- Space is well-maintained and in good repair in order to support the space as welcoming and inviting.
- Space characteristics support caregiver comfort by ensuring clear "lines of sight" to observe and communicate with multiple children who are different ages and located in various areas of the space.
- Caregiver restorative areas (benches, spaces within spaces, etc.) are included in order to support caregiver's overall engagement and comfort in using the space.
- Cozy areas, including soft furnishings and toys, support caregivers and children in engaging in quiet, reflective or relaxing activities.
- Space design includes fixed parts with multiple applications in order to allow for creative play (e.g., a slide that can also be a climber).
- Environments of the space allow for or reflect children's "design sense" or perspective – it may not look like what an adult would create.
- Organization provides multiple sets of materials with each activity or program in order to allow for more than one user at a time and to support social connectivity with users (child-child, child-caregiver, child-parent/guardian).

PEOPLE

- Staff members understand how to prompt caregivers for intervention in response to children's needs by framing interventions as an invitation, or an opportunity to expand play activities.
- Staff and volunteers receive training and other supportive resources to consistently model appropriate, positive, and effective interactions within the space.
- Organization provides guidance to staff on what positive, developmentally appropriate interactions are within the context of the physical space design.
- Organization schedules regular time for staff to reflect on and share best practices and to share user feedback on the space with each other and management/leadership.

Use of Nature/Natural Elements

IMPLEMENTATION STRATEGIES

POLICY

- Organization policy supports the development of joint use agreements with public and private local green spaces (parks, playgrounds, undeveloped land, etc.).
- Organization policy supports local efforts incentivizing housing authorities, landlords, and businesses to provide or improve natural space elements within their community.
- Organization policy includes a parent/guardian-teacher-staff communication plan (including but not limited to online methods) outlining their importance and providing opportunities to use the nature/natural elements of the space.
- Organization maintains a plan specific to the care and management of natural elements (plants, trees, etc.) within the space.
- Organization policy supports the use of plants that are child friendly, native to the local area, and promote interaction with local/native wildlife (e.g., birds, insects, etc.).

PRACTICE

- Organization practices include outdoor programming integrated with healthy eating practices.
- Organization practices support scheduled time in outdoor environments on a regular basis for children using the space.
- Space activities are supported by guides/materials (listening guides, handouts, etc.) with suggestions for optimal use and varied ways to connect to the environment.
- Space activities include opportunities to learn about and/or model environmental stewardship and sustainability practices.
- Organization practices encourage the use and sharing of food grown on-site by space users and staff.
- Space activities are designed to enhance caregiver comfort in interacting with nature/natural elements.

PHYSICAL CHARACTERISTICS

- Space design includes the use of structures or plants and trees that provide shade.
- Space design includes the use of plants to delineate areas of active and restorative play.
- Interior spaces provide views of green spaces through windows in order to bring the outdoors inside.
- Interior spaces use varied physical elements to create small areas of nature or natural elements within the space (e.g., planting seedlings, container gardens, water features, etc.).
- The space incorporates water and sand features or areas of water exploration.
- The space incorporates winding, curvy paths to support circulation and wheeled-toy use within the space.

USE OF NATURE/ NATURAL ELEMENTS

Spaces fully implementing this practice incorporate nature and/or natural elements including the use of green space, gardening features, outdoor unstructured play, natural un-designed areas, natural shade, and fixed features that incorporate access to, or views of, natural spaces.

KEY EARLY CHILDHOOD MENTAL HEALTH AND DEVELOPMENTAL TASKS:

- **Exploring and experimenting**
- **Self-regulation**
- **Family and peer relationships**
- **Communication**
- **Self-esteem**
- **Coping**
- **Mastery and challenge**
- **Appropriate risk taking**

- In outdoor spaces, grassy areas are available for games, activities, and events.
- Within the space, there are a variety of loose natural materials (e.g., loose soil, fallen leaves, sticks, rounded stones, flowers, etc.)
- Space design incorporates strategic, natural light features.
- Space design includes natural features such as logs and rocks that promote open-ended play.
- Graphic and written signage within the space highlights particular natural elements and describes options for engagement.

PEOPLE

- Organization provides continuing education opportunities for staff/volunteers regarding the benefits of nature for children's development as well as how to use natural elements within the space.
- Organization actively seeks out and engages local experts to provide training and support to optimize use of natural elements within the space.

Diversity of Space and Activities

IMPLEMENTATION STRATEGIES

POLICY

- Organization policy supports planning that incorporates a diversity of activities from the beginning of the design process.
- Organization maintains a clearly defined space and activity set-up and breakdown protocol in order to maintain diversity and integrity of activities.
- Organization maintains clearly defined instructions for rotation of toys, space dividers, and activity stations to ensure space diversity is maintained.
- Organization maintains a policy about technology used within the space as part of program activities and in terms of overall technology use by children and adults in the space (cell phone, Wi-Fi, etc.).

PRACTICE

- Organization regularly encourages and promotes linkage with local artists/artisans to provide décor and/or fixtures for the space to inspire children to work with various materials.
- Organization activities and programs highlight activity areas specific to the target audience and the developmental focus.
- Space activities utilize quick messaging (e.g., signage, takeaway materials, etc.) to promote diverse play within the space and to suggest options for tailoring the activity to children's interests.
- Space activities use familiar materials to encourage transfer to home environment.

PHYSICAL CHARACTERISTICS

- Space includes a larger space with small sections/zones within the larger space for creative and/or restorative play.
- Space includes varied, multi-sensory experiences (e.g., music, art, water, soil, etc.) to encourage creative and diverse play experiences. There is intentional inclusion of children's art in the space.
- Space design is supportive of a room arrangement with a wide variety of age appropriate activities and loose parts for creative play.
- Space activities encourage the use of a variety of toys that address multiple ages and developmental abilities (wheeled, stationary, movable, creative play, etc.).
- Space planning incudes the intentional inclusion of caregiver-focused areas/activities (e.g., seating areas, water fountains, shade) to increase intergenerational use of space.

DIVERSITY OF SPACE AND ACTIVITIES

Spaces fully implementing this practice are seen as open and accessible to the community, caregivers, and children. Spaces incorporate a variety of activities, styles of engagement, styles of play, and developmentally appropriate processes/ procedures. They include areas for group activities, individual play or respite.

KEY EARLY CHILDHOOD MENTAL HEALTH AND DEVELOPMENTAL TASKS:

- **Exploring and experimenting**
- **Self-regulation**
- **Self-esteem**
- **Coping**
- **Mastery and challenge**
- **Positive peer and caregiver relationships**

PEOPLE

- Organization provides training and resources to staff on how to mentor users for optional space use to promote appropriate caregiver-child interaction.
- Organization provides opportunities for caregivers to learn about the appropriate use and accessibility of all space features.
- Staff and caregivers are able to play within the space.
- Organization provides staff with training and resources to engage children and caregivers in space activities and provides options to caregivers for fun and engaging play.
- Organization supports staff through resources, policy, and procedures to allow children to initiate and develop play with found materials.

Safety and Support

IMPLEMENTATION STRATEGIES

POLICY

- Organization develops and establishes a safety plan for how staff can encourage, maintain, and support substantive, challenging, and safe play.
- Organization policy clearly outlines norms (including prohibited behaviors) for caring interactions among people in the space and with the space components.
- Organization creates and maintains a service and upkeep guide, including who is responsible, onsite supplies and resources, anticipated costs, and preferred service vendors for all space features (water fountains, bathrooms, etc.).
- Organization policy supports linkage to public transportation, including an on-site, clean, covered, and well-lit waiting area.
- Organization has a formalized crisis plan regarding emergencies that could arise in a space (e.g., medical/injury, weather, violence).
- Organization has policies for responsibility and liability in the space including staff/volunteer behavior with children, weapons, regulatory compliance (i.e., OSHA), child abuse prevention and reporting, unaccompanied adult users, etc.
- Organization policy includes a plan for identifying children's behavioral concerns/needs and appropriate intervention.
- Entrance areas are welcoming, inviting, and appealing to both children and adults and clearly define the boundaries of the space.
- Organization supports and encourages linkage with or creation of groups such as "neighborhood watch" to support safe use of space.
- Organization policy supports the use of community leaders to protect space (e.g., partner with police to reinforce safety messages).
- Staff and volunteers undergo background checks.

PRACTICE

- Organization uses "observation teams" that enter the space at designated times to observe families in use of the space and make recommendations for improvement related to safe use of space features.
- Space design and activities create purposeful structures, routines, and processes that help children manage their emotions and feel safe and secure.
- Staff members use supporting and encouraging verbal and non-verbal language to help users feel safe when engaging in play and to feel comfortable taking appropriate risks.
- Organization provides periodic open houses or "try it" demonstration sessions within the space.

SAFETY AND SUPPORT

Spaces fully implementing this practice attend to physical safety, psychological safety, as well as supportive and protective practices for those using the space. This includes safety in fixed, movable, natural, and man-made features in addition to training and oversight for those in charge of managing the space and its users.

KEY EARLY CHILDHOOD MENTAL HEALTH AND DEVELOPMENTAL TASKS:

- Exploring and experimenting
- Self-regulation
- Challenge

PHYSICAL CHARACTERISTICS

- Surfacing materials are safe and accessible (e.g., poured rubber, rubber tile, engineered carpet, etc.).
- Foot paths are lighted, clear and free of obstruction.
- Bike paths are curved, level, and have appropriate lighting.
- Space service features (water fountains, bathrooms, etc.) are easily seen and accessed.
- Space provides storage areas such as lockers for families.
- Space employs the use of soft furnishings and/or floor coverings in spaces frequented by very young children.
- Map of the space is available with "routes" clearly outlined for optimal space use, traffic flow, and emergency exits.
- Emergency contact locations are clearly marked and accessible (such as phone with 911 access) or users receive clear direction for accessing emergency services using staff cell phones.
- Safety equipment and supplies (first aid kits, etc.) are readily available and staff/volunteers are trained in their use.
- Space includes quiet "calming" spaces to assist in behavior management.
- Space is designed to avoid blind spots and provide clear lines of sight for caregivers within the space to observe multiple children simultaneously.

PEOPLE

- Staff members are educated about function and optimization of space characteristics (physical elements) with respect to supervision, engagement, and safety.
- Staff/volunteers serve as "mentors" within a space to demonstrate how to maximize supportive features that promote exploration of the space in an appropriate and safe fashion (examples include the Play Rangers program in the UK).
- Staff are trained and supported to effectively and confidently manage behavior including conflict between and among parents/guardians and children.
- Organization supports training of key staff in trauma-informed care and services.

Accessibility and Inclusiveness

IMPLEMENTATION STRATEGIES

POLICY

- Organization employs universal design principles with new space or the refurbishment of existing space to ensure physical accessibility of natural and built spaces.
- Organization develops and maintains a food allergy/sensitivity screening and protocol for addressing severe allergies (e.g., use of an "EpiPen").
- Organization develops and maintains policies to facilitate engagement of people speaking multiple languages.
- Organization develops and maintains policies to engage children with physical, emotional, or sensory differences.
- Organization conducts an assessment of the composition and needs of the target community on a regular basis.
- Organization leadership interacts with and/or joins local networks serving similar populations.
- Organization policy promotes financial accessibility of the space (e.g., fee structure, collection of corporate or individual contributions to support users, etc.).
- Registration policies are sensitive to documentation concerns by users from immigrant communities.
- Organization conducts an accessibility review on a regular basis to ensure physical and cultural accessibility of all permanent fixtures.

PRACTICE

- Space activities and programming incorporate mentors from differing cultures and with different physical, social emotional, and cultural needs.
- Organization provides mobile services that bring services to children and families in target neighborhoods and communities.
- Space activities and programming create and use promotional materials that reflect the diversity of the target community.
- Organization creates feedback opportunities and systems to gather input from users and non-users of the space.
- Organization hosts events that are free and relate to the target community in order to maximize the impact of initial visits to the space.
- Organization promotes the incorporation of transportation costs, schedules, routes, etc. into activity planning within the space.
- Organization strives to communicate aspects of the space (accessibility, cost, documentation) to families before they enter the space to improve understanding and preparation for optimal use of the space.
- Organization encourages the creation of support groups and play groups for parents/guardians with a potential affinity to each other such as not working outside of home and non-English speaking).

ACCESSIBILITY AND INCLUSIVENESS

Spaces fully implementing this practice have policy, practice, and physical characteristics supporting physical and cultural accessibility and adaptability for the space and its users. This includes welcoming users with diverse physical, social emotional and cultural needs as well as planning for how particular physical elements, program, and activities within a space adapt for users of varying abilities.

KEY EARLY CHILDHOOD MENTAL HEALTH AND DEVELOPMENTAL TASKS:
- **Exploring and experimenting**
- **Self-regulation**
- **Self-esteem**

PHYSICAL CHARACTERISTICS

- Parking includes a number of spots designed and scaled for wheelchair access, proportional to anticipated users. Parking spots provide direct and safe access to the play space and allow for access by the driver.
- Surfacing materials are safe and accessible (e.g., poured rubber, rubber tile, engineered carpet, etc.).
- Accessible entry into a play space includes multiple entry points along a border of a play area and is provided through "flush access" (i.e., short or no "drop" from pathway to play structure).
- Variety in surfaces and textures creates zones, edges, and approaches, which help improve circulation through the space for people with sensory impairments.
- Space incorporates flexible and moveable design that can be easily transformed by staff and/or users.
- Sensory, visual and/or auditory cues allow for changes in elevation, materials, and the need for adult/caregiver interaction.
- Paths throughout the space are accessible for children using a mobility apparatus (e.g., wheelchairs, walkers).
- Height of and access to fixed play spaces and fixtures such as water fountains support access for children and caregivers in wheelchairs or other mobility issues per Americans with Disabilities Act standards.
- Benches and seating areas are integrated into a site with back support and arm rests for easy movement in and out of the bench.
- Seating areas are located on firm, stable surfaces such as asphalt, concrete, compacted crushed rock, and pavers.
- A space beside benches allows wheelchair users to sit next to or transfer to a bench.
- Space includes features aimed at physical development (climbing/balancing elements) and sensory input and experiences (tactile/textures, sound, etc.).
- Play areas are linked to the space's main circulation paths and to each other by accessible routes.
- Paths within the space are connected to adjacent trails providing direct and clear circulation within the site. The internal paths also create a variety of loops that encourage play.
- Signage is in multiple languages or uses symbols to explain use or access.
- Translators or interpreters are available for events on an as-needed basis.
- Spaces provide sensory experiences for varied needs including for children with sensory sensitivity.
- Child and adult changing rooms and gender-neutral bathrooms and/or family restrooms are fully accessible (ADA standards).
- Activities and materials reflect cultural and individual differences without promoting stereotypes (dolls with Down syndrome, Native American dolls).

PEOPLE

- Staff/volunteers are trained to incorporate children with physical and emotional needs and/or cultural differences into play.
- Staff are trained to reach out to parent/guardians regarding the effective use of the space for children of varying abilities.
- Staff members are competent in providing information and coaching to parents/guardians to facilitate and equip them to use the space with their children.
- Staff members are prepared to foster child-child interactions across a range of abilities and cultures.
- Staff members are trained and have the ability to adapt activities for individual needs of users.
- Staff members understand cultural norms as they relate to family dynamics, effective approaches, and communications specific to young children.

Sustainability

IMPLEMENTATION STRATEGIES

POLICY

- Organization policy allows for purposeful integration of parent/guardians and children in the design of the space.
- Collects, analyzes, and shares utilization and behavior mapping (observation) data for space (e.g., number of persons using space per day/week/month).
- Conducts periodic family friendly user surveys regarding accessibility (logistical and developmental) of the space and ideas for improvement (users and non-users).
- Creates a local advisory committee including adults and youth to support space sustainability through ongoing attention to community needs, priorities, and feedback.
- Hires staff from the community.
- Collaborates with multiple stakeholders across the community to increase buy-in and leverage other resources.
- Creates a collective impact statement that links implementation to long-term outcomes and cost savings with community reinvestment for high-risk populations.
- Integrates and/or links to other services within the community (e.g., free access for children in area crisis centers).
- Vision of space design and implementation is flexible and there is ongoing outreach to team for ideas/inspiration.
- Creates opportunities for smaller organizations to access technical assistance, expertise, and policies from other larger organizations and partnerships.
- Creates shared training opportunities with similar spaces in the community.

PRACTICE

- Recruitment and hiring practices support selection of staff with fundamental knowledge of child development and an understanding of the role of space and environment in supporting optimal child development.
- Provide regular in-service trainings to staff to support new space features and/or areas of improvement modeling for parents/guardians and parent/guardian training.
- Provide staff with available linkages/access to other services in the community including local transportation, libraries, etc.
- Accommodate the schedule needs of both school-aged and younger children and their families (focus, time, etc.).
- Community members are partners in design, use, evaluation, shared space, and programs.
- Programs and events encourage walking access.

SUSTAINABILITY

Effective implementation of best practice indicators requires the intentional and thorough planning for sustainability from the beginning of the design process. Key drivers of sustainability are the availability of funding (budget planning and funding for start-up and maintenance), access (convenience, transportation, scheduling), reach (number and types of children and families who can use the space), staff capacity and human resources, and utilization (number of children who actually use the space or areas within the space).

PHYSICAL CHARACTERISTICS

- Use of "slow build" process to support iterative change within the space and to ensure space features meet current community needs.
- Use comprehensive long-range maintenance.
- Use repurposed materials when appropriate/available.

PEOPLE

- Staff is supported to provide parent/guardian engagement training to transfer activities/space ideas to home environments.
- Staff recognizes the continuum of consumer engagement (always offered but not required).
- Supports the creation of a collaborative network within the "community of practice" including influential decision makers.

Planning for Intentional and Effective Places and Spaces
for Children's Positive Mental Health
Integrated Plan

Quality Improvement Tools

C. Quality Improvement Tools

The Expert Panel for this project, held in October 2014, was charged with developing a compendium of best practices and implementation strategies targeting places and spaces that promote children's positive mental health. Following this meeting, and in connection with the Best Practice Indicator framework (hyperlink), the project team developed a set of quality improvement tools and supports.

As defined within this project, implementation refers to a set of activities designed to put a specific activity or program into practice. To be successful, implementation processes must be purposeful and described in sufficient detail so that members of organizations doing the work and outside observers are able to detect the effects of the specific activity or program. There are four key stages of implementation (Aarons, Hurlburt, & Horwitz, 2010):

Exploration: This stage is a contemplative period that occurs prior to the initiation of an implementation project. During this stage, an organization and its key stakeholders set goals and examine internal and external contexts as they relate to an issue or challenge that needs attention. In addition, stakeholders determine options and weigh feasibility for addressing the challenge.

Adoption Decision/Preparation: This stage is a decision-making period during which an organization chooses from options identified in the *Exploration* stage and takes steps to begin implementation of the chosen intervention or program. This stage is task-oriented and involves benchmarking current processes, collecting baseline data not already collected during the *Exploration* stage, planning for initial implementation steps, and acquiring or repurposing the resources needed to accomplish the planned work. This stage includes selecting implementation team members, establishing performance assessment protocols and tools, and training staff to enact new practices and processes.

Active Implementation: This stage spans from the initial implementation to the full implementation of the selected intervention or program. Organizations and stakeholders engaged in this stage work to advance practice toward identified goals. Throughout this stage, leaders and staff engage in iterative changes to advance practice, assess performance, modify processes based on performance data, and move toward the use of the intervention or process selected in the *Adoption Decision/Preparation* stage as standard practice within the organization.

Sustainment: Rather than a distinct stage of implementation, sustainment refers to the active determination and development of supports that allow an organization to maintain a practice or process without degradation or loss of fidelity. Throughout implementation, organizations and stakeholders should define key success factors and develop plans for long-term sustainability of new processes. This stage may include the development and incorporation of staff retention and training protocol, program evaluation protocol, and on-going funding strategies.

The stages of implementation are integrated and often overlapping rather than linear. For example, during the *Adoption Decision/Preparation* stage, project members often identify weaknesses or gaps in the current system not identified in the *Exploration* stage. Another example would be that when working in the *Active Implementation* stage, the team identifies a need for further preparation work. Furthermore, in each stage, teams attend to sustaining the practice in order to ensure long-term success and outcomes in alignment with project goals.

QUALITY IMPROVEMENT TOOLS

This document contains three Quality Improvement Tools and a supporting document that provides information about the metrics of quality improvement tools. These documents should be used in combination with the Best Practice Indicator framework (hyperlink). The Best Practice Indicator framework outlines areas of practice determined through the Intentional and Effective Places and Spaces for Children's Positive Mental Health project to

be central to children's positive mental health. The document brings to the forefront key implementation strategies within each practice area and categorizes them as they relate to policy, practice, physical elements of the place or space, or people in the place or space.

These Quality Improvement Tools were developed or adapted specifically for this project. Each tool is designed to help support project teams explore best practice, better understand their current processes, identify strengths and constraints of current processes through data collection, and keep projects on track using continuous improvement activities. Organizations can use the tools and supports in isolation or as a compendium of activities over a period of time. In addition, it is appropriate to complete these tools repeatedly to help identify progression in implementation of a project designed to develop or enhance a space or place for young children. The table below outlines the primary purpose, audience, and notes on when to use each resource (i.e., at what stage in the implementation process).

Support or Tool	Primary Purpose	Primary Audience	When
Support Document: Quality Improvement Metrics	This support document provides suggested measurements of success to use in illustrating progress toward an identified goal or within a specified area of practice.	• Organization teams already involved in this work	This document can be used throughout the project
Quality Improvement Tool 1: Place and Space Self-Assessment Questionnaire (MS Word Manual Scoring and MS Excel Self-Scoring Versions)	This tool is used to assess *current* characteristics of a place or space across multiple areas of practice. Through a series of questions and Likert scale ratings, users assess their progress in an implementation of key strategies for success. Additionally, the tool asks users to identify strengths that need to be protected and promoted as well as constraints in their current system that need to be addressed in order to improve.	• Organization/team leaders interested in engaging in implementation or improvement within their current space • Organization teams already involved in this work	This tool should be used at multiple points in a project including: • Exploration • Adoption decision/ preparation • Active implementation • Sustainment

Support or Tool	Primary Purpose	Primary Audience	When
Quality Improvement Tool 2: Action Planning Template and Facilitator Guide	This tool is used as a follow-up to the self-assessment questionnaire. After defining areas of practice that require continued support or intervention, teams use this planning template to determine key goals as well as key tasks and resources needed to achieve success.	• Organization teams already involved in this work	This tool should be used at multiple points in a project including: • Adoption decision/ preparation • Active implementation
Quality Improvement Tool 3: Stakeholder Mapping Template and Facilitator Guide	This tool is used to facilitate the development of *key messaging* to support implementation and improvement within a project. The tool is used to identify key stakeholders and to rate their relative influence and importance to the project in order to prioritize and focus project-related communications.	• Organization/team leaders interested in engaging in implementation or improvement within their current space • Organization teams already involved in this work	This tool can be used at the onset of a project to develop a communication plan and at various points in the project to ensure effective planning and outlining of critical communication with key stakeholders.

SUPPORT DOCUMENT: QUALITY IMPROVEMENT METRICS

Metrics are point-in-time measures that highlight progress in implementing a new practice or service. They are typically easily collected and easily aggregated into reports for both internal and external stakeholders. Ideally they drive and support decision making. Metrics may be delineated into categories of Process, Product and Impact. The following table outlines success and monitoring metrics identified for this project.

Metric Category	Sample Metrics
Process (Initiation and maintenance of the practice within the organization)	Average time spent in the space by user Time spent by users in specific areas of the space or engaged in specific activities within the space.(Such data may come from an observation and documentation process that diagrams specific people's movements and activities in the space) Number of training hours for staff Number of hours of in-house supervision offered/taken Number of stakeholder connections/communications Number of implementation team meetings
Product (Output of the implementation process)	Number of users of a space per hour, day, month Number of new users Number of repeat users User demographics tailored to target audience • Age • Gender

- Ethnicity
- Developmental/social-emotional diversity

Number of parent/guardian-child interactions within the space may be collected through a timed observation and documentation process.

Number of supplemental materials used (e.g., recipe cards, take-home materials)

Impact (User, organization, community, and systems outcomes)	Change in report of problematic child behaviors within the space Change in report of pro-social behaviors • Interactions with peers • Interaction with caregivers Staff/volunteer satisfaction User satisfaction

The steps that a team or organization chooses to take following completion of the metrics evaluation and application of one or more quality improvement tools may differ. Some organizations may be adequately equipped to respond independently to needed improvements while other may desire or need technical assistance from outside experts. While identifying and using quality improvement metrics is a useful process, the lasting impact stems from deliberate organizational changes that occur as a result.

QUALITY IMPROVEMENT TOOL 1
PLACE AND SPACE SELF-ASSESSMENT QUESTIONNAIRE

OVERVIEW

This document provides guidance for assessing an organization's needs relative to places and spaces that affect positive mental health in young children. There are five sections, each focusing on a specific Best Practice Indicator (BPI). The BPIs have some common or overlapping elements and can stand alone depending on an organization's needs and interests.

INSTRUCTIONS

Organization leaders and others with interest in engaging in implementation or improvement efforts within their current space should complete this tool together. The tool can be used at different stages of the implementation process to assess change and improvement. Within each section, there are key implementation strategies listed in table format. Using the following scale, teams should rate their organization's current condition related to each strategy listed:

1-Not Yet	The strategy is not yet present in the organization or program. The organization is likely to need substantial technical assistance (TA), training, and other support to implement this strategy.
2-In Process	The strategy is planned or is currently present in a low or modest level in the organization or program. The organization is likely to need some technical assistance (TA) and support through the remaining stages of implementation.
3-Complete	The strategy has a strong presence throughout the organization or program. The organization actively supports the strategy in a sustained way. The organization may have occasional need for support but is able to share expertise with other organizations working toward achieving this strategy.

For ratings of 2 and 3, teams indicate why they rated their program/space at this level in the space labeled Evidence for "*In-process*" or "*Complete*". After completing each rating section, key strengths and constraints are discussed and noted on the form.

Teams should complete and discuss one section prior to moving to another section. At the completion of the assessment, the team rates its overall readiness with regard to each section by computing an overall rating "score" using the attached scoring grid.

SUPPORTING POSITIVE, DEVELOPMENTALLY APPROPRIATE INTERACTIONS AMONG CAREGIVERS, PARENT/GUARDIANS, PROVIDERS, AND CHILDREN

Organizations that are effective in creating places and spaces that promote positive mental health in young children traditionally have a strong focus on supporting children's interactions within their space. Specifically, spaces fully implementing this BPI attend to the role of relationships and personal interaction through policy, practice, and physical characteristics that allow for supportive and engaging interactions between children and their caregivers (staff and parent/guardian) as well as among children.

In this section, reflect on the questions below and record your team's answers citing internal data sources when available. Where possible, note responses from each team member as all questions do not require consensus but are meant to be opportunities for discussion and debate. At the end of this section, rate your overall strengths and areas of constraint.

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Our organization has clear aims and definitions of "success" related to children's interaction patterns within our space.	☐	☐	☐	
Our organization has a policy that supports training of staff and/or volunteers about how "play" supports positive interactions in our space.	☐	☐	☐	
Our organization has a policy/ practice of engaging with other service providers in our area.	☐	☐	☐	
Our organization has a policy/ practice to support feedback from staff and users related to interaction patterns within our space.	☐	☐	☐	
Staff and/or volunteers are able to demonstrate how to interact within our space and use key features to support positive interactions for children.	☐	☐	☐	
Within our space, children have opportunities to play together.	☐	☐	☐	

SUPPORTING POSITIVE, DEVELOPMENTALLY APPROPRIATE INERACTIONS AMONG CAREGIVERS, PARENTS/GUARDIANS, PROVIDERS, AND CHILDREN

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Within our space, children have opportunities to interact and play with adult caregivers (staff and/or volunteers/parents/guardians)	☐	☐	☐	
Within our space, we promote the use of activities that provide the "choice" for children and caregiver interaction (e.g., areas of play and respite)	☐	☐	☐	
Within our space, areas/activities are designed to support: • Communication • Literacy • Numerical Concepts	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	
Physical characteristics of our space include: • Use of tiered sizes for permanent features • Graphic and written signage indicating intended or suggested interactions • Restorative areas for caregivers (e.g., benches) • Cozy areas for quiet activities • Fixed parts with multiple applications (e.g., a slide that can also be a climber) • Loose parts or areas that are easily manipulated by children to reflect their "design sense"	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	

What are the overall areas of strength for our organization?

What are the overall areas of constraint for our organization?

USE OF NATURE/NATURAL ELEMENTS

Organizations that are effective in creating places and spaces that promote positive mental health in young children traditionally have a strong focus on the use of nature/natural elements within their space. Specifically, spaces fully implementing this BPI attend to the use of green space, gardening features, outdoor unstructured play, natural un-designed areas, natural shade, and fixed features which incorporate access to, or views of, natural spaces.

USE OF NATURE/NATURAL ELEMENTS

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Our organization has clear aims and definitions of "success" related to the use of nature/natural elements in our space.	☐	☐	☐	
Our organization has a policy to guide staff/volunteer – parent/guardian communication to include use of natural elements of the space to support child development.	☐	☐	☐	
Plants and other natural elements selected for the space are child friendly (non-toxic, touchable, etc.), native to the area, and promote wildlife.	☐	☐	☐	
Our organization maintains a sustainability plan for natural elements (e.g., trees, shrubs, etc.) within the space.	☐	☐	☐	
Our organization has a policy that supports training the staff and/or volunteers regarding the benefits of natural elements within the space and how to incorporate them into play.	☐	☐	☐	
Staff and/or volunteers are able to demonstrate how to interact and use key features of natural elements within our space.	☐	☐	☐	
Staff and/or volunteers model environmental stewardship within the space.	☐	☐	☐	

USE OF NATURE/NATURAL ELEMENTS

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Physical characteristics of our space include:				
Indoor spaces:				
• View of green space through windows/doors	☐	☐	☐	
• Garden areas through use of containers, seedlings, edible plants, etc.	☐	☐	☐	
• Sand and water features	☐	☐	☐	
• Winding or curving "paths" through the space	☐	☐	☐	
• Natural loose parts (loose soil, fallen leaves, flowers, etc.)	☐	☐	☐	
• Natural light	☐	☐	☐	
Outdoor Spaces:				
• Use of structures that provide shade/shading plants	☐	☐	☐	
• Use of plantings to delineate space	☐	☐	☐	
• Sand and water features	☐	☐	☐	
• Winding and curving paths	☐	☐	☐	
• Grassy areas for games, events, etc.	☐	☐	☐	
• Natural loose parts (loose soil, fallen leaves, flowers, etc.)	☐	☐	☐	
• Natural features that promote open-ended play (logs, rocks, etc.)	☐	☐	☐	

What are the overall areas of strength for our organization?

What are the overall areas of constraint for our organization?

DIVERSITY OF SPACE AND ACTIVITIES

Organizations that are effective in creating places and spaces that promote positive mental health in young children traditionally have a strong focus on the diversity of types of spaces and activities within their environment. Specifically, spaces fully implementing this BPI are seen as open and accessible to the community, to caregivers, and to children and their families. Spaces incorporate a variety of activities, styles of play, and developmentally appropriate processes including areas for group play, individual play, and respite.

DIVERSITY OF SPACE AND ACTIVITIES

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Our organization has clear aims and definitions of "success" related to diversity of space and activities.	☐	☐	☐	
Our organization has a clearly defined set-up/breakdown routine for staff and/or volunteers to maintain the integrity of fixtures and activities.	☐	☐	☐	
Our organization has clearly defined instructions for rotation of toys, space dividers, and activity stations to ensure space and activity diversity are maintained.	☐	☐	☐	
Our organization has created and defined our space and activities to serve children of multiple ages and interests.	☐	☐	☐	
Activities within our space use common materials in order to encourage interactive play and the transferal of activities to the home environment.	☐	☐	☐	
Our organization has a policy that supports training staff and/or volunteers regarding the benefits of space and activity diversity and how to use them to support developmentally appropriate play.	☐	☐	☐	
Staff and/or volunteers demonstrate how to interact with the different elements within our space and use key features.	☐	☐	☐	
Staff and/or volunteers model activities for others within the space.	☐	☐	☐	

DIVERSITY OF SPACE AND ACTIVITIES

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Physical characteristics of our space include:				
• Small sections/zones for creative/restorative play	☐	☐	☐	
• Spaces showcasing art created by local artisans	☐	☐	☐	
• Spaces showcasing art created by children	☐	☐	☐	
• Spaces highlighting/incorporating music	☐	☐	☐	
• Spaces incorporating water and/or loose soil	☐	☐	☐	
• Spaces with a variety of toys appropriate for multiple ages and developmental abilities (wheeled, stationary, creative, etc.)	☐	☐	☐	
• Caregiver-focused areas (seating, shade, etc.)	☐	☐	☐	
• Spaces allowing for "co-creation" of activities by caregivers and children	☐	☐	☐	

What are the overall areas of strength for our organization?

What are the overall areas of constraint for our organization?

SAFETY AND SUPPORT

Organizations that are effective in creating places and spaces that promote positive mental health in young children traditionally have a strong focus on the physical and psychological safety of features and activities within their environment. Specifically, spaces fully implementing this BPI are able to support and promote practices that attend to the safety of fixed, movable, natural and man-made features while promoting appropriate exploration and experimentation by children and caregivers within the space through policy, practice, staff training and physical element design. While strategies to support safe implementation are inherent in all BPIs, implementation strategies are highlighted here in order to provide an overview of potential areas for focus.

SAFETY AND SUPPORT

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Our organization has clear aims and definitions of "success" related to safety and support within our space.	☐	☐	☐	
Our organization has a clearly defined crisis plan to address emergency issues that could arise within the space including injury, fire, weather, violence, etc.	☐	☐	☐	
Our organization has policies for staff/volunteer behavior with children within the space.	☐	☐	☐	
Our organization has clear policies regarding recruitment, hiring, and background checks for staff and/or volunteers working within the space.	☐	☐	☐	
Manufactured features within our space are compliant with all national/state/local codes and regulations pertinent to manufacture, installation, and maintenance.	☐	☐	☐	
Our organization has a policy that supports training staff and/or volunteers in the function and optimization of space characteristics with respect to supervision, engagement, and safety.	☐	☐	☐	
Staff and/or volunteers are able to demonstrate how to interact with the different elements within our space and use key features safely.	☐	☐	☐	

continued next page

SAFETY AND SUPPORT

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Staff and/or volunteers establish norms and rules for interactions among people using the space and are trained to intervene appropriately.	☐	☐	☐	

SAFETY AND SUPPORT

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Physical characteristics of our space include:				
• Surfacing materials are safe and accessible	☐	☐	☐	
• A map of the space is available with "routes" clearly outlined for optimal flow and emergency exits are clearly marked	☐	☐	☐	
• Safety equipment and supplies (first aid, etc.) are readily available and accessible	☐	☐	☐	
• Play areas have clear boundaries	☐	☐	☐	
• There is signage for features including restrooms, trash areas, storage, etc.	☐	☐	☐	

What are the overall areas of strength for our organization?

What are the overall areas of constraint for our organization?

ACCESSIBLITY AND INCLUSIVENESS

Organizations that are effective in creating places and spaces that promote positive mental health in young children traditionally have a strong focus on the inclusiveness and accessibility of features and activities within their environment. Specifically, spaces fully implementing this BPI are able to support and promote practices that attend to the physical and cultural accessibility and adaptability of the space for its users. This includes welcoming users with diverse physical, social emotional and cultural needs. In addition, this BPI requires attention to how particular physical elements, programs, and activities within a space can be adapted for users of varying abilities.

ACCESSIBLITY AND INCLUSIVENESS

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Our organization has clear aims and definitions of "success" related to accessibility and inclusiveness.	☐	☐	☐	
Our organization employed universal design principles in planning our space.	☐	☐	☐	
Our organization conducts periodic needs assessments/audits of our community to determine the cultural and physical needs of our target population.	☐	☐	☐	
Our organization has policies to engage children and families with differing language, physical, emotional, and sensory needs.	☐	☐	☐	
Our organization has policies that address the financial accessibility of the space (e.g., sliding scale fees).	☐	☐	☐	
Staff and/or volunteers represent different cultures and physical abilities. 0	☐	☐	☐	
Our organization has a policy that supports training staff and/or volunteers about options for space features and activities that could engage children with physical and emotional needs and/or cultural differences.	☐	☐	☐	
Our organization has a policy that supports training staff and/or volunteers in cultural norms as they relate to family dynamics, effective engagement, and communication with children and parents/guardians within the space.	☐	☐	☐	

ACCESSIBLITY AND INCLUSIVENESS

Key Strategies and Supports	1 NOT YET	2 IN-PROCESS	3 COMPLETE	Evidence for "In-process" or "Complete"
Physical characteristics of our space include:				
• Physical accessibility features (parking, restrooms, walkways/paths etc.) as defined through national/state/local guidelines and regulations	☐	☐	☐	
• Accessible entries to all play spaces	☐	☐	☐	
• Flexible and movable design that can be easily transformed to meet individual needs	☐	☐	☐	
• Sensory and/or auditory cues to alert users to changes in elevation, materials, etc.	☐	☐	☐	
• Signage that is not dependent on language or is available in multiple languages	☐	☐	☐	
• Activities and materials that reflect cultural and individual difference without promoting stereotypes	☐	☐	☐	

What are the overall areas of strength for our organization?

What are the overall areas of constraint for our organization?

PLACE AND SPACE SELF-ASSESSMENT QUESTIONNAIRE SCORING GRID

BEST PRACTICE INDICATOR	Number of Strategies	# Not Yet (x 1)	# In Process (x 2)	# Complete (x 3)	Total Rating Score (Sum of sub scores)	Overall Score (Divide total by number of strategies)
Supporting positive, developmentally appropriate interactions among caregivers, parents/guardians, providers, and children	17					
Use of nature and natural elements	13					
Diversity of space and activities	16					
Safety and support	13					
Accessibility and inclusiveness	14					

QUALITY IMPROVEMENT TOOL 2
ACTION PLANNING TEMPLATE AND FACILITATOR GUIDE

Activity Objectives

During this session, participating teams will:

- Apply their self-assessment results to setting aims and defining tasks and strategies for full implementation related to a Best Practice Indicator; and
- Determine the key resources, tasks, and strategies for organizations as they work toward full implementation of this BPI.

Materials Needed

1. Large Graphic Game Plan template
2. Post-it notes
3. Blank flip chart
4. Flip chart markers
5. Copies of the *BPI framework*
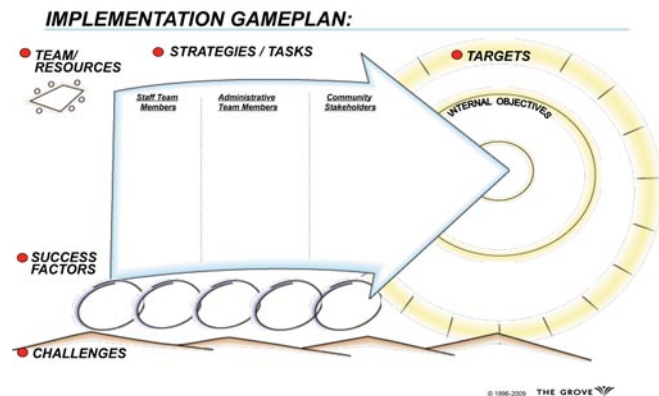
Session Instructions

1. Review the objectives of the implementation project (set in previous meeting/session):
   - Building local access to specialized programs and activities within a space;
   - Providing quality training for multi-organization staff and/or volunteers;
   - Improving implementation of highlighted BPI components; and
   - Ensuring effective, timely, and securely funded services.
2. Reference stages of implementation/implementation framework for the project.
3. Explain that this planning session is specific to the **chosen Best Practice Indicator** and will:
   - Define the resources (people, time, funding, materials) an organization should devote to this stage of implementation;
   - Delineate the tasks associated with this stage in context of internal and external factors;
   - Describe the primary expected outcomes of this stage for your organization/program;
   - Describe any secondary outcomes of this stage;
   - Define key success metrics; and
   - Define expected barriers/challenges.
4. Explain the process to the team:

   "At this stage we have learned a lot about how our space currently is positioned to support and promote positive mental health for young children. Through the self-assessment process, we have discussed and defined our organizational goals. Now we need to define/determine the resources, tasks, and strategies to get there. In order to help create an installation/implementation plan, we will carry out a series of exercises using the materials on hand. This is a collaborative process and each member of our team should have a voice in the development of this plan. Feel free to voice issues or challenges that you expect based on what you know about the model at this point, or that you anticipate based on your experience with other change initiatives within our organization. The final result will be a written/visual game plan

that we will shared with our Learning Collaborative faculty and will guide our work in this action period."

5. Complete each section of the game plan:
    a. In the **TEAM/RESOURCES** section:
        • Ask the group to think about the team members within and outside of the organization that must be involved to implement the BPI and that will generate positive outcomes for clients and the team/organization.
        • Either through round robin (taking turns), or through simultaneously putting Post-it notes on the poster, generate a list of necessary team members and resources and put them on the poster in that section.
    b. Under **STRATEGIES/TASKS** for people at the organization, brainstorm tasks for each level (provider, organization, community, system) and write down one strategy per Post-it note. Include Who – What – How for each task.
    c. Under **SUCCESS FACTORS**, develop the metrics and outputs for the project, answering the questions:
        • How will a team know that these tasks are being accomplished?
        • How will they know that they are successfully implementing the BPI?
        • What data will they need to collect to make this determination?
    d. Under **CHALLENGES**, what challenges can a team expect in this stage? Brainstorm and write these on the poster in the appropriate section.
    e. After reviewing the people, tasks, and strategies, what are the expected **OUTCOMES** for this organization and this community? Generate a list of expected outcomes and write them in the outcomes section. Those outcomes closest to the organization go in the middle, and those more about community and systems change should be placed on the outer circle.
6. After completing the game plan, provide an opportunity for each participant to review it independently and add notes to the page thereby contributing their own context to the picture.

Facilitation Points to Consider

1. Pay special attention to ensuring that voices of all team members are heard, recognized, and used.
2. Be conscious of helping to reframe potentially negative comments and/or criticisms into constructive feedback that can inform the refinement of the game plan.
3. Be attentive to the group process with relation to time. Ensure that the group meets the overall goals of the session. Facilitators may keep time for the sessions or they may ask someone else to do so.
4. The facilitator will ask groups to recommend improvements for practice strategies as needed, with reminders that the document is intended to be accessible to multiple audiences, non-prescriptive with respect to how a practice strategy is met, and concise.

IMPLEMENTATION GAMEPLAN

Targets

INTERNAL OBJECTIVES

Strategies/Tasks

Community Stakeholders

Administrative Team Members

Clinical Team Members

Team/Resources

Success Factors

Challenges

© 1996-2009   THE GROVE
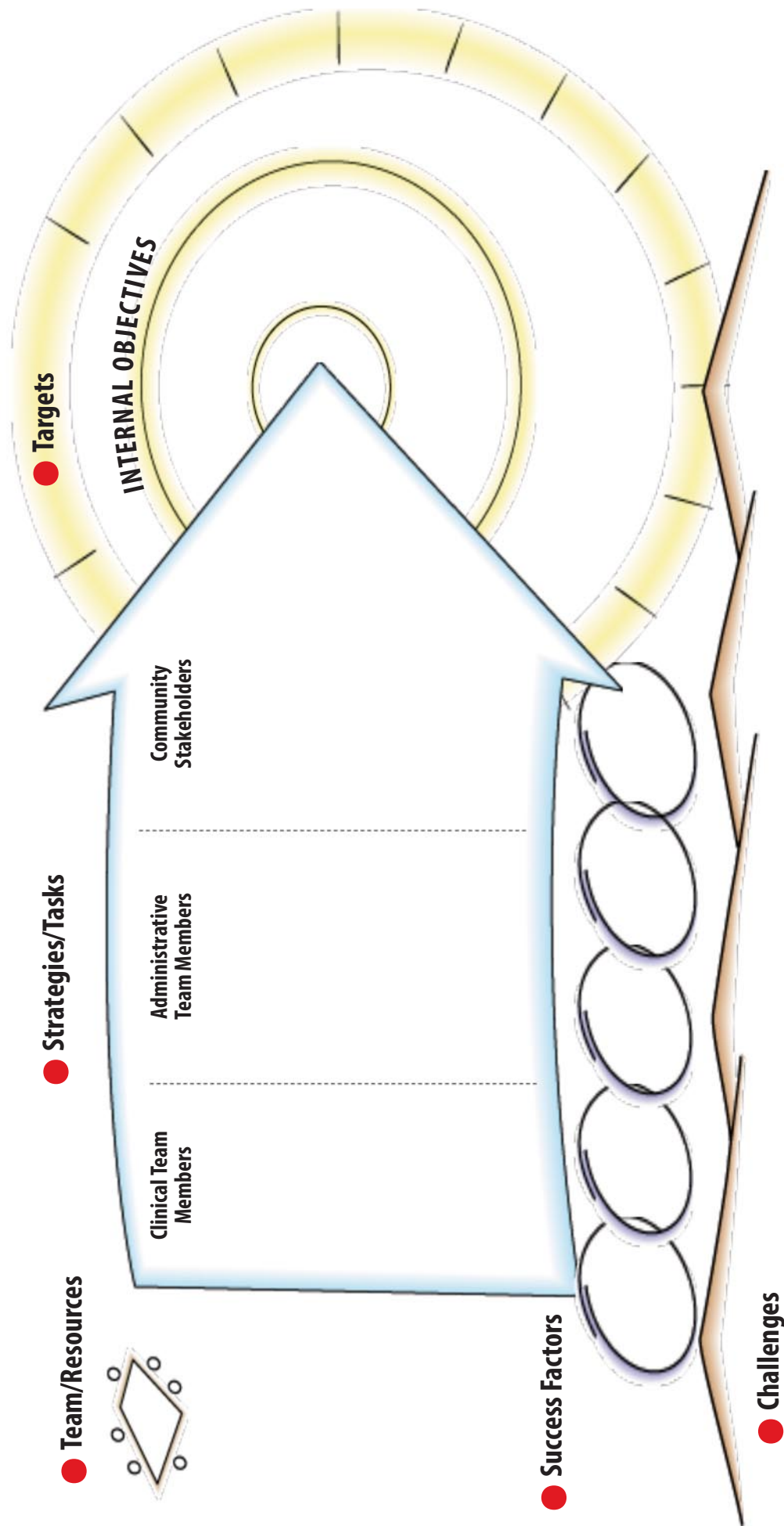
STAKEHOLDER MAPPING FACILITATOR GUIDE AND TEMPLATE

Activity Objectives

1. Teams will be able to identify key community stakeholders necessary for implementing and sustaining the gains of a particular Best Practice Indicator.

2. Participants will generate creative ideas to engage these key community stakeholders and open communication related to Implementation Goals.

Materials Needed

- Flip chart paper
- Markers
- Stakeholder mapping grid (below)

How it works

Introduction:

Today our goal is to identify the internal and external stakeholders who are most influential and important to achieving the goals for our space relative to the Best Practice Indicator (insert selected BPI here).

First we will generate a list of potential stakeholders, via round-robin approach. We will rate each stakeholder on a grid according to two characteristics: their relative importance to our work (low versus high) and their influence (low versus high). We will categorize stakeholders in four quadrants according to these characteristics and the steps that need to be taken with them in the implementation process:

- Good relation (high influence, high importance) – A close and good working relationship must be established with stakeholders in this quadrant. We should prioritize communication with these stakeholders and include them in our action planning for this stage of implementation.

- Protect (low influence, high importance) – Stakeholders in this group will require special initiatives to protect their interest as we move forward with implementation. We should provide stakeholders in this quadrant with information about our project and ask for feedback regarding changes within our space. We should pay particular attention to how changes related to our implementation have affected stakeholders in this quadrant in their access to and enjoyment of our space.

- Monitor (high influence, low importance) – This group may be a source of risks and may require careful monitoring and management. Stakeholders in this quadrant are not our target users, but rather have great influence over the environments in which we work.

- Low priority (low influence, low importance) – These may have some involvement in the implementation process but they are low priority. Stakeholders in this section have little influence over how or why our space is structured. However, these are stakeholders for whom we feel general knowledge about our project would be beneficial or who may have greater influence or importance in future stages of implementation.

After developing the list, we will prioritize them by their categories and develop a list of strategies for engaging each stakeholder group. Each strategy should describe the planned communication and/or interaction.

Steps:

- Ask one participant to identify a community stakeholder that s/he believes to be important to the overall success of your implementation work in this area.
- Ask this participant to state why this is a key partner and where on the stakeholder grid they would place the partner.
- Write the stakeholder in the respective grid.
- Continue around the group until all stakeholder groups are posted.
- Prioritize the stakeholders that fall into the "Good Relation" quadrant.
- Facilitator engages in a round-robin discussion where participants suggest concrete ideas to engage these stakeholders. Encourage participants to think creatively and that no idea is off limits.
- Facilitator documents the ideas on the attached note template.
- Facilitator continues the same process with the other three stakeholder characteristics.

Stakeholder Analysis Team Note Template

TEAM

Stakeholder Characteristic	Prioritized List of Stakeholders	Potential Engagement Strategies
GOOD RELATION	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.
PROTECT	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Stakeholder Characteristic	Prioritized List of Stakeholders	Potential Engagement Strategies
MONITOR	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.
LOW PRIORITY	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

PROTECT

This group will require special initiative to protect its interests

GOOD RELATION

A close and good working relationship must be established with this group

LOW PRIORITY

May have some involvement but relatively lower priority

MONITOR

This group may be source of risks and will require careful monitoring and management

IMPORTANCE — High / Low
INFLUENCE — Low / High

VI. Anticipated Outcomes

The Integrated Plan of the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project seeks to satisfy and further the goal of developing and enhancing the contributions of Wake County children's places and spaces to children's positive mental health. The Plan accomplishes this by recommending the implementation in a variety of settings of key Best Practice Indicators using quality improvement tools developed for people, policies, practices, programs, and physical elements. The Plan's focus is on improving the use and positive impact of current spaces; promoting collaborative planning; and implementing and establishing new partnerships. There is an emphasis on approaches that are customizable to organizations and settings and on the feasibility and sustainability of the approaches. The intention is for the Integrated Plan to serve as a blueprint that allows organizations to begin producing the desired outcomes. The outcomes can be documented using the suggested metrics within the Quality Improvement Tools.

The plan's foundation is in universal indicators of positive mental health for children and what is known regarding the effects of places and spaces on children's mental health. Moreover, a significant amount of information utilized to develop the Integrated Plan stems from locations across the country. This includes the case studies and literature review. For these and other reasons, the Integrated Plan is appropriate for and can benefit communities outside of Wake County.

Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health Integrated Plan

Supporting Deliverables

VII. Supporting Deliverables

A. Expert Panel Meeting Summary

B. Case Studies

C. Literature Review, Expert Interviews, and Resources

D. Service Provider and Parent/Guardian Focus Groups Report

E. Service Provider and Parent/Guardian Survey Reports

F. Overview of Project Process

G. Acknowledgements and Project Team

A. Expert Panel Meeting Summary

Purpose and Overall Description

On October 29-30, 2014, the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project held an Expert Panel meeting. The purpose of the meeting was to create a Best Practice Indicator framework and sustainability drivers. The framework includes strategies to achieve maximum impact relative to the development and implementation of effective and sustainable places and spaces that promote young children's positive mental health.

The meeting convened members of the project's Stakeholder Council, parents/guardians, and others with expertise in young child mental health, indoor and outdoor space design, early childhood education, schools, parks/recreation, child welfare, crisis intervention, physical health, public health, developmental disabilities, museums, program implementation, and community advocacy for vulnerable populations. Thirty-four (34) of the 40 people invited to attend participated in the meeting, with 20 participating on both days. A variety of disciplines were represented, with a slight, intentional overrepresentation of young child mental health experts to ensure a focus on this area.

Materials developed during the first phase of the project guided the discussion and activities during this two-day working meeting, including:

- A literature review
- Expert interviews
- Case studies of programs that represented multiple aspects of the project's focus
- Summaries of focus groups with service providers, parents/guardians, and other stakeholders
- Information from surveys of service providers and parents/guardians
- Notes based on tours of two "best practice" spaces.

Meeting Preparation

In advance of the meeting, the project team asked invitees to review materials including the history of the project and a draft of the Best Practice Indicator (BPI) framework. The three key components of the framework were Best Practice Indicators, key early childhood mental health developmental tasks for each BPI, and draft implementation strategies within each BPI for a variety of settings. For example, the BPI "use of nature/natural elements in space" relates to promoting the key developmental tasks of exploring and experimenting, self-regulation, peer relationships, communication, self-esteem, and coping. This BPI included a proposed strategy of creating policies that require joint

use agreements with local green spaces such as parks. The goal of this pre-meeting assignment was to ensure that all participants came to the meeting with solid foundational knowledge about the project and had an opportunity to review an example of the product that would be the focus of the meeting.

Expert Panel Meeting Overview and Orientation

To start the meeting, Jenni Owen, the project's Principal Investigator, oriented the participants to the project's history, scope, and goals, including providing an overview of the project's accomplishments to date. Project team member Ashley Alvord then explained the role and function of the Expert Panel, highlighted the expertise that brought each participant to the Panel, and reviewed goals and anticipated tasks for the day.

Next, in order to ground Panel participants in the language and literature of early childhood mental health, the project's Co-Principal Investigator, Karen Appleyard Carmody, presented an outline of the significance of early childhood mental health and the influence of parent-child relationships and of the built and natural environment. Central themes included how early adversity significantly affects children's development, and how the ecology surrounding them, in particular close relationships with caregivers and the built and natural environment, can promote resilience and positive mental health.

Owen then familiarized the group with principles and guidance provided by the John Rex Endowment for consideration during the process. These principles included:

- A central focus on investments that promote children's mental health (which may overlap with the Endowment's other funding priorities)
- The definition of vulnerability (i.e. "disparities in the ability to lead a healthy life with a focus on mental health outcomes")
- Priorities for spaces where children spend the most time; examples of spaces that would not be considered include places like waiting rooms, courthouses, and social services offices where stays are brief
- Possibilities of investing in professional development as well as space alterations
- Not investing in addressing certain barriers to access, such as cost and transportation, or in broad community organizing efforts.

Finally, Alvord oriented the Panel to the BPI framework document as a culmination of the project's work to date. The five key themes and four sustainability drivers that emerged from the background research form the core best practices (see Figure 1). These core best practices reflect what places and spaces need to best promote children's positive mental health. Each BPI is linked by research and practice to one or more key early childhood mental health developmental tasks, which explain why each best practice is important for children's positive mental health. Finally, each BPI has corresponding strategies under four categories (policies, practices, physical characteristics, and people) that support implementation of the best practice – that is, how to put these best practices in place. Throughout the morning, project consultant Leslie Starsoneck facilitated discussion and highlighted themes and ideas that emerged from participants' input.

BEST PRACTICE INDICATORS:

- **Supporting positive, developmentally-appropriate interactions among caregivers, parents/guardians, providers, and children**
- **Use of nature/natural elements**
- **Diversity of space and activities**
- **Safety and support**
- **Accessibility and inclusiveness**

SUSTAINABILITY DRIVERS:

- **Availability of funding**
- **Access**
- **Reach**
- **Utilization**

Small Group Work: Best Practice Indicator Framework Review and Editing

During the afternoon of the first day and morning of the second day, participants worked in small, multidisciplinary groups to review the pre-meeting materials and to develop and refine the framework of best practices through facilitated discussion, review, and editing sessions. The meeting structure allowed each small group to review and provide input on each of the BPIs and sustainability drivers. Project team members facilitated the session and stayed with one group throughout a rotation through all BPIs. The BPIs and their associated early childhood mental health developmental tasks and implementation strategies were displayed on large posters. Groups edited each other's drafts and added new ideas directly onto the posters. They re-worded BPI titles, added and edited developmental tasks, moved strategies within and across BPIs, and brainstormed new strategies for implementation. After reviewing all of the posters, Panel members participated in a "gallery walk" during which they each voted on five key implementation strategies within each BPI based on what the participants believed to be critical to the success of that BPI.
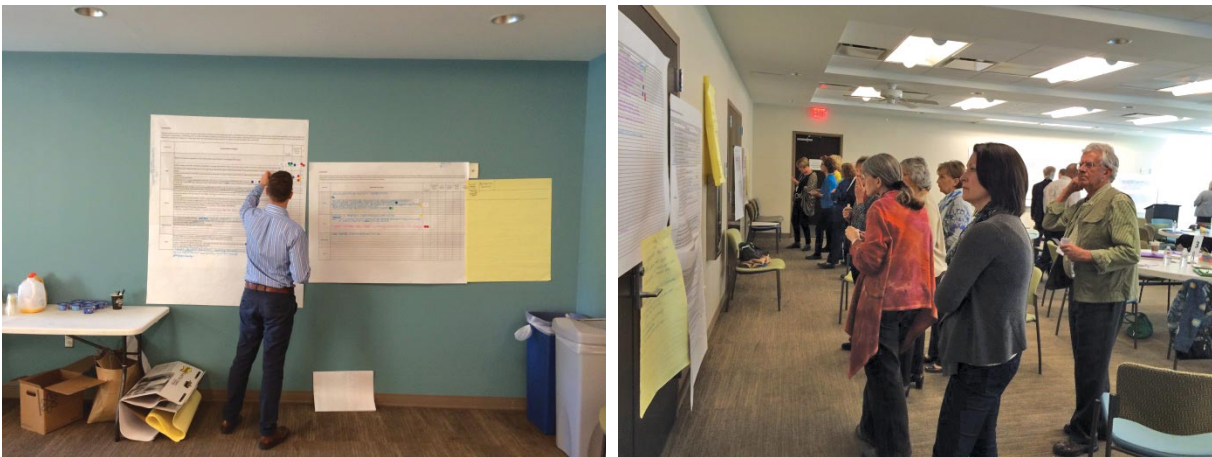
Expert Panel members vote on key strategies and best practices.

Voting analysis by the group consisted of visually looking for congruence between or among implementation strategies within each Best Practice Indicator. It also included an open discussion regarding why individuals chose a particular implementation strategy as critical to success. Panel members reviewed votes within Best Practice Indicators and noted several key themes across the Best Practice Indicators. These themes included:

- The quality of interactions within a space has the most potential to positively affect young children's mental health developmental tasks. Places and spaces can support positive interactions through strategies such as: staff training, parent training, staff mentorship of parents and caregivers, changing physical characteristics to promote interaction (e.g., having materials that promote communication between parents and children), and connection and coordination between and among child-serving agencies in the community.

- Some strategies cut across more than one BPI. All BPIs should include strategies that attend to the BPI of Safety and Support.

- Staff recruitment, selection, and training are critical components to achieving a positive influence on children's mental health. Recruitment and selection should target persons with a combination of interest, knowledge, and experience in working with young children and their families. The Expert Panel identified the following key training topics: young child mental health developmental milestones, the role of parent-child and peer-child interactions in supporting positive mental health outcomes, and how to promote developmental tasks for children across many ages and abilities.

- When possible, organizations should recruit and select volunteers based on a combination of interest, knowledge, and experience in working with young children and their families. Training may not be as in-depth, but ensuring basic knowledge of the three key training areas will increase the likelihood of success.

- The Expert Panel cited parent education regarding the form, function, and impact of space characteristics (e.g., how to use a particular play structure or activity to support appropriate risk-taking) as a critical area of implementation. For non-staffed places, such as parks and playgrounds, participants identified signage or visual instruction on space use and impact of interaction as a promising approach to help educate families.

- Given that most children spend extensive time at home, Panel participants highlighted the importance of being able to transfer activities and parent-child interaction opportunities from spaces outside the home back to the home. Highlighted strategies included the use of "take away materials" and "recipe cards" for how parents and guardians can replicate activities at home.

- For any and all programs considering installments or improvements within a space, sustainability should be a focus from the beginning, particularly by including potential users of the space, local stakeholders (e.g., parent organizations, schools), and other local service providers in the planning and design.

Metrics and Measurement

During the afternoon of the second day, the Panel discussed key implementation metrics and measures for program administration and assessment. Core questions surrounding metrics included:

- What are we trying to achieve?
- What are the strategies we can employ to achieve our goal?
- How will we know when we have made progress?

The Panel engaged in a lively discussion about the difference between metrics and evaluation. Participants agreed upon the importance of having simple, quick, and regularly applied methods of gathering data on progress to allow data-driven decision-making. Also noted was the value of regularly monitoring outputs and accomplishments to on-going success and sustainability.

Since the strategies in the BPI framework are linked to children's well-being via their connections to key developmental tasks, organizations can focus on measuring the immediate outputs of the chosen strategies (versus evaluation of longitudinal outcomes and effectiveness). Panel members shared a variety of ideas for rapid data gathering on spaces and places (see Table 1 below). They also underscored the importance of not "reinventing the wheel" and utilizing available resources and tools, such as the Natural Learning Initiative (NLI) and National Association for the Education of Young Children (NAEYC) assessment tools.

Table 1. Summary of Proposed Metrics

Documenting the number and diversity (i.e., age, race, ethnicity) of people in the space

Documenting first time and repeat users of the space

Observations by staff to document what elements users are interacting with and how often, as well as where quick versus sustained play occurs

Observations of parent-child interactions in the space to include whether parents talk and engage with children and in what kinds of activities they are engaged

Photographs to document children's play and creations in the space (signs of cooperation, creativity, etc.)

Some participants emphasized the value of more in-depth evaluation of the longer-term outcomes of the place or space on children's mental health and social-emotional skills, such as coping or cooperative play. Examples included using surveys or observational tools with children using the space over time, and looking at population data for mapping community needs as well as community change.

Feasibility

For the final session of the Expert Panel, Owen facilitated a discussion of core issues related to the feasibility of moving forward on the Panel's recommendations. She noted that the BPI framework discussion purposefully promoted brainstorming without considering potential barriers or challenges to implementation, such as cost and staff expertise. Then, recognizing that not all strategies are equally feasible, Owen led a discussion of potential challenges by asking participants to consider issues of cost, political will, cultural needs, and capacity (i.e., the expertise and readiness to implement) with regard to the strategies proposed by the Expert Panel. She also requested input about the potential supports necessary for readiness to implement in Wake County. Although the Expert Panel did not attempt to resolve the feasibility questions in the initial discussion, there was consensus among the participants that "the time is right" for moving forward in Wake County with investments in places and spaces for positive children's mental health.

Participants also noted that in order to determine feasibility, on-going convening of key stakeholders would need to occur. Additionally, they noted that additional perspectives from people and sectors not represented at the Expert Panel would be valuable, including representatives from parks and recreation departments from other towns/cities in Wake County, religious groups, civic organizations, city planners/developers, and the business sector.

Evaluation Summary and Next Steps

The Expert Panel meeting was successful as made clear by the evaluation surveys conducted at the end of each day and individual comments made throughout the meeting. It met its goals and stimulated a multidisciplinary and cross-sector discussion about the promising and proven approaches to improving places and spaces to promote children's positive mental health. Participants reported being "tired but happy", indicating that they worked hard throughout a valuable process. They were particularly appreciative of the opportunity to engage with the diverse group of peers and experts and the opportunities for networking. When asked what was most relevant about the meeting, comments included: "learning about existing expertise and programs available in Wake County" and "brainstorming with other professionals on best practices." Collectively, they commented on the value of convening the multi-faceted group to take on this critical cross-sector work.

Participants encouraged the project team and the John Rex Endowment to capitalize on this energy to keep the process moving forward. They also suggested the Endowment consider facilitating future convening or identify other entities to do so, noting that additional discussions with a similar group would be valuable to Wake County. Also, participants remarked on how much they had learned from each other and from the project team about new ways of thinking about early child development and needs, such as the role of early adversity and its impact on child development, and the role of nature in promoting children's positive mental health.

Participants were complimentary of the meeting process and activities, in particular the small group work. Comments about the small group work included the many "inspiring ideas and outcomes" and appreciation for the "time and space to reflect on our work and think of new opportunities for impact." They acknowledged the challenges and difficulties of the scope of this work and of narrowing funding and implementation priorities. The Panel participants were cognizant of the fact that this is an emerging focus area in child development for which the evidence base is not yet fully developed. Participants reported being eager to see the final recommendations for funding and implementation.

After the completion of the Expert Panel, the project team incorporated the input and information gathered into the final Best Practice Indicator framework and developed core Quality Improvement Tools stemming from the metrics discussion. The outcome of the Expert Panel is the basis for the Integrated Plan, which is the final project deliverable. These documents will be included in a compendium of project materials that the John Rex Endowment will use to inform its investment decisions. The materials will also be available for other entities interested in children's places and spaces for positive mental health. The hope is that future grantee agencies and interested stakeholders from Wake County and other areas will use these tools to guide their implementation projects.

Planning for Intentional and Effective Places and Spaces
for Children's Positive Mental Health
Integrated Plan

Case Studies

Case Studies
Table of Contents

B. Case Studies

The Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project included a case study component. Five case studies greatly informed the project by bringing current, real-world perspectives to the understanding of the impact of places and spaces on children's mental health and considerations for how service providers, community leaders, funders, policymakers, and other stakeholders might invest in making progress on the issue. Each of the case studies presented here includes the following sections:

• Background and history
• Overview of the Model
• Planning and Funding
• Summary Takeaways for Project

Name	Location	Space	Key Components	Population
Blanchie Carter Discovery Park at Southern Pines Primary School	Southern Pines, NC	Primary school schoolyard	• Universal design • Focus on nature • Imaginative play	425 children, K-2nd grade
Great Beginnings Early Education Center	Lee's Summit, MO	Early education center	• Students with special needs • Family counseling	229 low-income children ages three to five
Kids Together Playground at Marla Dorrel Park	Cary, NC	Public park	• Diversity of play • Universal design • Focus on nature	Families with children ages two to twelve
Mariposa Community	Denver, CO	Low-income housing and neighborhood	• Community engagement • Transit-oriented • Improved safety and attractiveness	800 families of mixed income
Mothers' Club Family Learning Center	Pasadena, CA	Family/community center	• Two-generation learning • Caregiver mental health • Developmentally appropriate design	120 children ages six weeks to five years

Blanchie Carter Discovery Park at Southern Pines Primary School

Location: Southern Pines, NC
Space: Primary school schoolyard
Population: 425 children, K-2nd grade

Located in the center of Southern Pines, North Carolina, a small town of about 13,000, Southern Pines Primary School in the Moore County school district serves 425 children in K–2nd grade. The surrounding neighborhood is approximately 95% African American, and the population of children who attend the school is about 50% African American, 50% white.[i]

Background and History

In 1995, a group of parents at the school decided that their children deserved more than a dusty, barren, unsafe playground. Prior to renovation, the schoolyard lacked grass, trees, and adequate playground equipment. Children called it "the desert" and begged not to go outside.[ii] The parents initiated the process of transforming the area into an outdoor classroom where children could learn through play and investigation of living environments.[iii] Another goal of the rehabilitation was to improve the reputation of the school from a "former Black high school in an unsafe part of town" to a more welcoming, warm, and educational image.[iv] The school's immediate surroundings were so unappealing that it was difficult to bring the community into the school. For example, a local reporter refused to cover the story about the renovation because she was unwilling to drive into the neighborhood.[v]

The playground at Southern Pines Primary prior to renovation.

Part of the schoolyard after renovation, including the "purple monster" play structure and new trees.

Bruce Cunningham, a parent of two Southern Pines students, approached designer Robin Moore with an offer: "design whatever you want and we'll find a way to make it work in the budget."[vi] Moore and his team at the Natural Learning Initiative (NLI), a research and professional development unit at the College of Design at NC State University, planned the space. Cunningham led the PTA's fundraising efforts to get the project off the ground.

Model

Universal Design. The space was planned with universal design in mind, meaning that any student, regardless of developmental stage or disability, would be able to interact with it. Universal design strategies include Braille signs, a tactile map, and a beeper soccer ball.[vii] The designers included decks that are low to the ground for children who are unable to climb and play areas that range in difficulty. When the design team planned the space, one of their principles was to keep Evan in mind. At the time, Evan was a 3rd grader with physical disabilities and cognitive delays. The team worked to answer the questions: "Could Evan get to this point?" and "What would Evan do here?" When a New York Times article about the schoolyard renovation showed a picture of Evan jumping off the metal playground equipment structure, Evan's father called Cunningham

and told him, "That's the first time I've ever seen both my son's feet off the ground at the same time!"[viii]

Restoration within Nature. The schoolyard incorporates quiet places for contemplation, including a small log cabin, a few gazebos, and private areas among the plants and flowers. According to Southern Pines teacher Damita Nocton, "There's nothing that would be considered dangerous, but rather the space conveys a sense of privacy and safety. It's a safe place for children to escape." Madie Davis, a counselor for the school, uses the park during counseling sessions with troubled children "because it is a serene, peaceful environment and they are more subject to opening up."[ix]

Evan jumping off the new play structure.

Before the renovation, recess was a time of bickering and conflict among students.[x] Teachers were forced to break up fights daily. "Time out on the log" was a common punishment. Since the park was established, "time out" is so rare that the "time out log" has been repurposed as a gathering area.[xi] Now that children have opportunities for play and positive social interaction, behavior has improved markedly.

Encouraging Imaginative Play. "An equipment-based playground is to play what a paint-by-numbers is to art. You have to provide a blank canvas." This quote by Cunningham illustrates the planners' approach to the schoolyard. The schoolyard incorporates loose items like logs and giant blocks for children to move and with which they can build. There are large pieces of play equipment that have no recognizable shape, letting children imagine what they want to play. According to Cunningham, playgrounds are usually created by adults who create what they think children will enjoy: bright colors and familiar shapes. This schoolyard's philosophy is to give children a blank canvas on which their imaginations can build, thus colors are not overwhelming or intense and shapes are abstract. Just as children learn best using different methods, children also have different preferences for play. The playground incorporates diversity of space for both the child who enjoys quietly picking flowers and the youngster who enjoys running and jumping.

Not all play equipment is bought from a manufacturer. These natural fixtures encourage imaginative play.

Environmental Education. Southern Pines Primary teachers use the schoolyard to teach about the natural environment, through the natural environment, and in the natural environment.[xii] For example, students and their teachers conduct supervised, controlled burns of the longleaf pine forest to learn about restoring habitats of local endangered species and encouraging the growth of native vegetation. Teachers also use the schoolyard to teach lessons in core content areas from science and math to reading and social studies. When they first built the schoolyard, the school provided training for teachers in how to use the outdoors for lessons in experiential science. Nocton expressed interest in additional training to support veteran Southern Pines teachers as well as teachers who are newer to the school.

Physical Health. The schoolwide Walking Club walks the trails throughout the schoolyard for half an hour before school starts each day.[xiii] Staff encourage children to eat breakfast at home or at school prior to joining the session and encourage participation no matter the fitness level of the individual. The schoolyard incorporates a working vegetable garden for lessons about nutrition and healthy eating. Furthermore, many students experience high levels of violence in their neighborhoods and do not have safe outside places for play. According to Nocton, "This park is an oasis for them and they love being able to go outdoors."

Planning and Funding

Input from School Stakeholders. While the core design team consisted of Moore/NLI, Cunningham, and the school's principal, Blanchie Carter, the team sought input from teachers, students, and children as well. The team reached out to all parents and teachers, and received volunteers and support in return. In addition to the PTA, which was continuously involved in the funding and planning of the project, 15-20 other parents helped build parts of the playground and participated in the planning process. The design team led a workshop with students to identify their ideal playground setups. Children submitted designs of pony barns, Powerade fountains, and swimming pools. Although not all the dream designs could be accommodated, the idea for the stream and wetlands area came from a child's initial swimming pool concept. The team also met with a core group of about six teachers and brainstormed by walking around the schoolyard. According to Cunningham, "We didn't want to impose on teachers and just invited the teachers to participate if they chose to."

Deciding Whether to Fence. At the outset, the team had to ask themselves the age-old playground question: "to fence or not to fence?"[xiv]? On the one hand, the team wanted the schoolyard to be a community playground open for all to use, but on the other hand, fencing protects the children who attend the school by providing some containment during recess. The school ended up fencing about 75% of the schoolyard, leaving large accessible entrances from both the schoolyard and the public parking lot. The school partnered with a nearby community park and, as a community service, the Blanchie Carter Discovery Park stays open to the public during non-school hours.[xv] The community embraces the park, using it for church gatherings, group walks, and family reunions.[xvi]

Grant Funding. Cunningham and other parent volunteers raised over $150,000 through donations from the community, businesses, civic organizations, and foundations.[xvii] They opted not to use traditional bake sales and raffles because of how labor-intensive those strategies are, often with little return. Instead, the families pursued business donations and foundation grants. They found medium to small foundations that had more flexible guidelines and less burdensome reporting requirements than other potential source. For example, universal design was a common interest that Goodwill shared with the playground planners, allowing Cunningham to raise $10,000 as the result of a conversation with the president of Goodwill.

Local Funding Sources. The Moore County School Board granted matching funds for the schoolyard project: $1 for every $3 raised. This led to $10,000 from the school board as the result of $30,000 raised. Students gave a presentation to the Town Council asking for support. The Council granted $25,000. Sand Hills Turf, a local business, sold the school a soccer field at cost. In return, the PTA gave Sand Hills Turf the opportunity to use their schoolyard as a marketing pitch for local golf courses. They showed golf course supervisors they could lay down a soccer field in three hours.

Volunteer Labor. Cunningham estimates that the schoolyard utilized $100,000-$150,000 in donated services in addition to the $150,000 raised by the PTA. As a criminal defense lawyer, he had connections with local government officials at the courthouse and employees of the correctional system to bring volunteers to the school. In North Carolina, anyone convicted of driving under the influence is required to give service hours. Individuals in this situation provided the schoolyard with the services of painters, roofers, and builders. The well, gazebos, and play structure construction provided practical experience to inmates at the local jail and had minimal cost to the school.

Children, teachers, and volunteers collaborated to build the schoolyard's log cabin, a chance to learn not only about tools and engineering, but also about North Carolina's history.

The Master Plan. Designing the master plan was the first step. The master plan included aspects of the schoolyard that would not be completed for years but it was crucial to incorporate them at the outset in order to make them possible in the future. For example, there are plans for a stage, an amphitheater, and a stream with a bridge. Although the stream does not exist yet, the team made sure that plants and trees were placed such that the future stream would go through them. The master plan helped the team prioritize change items in the timeline. For example, the first $20,000 of raised funds went to pay NLI for Moore's design team and to drill a well. The well was a primary component of the Master Plan because it would enable the watering of plants and trees in the schoolyard.

The Master Plan also had to take into consideration that the schoolyard would be in use the entire time it was under construction. The design team deliberately started with construction of elements that could accommodate many children, such as the hill, soccer field, and gazebos. According to Cunningham, "We didn't want the first thing we built to be swing sets, for example, with several hundred children trying to use them all at the same time."

Major Obstacles. Funding and parental patience were two major obstacles at the outset. Funding was difficult because potential funders often consider playgrounds secondary priorities to other components of a school. Parental patience was a challenge because securing funding took a long time and there were no immediate changes to the schoolyard. The first addition was a well, not something with which children could play. Upon reflection, some of the planning leaders believe that providing parents with a timeline and master plan from the beginning may have been helpful to quell their frustrations. According to Cunningham, "I would have probably put some tangible designs out there earlier. We spent many months planning and parents got impatient."

Summary Takeaways for the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project

Blanchie Carter Discovery Park addresses the following strategies from the project's Best Practice Indicator framework:

Best Practice Indicator	Implementation at Blanchie Carter Discovery Park
Use of nature	Designed and built the playground to incorporate nature; use the space for environmental education
Diversity of space	The playground has spaces for all kinds of activity, from the gazebo, to the garden, to the play structure
Safety	Fenced about 75% of the schoolyard; incorporated fall zones
Accessibility	Designed and built for universal access to play structures/ equipment and ground surfaces
Sustainability	PTA continues to maintain and manage parts of the playground

Additional takeaways and lessons learned include:

- It is helpful to meet with school maintenance coordinators before meeting with the school board about changes you want to make. According to Cunningham, school maintenance staff are used to PTAs building at as low a cost as possible, which can result in liability issues for the school and school district. "They've seen PTAs start projects and never finish them. Since that makes more work for them, they'll fight the projects unless you approach them first and let them know your plan."

- There is a fine line between challenge and hazard. The planners had to change components of the schoolyard that did not work for the children. They had to take out the glider track once they learned that the children weren't strong enough to hold themselves up. Another component that required change was a fire pole that children used to get off the play structure. When a child broke his arm the first week after installation, the designers replaced the pole with two corkscrew ladders. Planning teams should be prepared to make changes to address safety.

- Fall surfaces have huge impacts on safety and other aspects of the schoolyard. The design team tried woodchips, sand, tire scraps, and a springy rubber play surface. Sand wears out equipment fast and invites "cat issues." Woodchips would migrate and decompose within three years. Tires smell. And the rubber play surface was too expensive and sterile. They chose pea gravel in order to avoid the difficulties associated with the other surfaces.

Interviewees for this case

- Bruce Cunningham, parent and volunteer (phone interview by Sachi Takahashi-Rial on August 6, 2014)
- Damita Nocton, teacher at the school for over 20 years (phone interview by Cara McClain on August 8, 2014)

Great Beginnings Early Education Center

Location: Lee's Summit, MO
Space: Early education center
Population: 229 children aged 3-5 and their parents

Located in Lee's Summit, Missouri, Great Beginnings is an early childhood education center and a Parents as Teachers program hub. Programming includes early education, family and parent counseling, and care for students with special needs.

Background and History

The Lee's Summit Educational Foundation is a nonprofit organization dedicated to raising private funds to help support programs within the Lee's Summit R-7 School District. In 2001, an anonymous donor approached the foundation with a gift of $2 million if the district and foundation could match it. The foundation played a crucial role in fundraising and helping design the new building. The effort succeeded, as described below.

Early childhood education in Lee's Summit had been delivered at two buildings, one on either side of town, and both in disrepair. Neither early childhood center had developmental therapy services (speech/language, physical, occupational therapy) available within their buildings. Children with special needs were bussed from school to therapy and back, missing valuable educational time while in transit. For example, one three-year-old child had already had five surgeries. School staff would transport her out of the school in her wheelchair, covering her up from the wind and rain, and do the same on the way back, a time consuming process. A new building would be a safe haven for her, a place where she could both learn and receive the therapy she needed.

Great Beginnings Early Education Center, managed by the Lee's Summit School District, was completed in June 2005 and serves 229 children.[xviii] The newly constructed facility doubled the amount of space previously available for early childhood education.

Great Beginnings houses three main programs. The Title I Early Childhood Program serves four and five year olds. The Early Childhood Special Education Preschool Program serves children aged three to five. In order to qualify for the special education program, children complete a process of screening and evaluation. Special education services include speech, language, occupational therapy, physical therapy, vision, and hearing. Both programs are provided free of charge to families and utilize Head Start and Title I funds.[xix] Transportation is also provided for all children.[xx] Students attend school on Monday, Tuesday, Thursday, and Friday with a morning session from 9 a.m. - 12 p.m. and an afternoon session from 1 p.m. – 4 p.m.[xxi]

Building materials blend in with park environment using stone, brick, wood beams, and natural colors. Tall front canopy defines point of entry.

The third program in the building is the Parents as Teachers (PAT) program. PAT is a national program that features home/community/school partnerships that support parents in their parenting role. It is a free, voluntary program that provides personal visits from certified parent educators who are trained in early childhood development. The early education center functions separately from the PAT program, but teachers and PAT staff collaborate to help the children they both serve.

There are twelve classrooms for physically and developmentally delayed children in the early childhood program. In another part of the building, the PAT program has 36 individual work stations for parent educators in an open work space that encourages collaboration.

Model

Developmentally Appropriate Design. The Great Beginnings Center incorporates aspects that benefit children's (and adults') mental health. The 34,200 square-foot building is a "cohesive facility harmoniously blended into a park setting," providing diverse spaces for children and caregivers.[xxii]

The main spatial features are an entry lobby with high windows, a large multi-purpose room, offices, and therapy spaces. The multi-purpose space is used for art, fitness, music, performance, science, and life skills. There is also a

The floor plan has 2 classroom wings with curved corridor surrounding support spaces for Early Childhood and Parents as Teachers Programs. Multi-purpose Room used by students/staff and community.

library, a rare feature for early childhood centers. The kitchen and the gym are in the back of the building. There are both indoor and outdoor play areas. Through interviews and visits to other early childhood education centers, the designers were committed to large spaces for motor development in conjunction with small rooms for various therapies.

The early childhood education classrooms include sections of tables and chairs for different activities. Each classroom has a viewing window so that parents and staff can observe without interrupting.

A key design aspect is the use of shapes and colors to promote wayfinding for students. Wayfinding takes into account that while children are too young to read, they can navigate the building by recognizing the "circle hallway" or the "blue classroom." Hallways are painted different colors, have floor tiles of varying shapes, and include low-hanging bulletin boards so children can see their work displayed. The design team used muted tones so as to not overstimulate more sensitive children. Additionally, the design team prioritized natural ventilation and full-spectrum lighting, aspects that contribute to increased mental health.[xxiii] Every classroom has a source of natural light.

The building contains a large aquarium in the entry waiting area. According to Sheryl Franke, director of the Lee's Summit Educational Foundation and part of the planning and development team for the new building, young children waiting for their therapy love to watch the fish. The fish tank engages children who are shy or scared to talk. "The fish tank gets them so excited that they'll talk about the fish, and it helps when they go into therapy."[xxiv]

Universal Design Playground. According to Franke, because children learn through play, the team designed the playground to be an accessible extension of the classroom. The designers planned the playground with universal design in mind, meaning that any student, regardless of developmental stage or disability, would be able to interact with it. For example, they installed swings that have discs for seats. The discs provide mobility for students who could not maneuver themselves into a traditional seat, but can bellyflop onto the disc. The sports turf is a cushioned surface, but it is also wheelchair accessible.

Every piece of play equipment has a specific purpose for muscle growth or development.[xxv] For example, the playground includes both movable pieces and stationary ones. One jungle gym consists of a tube with handles on the inside, so students pull themselves along. This piece was included to help build upper body strength.

The outdoor space also incorporates colors to promote wayfinding. The colors of the ground surface move from an earth tone to a grass color to an area that is blue and contains water play with buckets and hoses.

Small, low door windows for children to look in or out of classrooms. Colorful fabric wrapped tackboards display student art work.

Highly-trained and Collaborative Staff. Great Beginnings' professional staff has an average of 14.5 years of experience and 76% have advanced degrees.[xxvi] Most PAT staff members have a teaching degree, and all have received PAT training. All teachers are certified in both early childhood special education and early childhood education.

PAT staff and teachers who serve the same children communicate and strategize together. For example, the teacher may notice that a family often forgets to check a child's backpack at home. The PAT parent educator will work with the parents to develop routines around the backpack check.[xxvii] Teaching and PAT staff also use and promote similar strategies to provide consistency in learning and discipline between home and school. For example, teachers use visual schedules at school with children. Visual schedules use pictures to tell children what activities will happen, and in what order. Parent educators then work with families to use visual schedules at home. This allows

lessons from school to carry over into the home, and families create healthy habits that stem from school programming.

Caring Rituals. Staff focus on creating a safe and loving environment. Great Beginnings promotes many "I love you" rituals, which help children transition to the center and feel welcomed. Staff greet every student in the morning, bending to the child's level and acknowledging him or her. Students also greet their peers each morning. One student will have the job of greeting peers and can give a hug, a high five, or a friendly hello.

Great Beginnings contains "safe spots" for children who are upset. The space includes images of children with their families, pillows, and feeling buddies (stuffed gingerbread men with different feelings emoted on their faces). The child identifies his emotions from the buddies' faces, and then a teacher processes with the child, asking questions such as: "What would make you happy?" or "How can we change the situation?"[xxviii]

Conscious Discipline. Conscious Discipline is a classroom management program and a social-emotional curriculum.[xxix] It is based on studies of the brain, child development research, and developmentally appropriate practices.[xxx] Conscious Discipline is designed to make changes in the lives of adults first. The adults, in turn, change the lives of children. The approach is a way of organizing schools and classrooms around the concept of a School Family. Each member of the family—both adult and child—learns the skills needed to successfully manage life tasks such as learning, forming relationships, communicating effectively, being sensitive to others' needs and getting along with others.[xxxi]

The staff has Conscious Discipline trainings multiple times per year. Over the course of the year, time in professional development is equally split between academics and social-emotional development. According to Kerry Boehm, Director of Great Beginnings, learning cannot happen until children feel emotionally safe: "Each child is unique. What does this child need in order to be a successful learner?"[xxxii] Great Beginnings emphasizes "learning to learn" behaviors.

Intentional Inclusion of Parents. Great Beginnings intentionally includes parents in a variety of ways. PAT staff conduct home visits to coach parents on becoming more "educational" at home. PAT educators help parents recognize and advance their children's developmental capabilities. PAT also provides developmental screenings, parent group meetings, teen parent groups, and specialized programs for children with disabilities, ESL families, and single parent households.[xxxiii] In 2013, 34 parent educators made almost 10,000 family visits.

Great Beginnings also seeks to bring families into the building frequently through various events. For example, Conscious Discipline trainings for parents teach them how to use the same discipline principles that teachers use. Parents "make and take" tools to help them implement conscious discipline at home (e.g., rain calming bottles, sock beanbags, rolling dice with calming techniques on each surface).[xxxiv] Great Beginnings' parent engagement programming aims to connect parents with resources. As another example, the library will come to the center to allow families to sign up for library cards.

Tall clerestory windows in lobby/ waiting room with colorful interiors create space with natural lighting.

Great Beginnings uses field trips to involve parents as well. For example, the children have an annual field trip to the Paradise Park edutainment center, an indoor/outdoor discovery play space. According to Boehm, "It's a day where our families and children can go free of charge, so we always have a great turnout. We have teachers attend as well. The teachers ask us, 'What are we going to do there?' We say, 'You'll figure it out.' And they do. It's when you see a parent standing off to the side not playing with their child because they don't know how. So the teachers help parents play with their children."

Great Beginnings provides many staff resources to families, including a social worker and an autism and behavior specialist. These resources can help families see the reasons behind behaviors and better serve their child.

There is regular formal communication between home and school. Teachers send home weekly newsletters. Great Beginnings sends families weekly activities to complete with their children.[xxxv] Teachers celebrate the children's completed activities when children bring in documentation of what they have done with their family members.

For families who are worried about meeting their children's basic needs, many find it difficult to take time to enjoy parenthood. Great Beginnings' resources and fun events aim to bring joy into parenting and to help parents learn how to play and interact with their child.[xxxvi]

Partners and External Supports. In order to provide such extensive and varied resources, Great Beginnings works with many external partners, including the Greater Lee's Summit Healthcare Foundation and Lee's Summit Medical Center.[xxxvii] The center works with the local parks and recreation department to use the nearby amphitheater for big events. Great Beginnings provides professional development for other local early education centers and daycares. As one interviewee explained, "We know that we serve a minority of children in this area, and we want to provide as many services as we can for as many children as possible."[xxxviii]

Connecting classrooms allows teachers to monitor a second classroom or to have shared activities.

Planning and Funding

Participatory Design Process. Input on the design came from principals of both programs (early education and PAT), staff, and parents. The design team conducted individual and group meetings to solicit feedback.[xxxix] The design team also visited many early childhood education centers and spoke with their directors, teachers, and parents, asking, "What do you love about your facility? What do you wish were different?" These conversations occurred before the team approached the architect. These upfront conversations produced a clear list of non-negotiables, enabling the team to prioritize later. Having a shared vision for the use of the facility and the purpose of each component was central to the design success.

Funding Process. The private anonymous donation encouraged the Lee's Summit School District to look into the possibility of a much-needed new facility. The donation was about $2 million, and the Lee's Summit Educational Foundation raised $2 million in private donations. The city issued $2 million in bonds to cover the last third of the total cost of construction. The city created a lease agreement to place the building on park land.[xl]

The fundraising process took a grassroots approach.[xli] An effective fundraising strategy was to hold intimate gatherings in people's homes. Franke and her team "went on the road and told the story," showing images of current families and visions for the future, emphasizing how the new building would help meet a growth need. For example, the fundraising individual would pass around a picture of the early childhood education center's library, which was a pile of books in a bathtub. Often, parents and children who used early childhood services would come along to give testimonials. The donors heard individual children's stories and saw their pictures, compelling them to give to the effort. The planning team created various naming opportunities, including a donor wall around the aquarium.[xlii]

Challenges. The project faced several key challenges. First, many people did not understand early childhood education, particularly the scope of the work and the variety of services provided. The lack of understanding was a fundraising challenge. At one fundraising event, a guest approached Franke after her presentation. He told her, "I had no idea early childhood education centers do so much. I thought it was a babysitting service."[xliii] The leaders viewed their marketing campaign as an educational campaign as well.

A second challenge was that no one involved had experience with large capital campaigns ("It was pretty unheard of for a public school to do a capital campaign").[xliv] They struggled with how to run a capital campaign, procuring the necessary infrastructure and marketing materials, and creating appealing approaches for fundraising. In the end, they decided to have two couples serve as campaign leaders. The couples were well-known in the community; one was older (the "grandparents' generation") and the other had young children and could reach out to young families.[xlv]

Finally, a current challenge is that Great Beginnings has already outgrown the facility, and now uses satellite classrooms in other facilities.

Summary Takeaways for the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project

Great Beginnings addresses the following strategies from the project'sBest Practice Indicator framework:

Best Practice Indicator	Implementation at Blanchie Carter Discovery Park
Supporting positive interactions	Use of Conscious Discipline principles; Parents as Teachers home visits and coaching; frequent parent engagement programming and trainings
Diversity of space	Playground area, large multi-purpose room, safe space; housing multiple programs under one roof; housing services for students with special needs in the same building as their education center
Accessibility	Playground designed to be universally accessible; transportation provided for all children
Sustainability	Utilize Head Start and Title I funds to provide early education services

Additional takeaways and lessons learned include:

- In the fundraising process, it may be helpful to use stories and images to tell a compelling narrative and inform the audience about the importance and effectiveness of the program. Many audience members may not understand the services the organization offers or the value of those services.

- It is useful to include many different voices in the planning process. Results of this process could include a list of non-negotiables to facilitate later planning.

- Co-locating parent services and child services in one building creates consistency between home and school. Co-

locating educational and health services in one building gives children and teachers more time for learning.

- Many of the program's practices are designed for parents to "take home" and replicate, whether specific activities or exercises, or interaction with the child.

Interviewees for this case

- Sheryl Franke, Director of the Lee's Summit Educational Foundation (phone interview by Sachi Takahashi-Rial on October 23, 2014)

- Kerry Boehm, Director of Great Beginnings (phone interview by Sachi Takahashi-Rial on September 18, 2014)

Kids Together Playground at Marla Dorrel Park

Location: Cary, NC
Space: Public park
Population: Primarily families from Cary with children ages 2 to 12

Located in Cary, NC, Kids Together Playground at Marla Dorrel Park is a universally-designed playground that provides children with a diversity of play opportunities. The park was completed in 2000 through a partnership with the non-profit organization Kids Together, Inc. and the Town of Cary.

Background and History

In 1993, Kristin Holcombe and Helen Rittelmeyer, then ages 7 and 6, had the idea to create a playground in Cary that would be comfortable, inviting, and fun for their younger sisters who had special needs.[xlvi] The girls shared their idea with Bruce Brown, a member of Cary's Parks and Recreation Advisory Board. The Board embraced the idea and began to plan Cary's universally-accessible playground. In 1994, the Town began to design the playground in collaboration with Robin Moore, an architect and professor at the Natural Learning Initiative (NLI), a research and professional development unit at the College of Design at NC State University.[xlvii] The non-profit Kids Together, Inc. officially formed in 1995 to support the playground project through fundraising and awareness campaigns.

Kids Together Playground (KTP) at Marla Dorrel Park opened in June 2000. The playground and park are owned and maintained by the Town of Cary. The community nonprofit, Kids Together, Inc., remains involved in the management, governance, and financing of the space. Kids Together, Inc. continues to raise money for improvements to the park, including a community build for a new play structure in the winter and spring of 2014 and a misting

This map of Kids Together Playground shows the various play zones.

garden scheduled for 2015. KTP is open seven days a week and draws families from around Cary as well as many playgroups, including the local YMCA and preschools.[xlviii] Rebecca Jackson, a board member at Kids Together, Inc. and a parent of children who play at the park, stated that "The first parking lot is usually full… That's a measure of how busy the park usually is."[xlix]

Model

Diversity of Play Opportunities. Diverse play settings are important for meeting individual and developmental needs, and for fulfilling preferences relating to learning styles, personality types, friendship patterns, and culture.[l] KTP includes three play zones: preschool play, school age discovery, and school age active play. Each zone incorporates a variety of elements to meet the diverse needs of its users. Children desiring more motion and activity can use the swings or the climbing structure that incorporates varying difficulty levels. Children hoping for less action can use the park's quieter areas for watching insects or playing alone. The playground incorporates diversity of texture and material with its sand table, sand river, sand scoopers, and water sources in the sand play areas. One of KTP's most popular and recognizable features is its climbable dragon sculpture (named KATAL for Kids Are Together At Last). While the playground incorporates a diversity of spaces, it remains easy to navigate for children and families.

The park incorporates various surfaces and textures with sand areas and climbing structures surrounded by trees.

A behavior mapping study by Robin Moore and Nilda Cosco, director of programs at NLI, found that children used the following areas most frequently: composite structures (e.g., play structures that combine stairs, climbers, slides, etc.), swings, pathways, gathering areas, open lawns, and sand areas.[li] According to Jackson, "My kids tend to wander back and forth between group play and then quieter play." She noted that the park was intentionally designed so that, "regardless of the age and stage that your kids are at, all children can engage with the playground."[lii]

Sensory Stimulation. Sensory and motor interaction with the world builds the foundation of a child's development.[liii] Studies have even explored links between atypical behavior and sensory deficits (smell, touch, vision, hearing, and balance).[liv] KTP stimulates all senses and all body parts, facilitating cognitive development and positive mental health.[lv] For example, KTP utilizes a variety of surfacing to give children textural cues as they move from sand to grass to concrete.[lvi] Natural landscaping stimulates children's senses as they come in contact with leaves and plants of different colors, textures, and scents. The playground also integrates balance and motion pieces (e.g., a bridge which moves when children jump or walk on it), building muscle tone, strength, and coordination.[lvii]

Universal Design. The playground's focus on universal design ensures accessibility for families and children with special needs. Features that support universal design include the wheelchair-accessible sand table and benches, integrated ramps, winding paths, and chair swings that provide additional support. Spacious restrooms provide room for wheelchairs and strollers.[lviii]

Children with special needs are not left out of the balance and motion stimulation that exists for their peers. KTP includes a wide bench area that wobbles, a better fit for a child who over-processes sensory information than a narrow balance beam. The bench feels more stable, but it still engages the child's brain by moving and providing sensory

input. The same principle applies for the swings that cradle a child's whole body and for the slides that contain different rolling parts.

Restoration in Nature. KTP integrates manufactured play equipment and the living landscape, including nature in the form of flowers, plants, trees, surface materials, and animals. According to Marla Dorrel, founder and former president of Kids Together, Inc., the park gives individuals a feeling of "communing with nature." Jackson described how nature contributed to the relaxing feeling in the park. While some busy playgrounds can feel chaotic, KTP's inclusion of nature contributes to its pleasant atmosphere, even when many families are playing there.

Community Space. Moore and Cosco found that KTP attracts "multi-generational, multicultural users seeking satisfying family recreation experiences."[lix] Many community groups, including child care centers, special education programs, and summer camps use the park.[lx] It acts as a gathering place where families can meet other families. The space accommodates parents with shaded benches, a shaded picnic area, and a picnic shelter. The play structures are sized to allow parents to interact there as well, allowing for increased access for children with mobility needs that may require adult intervention to enter or use the space. Jackson commented that the bathrooms are clean and welcoming. Finally, the park incorporates art throughout, giving it a fun and lighthearted feeling. Cary Visual Art, another community group, commissioned and funded KTP's artwork, including the KATAL dragon sculpture, leaf-shaped benches, and interactive talk tube benches (whisper into one tube and a person on the other end can hear you).[lxi]

The playground integrates nature with pathways surrounded by a variety of textured plants, flowers, and trees.

Safety. The park manages to remain contained while still giving children a sense of freedom. Parents are able to supervise their children from afar, letting them climb and explore independently. The inclusion of natural elements and the flow of the playground ensure that children and families do not feel trapped or fenced in. The only fenced area is that for preschool play. Across the playground, as structures get higher, there is a corresponding increase in the softness of the surface underneath them.

Additionally, the equipment at KTP is less likely to overheat than equipment at many other parks. KTP's equipment is lightly colored and the surrounding trees provide extensive shade.[lxii] Hot North Carolina afternoons can overheat equipment and send people inside but children and families at KTP can stay longer into the afternoon.

Planning and Funding

Partnership with the Town. The playground was built through a partnership between Kids Together, Inc. and the Town of Cary. A key to the success of this relationship was communication and agreement between both parties about the design of the park. The agreement also freed the nonprofit from managing contractual issues. The challenge was coordinating with the town's budget cycle so that conceptual plans and design drawings were ready at the appropriate times. Kids Together, Inc. had to prove that the community wanted the park. Once there was momentum, the town council supported the project.

Funding Process. The project cost $850,000, excluding ancillary site work but including the playground, parking lots, culverts across the creek, and basketball courts.[lxiii] Kids Together, Inc. raised approximately $300,000 and the Town of Cary provided the rest.[lxiv] Another group, Cary Visual Art, did the fundraising for the playground artwork.[lxv] The park was built on land that had been donated to the town by the developer of a nearby subdivision. Although the land was not easily developed (e.g., an obtrusive creek, extensive poison ivy, swampy), the community was invested in the site and in moving forward.[lxvi]

The KATAL dragon sculpture.

For six years, hundreds of children and adults worked to raise funds and build public awareness for what would become Kids Together Park.[lxvii] Holcombe and Rittelmeyer organized neighborhood children under the banner "Kids Together." The children worked with adults to raise money through various fundraising activities, including a Small Change Drive, a Beanie Baby Auction and a concession booth at Cary's Spring Daze and Lazy Daze festivals. According to Dorrel, "Those kids were the best thing that happened to the project in terms of public relations and fundraising."[lxviii]

Input from Stakeholders. The playground design process involved input from many stakeholders. The Town of Cary managed the design process and construction in conjunction with Moore. Moore was instrumental in developing the park, particularly in planning to integrate the natural environment through landscaping.

The design process began with a day-long design workshop with adults and children discussing and drawing their ideas for the park.[lxix] From there, Moore and Dorrel visited local agencies and specialists that work with children with special needs. They sought design input from experts across the community, from the Tammy Lynn Center for Developmental Disabilities and Lucy Daniels Center to the Center for Universal Design at NC State's College of Design.

Challenges. The project faced several key challenges. First, fundraising was a difficult and lengthy process. According to Dorrel, "Probably three years in a row, I was quoted in the newspaper saying 'I think we'll break ground next year.'"[lxx] Early fundraising was especially challenging because potential donors wanted to see an example of a similar park, but none existed. Because people normally think of a playground as a flat piece of land with equipment, it was difficult to explain the concept of the project and to get individuals on board. The majority of fundraising was in very small amounts ($100 or $1,000), and the largest contribution was less than $25,000. Dorrel explained that although the process felt painfully slow, it invested the community in the outcome of the project. This investment paid off as over 100 adult volunteers assisted with the installation of equipment on the playground and more volunteers – families, scout troops, and school classes– participated in Planting Days, installing hundreds of liriope plants and daylilies.[lxxi]

Fundraising was also difficult because donors wanted to see their names attached to their contributions. Individuals expressed interest in having their names displayed on parts of the playground, for example on benches or sitting areas. Yet most of the project cost was in the landscaping and fill dirt, which people were less enthusiastic about funding. To meet donors' requests and to recognize their contributions, the playground has an entry plaza with engraved slabs to recognize donors.[lxxii] There are also bricks going all the way around the park that can still be engraved with names as people make ongoing contributions. Collecting data about the number of people using the park is difficult, which can be a challenge when approaching funders.

Maintenance posed another challenge. Because KTP is so different from a traditional playground, Kids Together, Inc. had to give more detailed instructions on how to maintain it. For example, because it is impossible to keep sand contained, sand began to threaten accessibility in certain areas of the playground. Instead of removing the misplaced sand, maintenance staff filled in additional sand in the areas where it had travelled. In order to avoid such miscommunication, Kids Together, Inc. paid to develop a maintenance manual for the playground's equipment and art. The manual also included plant maintenance and a list of approved plants that had been previously tested for toxicity and chosen with regards to safety and diversity. The manual is crucial for maintaining the integrity of the landscape plan over time and is an example of how the nonprofit remains highly involved in the planning and maintenance of the park.

Extensive shade and lightly-colored equipment keep the structures cool even in hot North Carolina summers.

Lastly, the park lacks accessibility for families without cars. Almost everyone arrives by car or on foot from the nearby neighborhood, and there are few public transportation options.[lxxiii] However, the Town of Cary has plans for expanding public transportation generally, which may help with the park's transportation issues as well.

Ongoing Improvements. Five years after the park opened, the design team, staff, and board members met to determine needed park improvements. The group agreed that KTP needed a misting water feature to prevent children from overheating in the summertime. Fundraising is underway for a misting station.[lxxiv] The park also uses its Facebook page as a forum for parents with comments and concerns. Dorrel monitors the page and responds to concerns (e.g., after a parent noticed a copperhead snake).[lxxv]

Summary Takeaways for the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project

Kids Together Playground addresses the following strategies from the project's Best Practice Indicator framework:

Best Practice Indicator	Implementation at Blanchie Carter Discovery Park
Use of nature	Designed and built the park to incorporate nature
Diversity of space	The playground has spaces for all kinds of activity: composite structures, swings, pathways, gathering areas, open lawns, and sand areas; equipment and nature stimulate all senses and all body parts
Safety	The park uses nature to remain contained while still giving children a sense of freedom; shade and lighter-colored equipment decrease the likelihood of overheating
Accessibility	Designed and built for universal access to play structures/ equipment, ground surfaces, pathways, benches, and restrooms
Sustainability	Kids Together, Inc. created detailed instructions for the Town of Cary on how to maintain the park; collaborative partnership with the Town from the beginning; Kids Together, Inc. monitors park and fundraises for additional needs

Additional takeaways and lessons learned include:

- Equipment manufacturers may not have wide offerings for accessible play structures. According to Dorrel, "You look through their offerings and notice that children in wheelchairs can't access the parts that are the most fun." The design team worked with equipment manufacturers to tweak the structure design and ensure inclusivity.

- While some nonprofits plan and implement community projects on their own and then give the project to the town later, Dorrel is pleased that KTP was collaborative from the start. Since the town would be the entity maintaining the park, town stakeholders should have input into the design process from the beginning.

- Nature integration is the key component that makes the rest of the park's accomplishments possible, seamlessly combining aesthetics, diversity of play, sensory stimulation, universal design, safety, and a community space.

Interviewees for this case

- Marla Dorrel, Founder and Former President of Kids Together, Inc., (phone interview by Sachi Takahashi-Rial on August 11, 2014)

- Rebecca Jackson, Board of Directors for Kids Together, Inc., Center Director at Brain Balance Achievement Center of Cary, and parent of two children who regularly play at the Kids Together Playground (phone interview by Sachi Takahashi-Rial on September 1, 2014)

Mariposa District and Housing Development

Location: Denver, CO
Space: Low-income Housing Development
Population: Local residents of varying backgrounds and incomes

Located in Denver, CO, Mariposa is an innovative housing development owned and managed by the Denver Housing Authority (DHA). The development combines housing types for a range of income levels with sustainable designs that encourage active living. The DHA and Mithun planning and design firm developed Mariposa using a unique process of community engagement.

Background and History

South Lincoln Homes, owned by the Denver Housing Authority (DHA), was built in 1953 with 287 units. The homes deeply concentrated poor residents in an obscure location. Mariposa (formerly known as South Lincoln Homes) is a set of housing units being built to replace the "old thinking" of housing for poor people. The idea for Mariposa started in 2003 when the city's transportation district began planning expansion of light rail tracks, including a stop in the South Lincoln neighborhood. Residents joked that it was the "light rail stop to nowhere" because there were no bus lines or other means of transportation in the area. DHA began working with the City of Denver and Denver City Councilwoman Judy Montero, who represents the Lincoln Park neighborhood, to plan for transportation.[lxxvi] The transportation plan led to a master plan for revitalization of the entire neighborhood.[lxxvii]

The goal of the South Lincoln Redevelopment is "to create an energized transit community where people choose to live to experience environmental sustainability, cultural diversity, proximity to downtown, and a spectrum of housing

Once finished in 2016, the Mariposa neighborhood will include 800 housing units where before there were 278.

options. The South Lincoln redevelopment will integrate planning, design, and operations to promote economic, environmental, and social vitality."[lxxviii]

The area of South Lincoln has poverty levels at triple Denver's average and 38% of residents suffer from chronic health conditions that prevent them from working (e.g., diabetes, heart problems, and asthma).[lxxix] In 2009, 94% of residents had incomes of 0-30% of the area median income.[lxxx] Incidence of overweight/obesity among residents was high (55%).[lxxxi] In a survey of residents, about 50% agreed that the community had shootings and violence, and only 51% felt safe being alone at night in the neighborhood.[lxxxii] Similarly, 48% strongly or somewhat disagreed that the neighborhood was a good place to raise children.

Mariposa's art and murals were designed by a local graffiti artist in conjunction with children in the neighborhood.

In order to improve the physical, mental, and community health outcomes of South Lincoln Homes residents, DHA worked with the City of Denver and Mithun, a planning and design firm, to draft the South Lincoln Redevelopment Master Plan in 2009.

The Master Plan covers a 17-acre site now called the Mariposa District. Mithun was the master planner for the project, and also collaborated with DHA to create healthy living initiatives. Since DHA wanted to ensure that each building looked a bit different from the next, each housing development has its own architect.[lxxxiii]

Once the nine Mariposa housing development buildings are completed, they will contain 800 housing units on 15.1 acres. The project has nine phases and is slated for completion in 2016. As of October 2014, half the buildings have been completed. Phase 1 was completed in 2012 (Tapiz Apartments, a 100-unit LEED Platinum building for seniors) and Phases 2 and 3 are also fully occupied. Phase 4 should be open by the beginning of 2015, and Phase 5 is a homeownership phase connected with Habitat for Humanity (to be completed in late 2015).[lxxxiv]

Model

Mixed-Income Housing. In total, Mariposa will have 800 new mixed-income housing units, all of which will be rentals.[lxxxv] One third will be affordable housing, one third will be workforce apartments (subsidized based on income), and one third will be market-rate.[lxxxvi] Apartments of the same size are identical except for the rent prices. One- to three-bedroom market-rate apartments will be $700 to $1,300 a month; workforce apartments will be $500 to $1,200; and affordable housing will be 30% of the household income.[lxxxvii] Because this project has federal funding, all residents must pass background checks and "adhere to resident-driven criteria."[lxxxviii] The exact number of children living in Mariposa is uncertain but Lynne Picard from DHA stated that Mariposa is being built as a family development.[lxxxix]

Health Impact Assessment Tool.[xc] DHA collaborated with residents to design holistically in order to improve health and quality of life. In light of the statistics, the Mariposa Healthy Living Initiative viewed project success in terms of physical, mental, and community health. The master design planning team (led by Mithun) conducted a health impact assessment, using the results to support designers and developers in addressing community well-being.[xci]

In 2009, DHA and Mithun conducted a rapid health impact assessment in order to better understand the status of physical, mental, and community health at baseline. The team utilized existing survey data from Denver Health, a Denver Housing Authority resident survey, and census data. The resulting Mariposa Healthy Living Initiative combined real experiences of residents with applied research. In 2012, developers worked with a Peer Review team of technical experts to refine the tools used to gather information from the community. They also worked with an Advisory Panel of residents, community stakeholders, policy experts, and jurisdictional officials to shape priorities.[xcii]

DHA will use the Healthy Development Measurement Tool (HDMT) to track progress toward project goals. The HDMT was initially developed by the San Francisco Department of Public Health, and adapted for use in Denver. It is a comprehensive evaluation metric to consider health in urban development plans, projects, and programs. The HDMT is composed of six elements: Environmental Stewardship, Sustainable and Safe Transportation, Social Cohesion, Public Infrastructure, Adequate and Healthy Housing, and Healthy Economy.[xciii] The HDMT is structured by establishing objectives in each element, indicators to describe those objectives, and benchmarks or development targets for each objective.[xciv]

Mariposa's community gardens bring children and their parents together around healthy food choices.

Attractive Spaces: Integrating Art and Nature. Mariposa aims to embody safe and attractive public space with street tree plantings (including a planted center median on Mariposa Street), public plazas, a community garden, and art, including large public art pieces, sculptures, and story murals on buildings.[xcv] Art was emphasized throughout the master plan as a means to celebrate the diversity of the community. A local graffiti artist designed the art in conjunction with children in the neighborhood.[xcvi]

Mariposa also includes a variety of green spaces, including a community garden, small courtyards, and larger parks with picnic areas and playgrounds.[xcvii] Each building has its own community garden area, with assistance and upkeep carried out by residents and a local nonprofit, Denver Urban Gardens. Between 2009 and 2012, the percent of residents with access to open space and nature within half a mile increased from 26% to 32%.[xcviii] This proportion will continue to increase as development progresses, according to the Master Plan.

Planning and Programming for Physical Health. To support a healthy lifestyle, a range of programs are offered to residents through the work of a Healthy Living Coordinator who organizes health classes, walking groups, and other programs. The onsite Osage Café and Youth Culinary Academy offer job training and healthy food options.[xcix] Mariposa has Health Navigators on site to assist residents if they have questions (e.g., How do I find a doctor? How do I get to a health center?).[c] The Healthy Living Coordinators, Café and Culinary Academy, and health navigators are supported by grant funding secured by DHA.

In addition, the buildings were designed to support active lifestyles. For example, the entrances to the residences emphasize bright staircases, whereas elevators are far less visible.[ci] In the Phase 3 building, the active design stairwell includes windows to provide natural light and a 40-foot glass art piece in the center. The colorful glass art combined with the natural light gives the effect of different colored light emanating throughout the stairs. The staircase is also interactive, creating different sounds and music as climbers touch different spots along the handrail.[cii] According to Picard, these innovative active living components especially attract children to climbing and as children build healthy habits, they often bring their parents along.

The 40-foot glass art piece in the center of the stairwell attracts children and parents to climb instead of take the elevator.

Accessibility. The developers realized early on in the planning process that the buses in the neighborhood did not connect to the light rail. The planners aimed to calm neighborhood traffic by narrowing the car lanes on Mariposa Street, and creating more cyclist and pedestrian-friendly infrastructure.

Designers added bike lanes and a new branch of the Denver bike share program at the light rail station. DHA offers free bike share memberships to residents who cannot afford the yearly membership fee and provides access to free bicycles through a partnership with Bike Depot, a local nonprofit community bike shop. According to Picard, many residents were not comfortable with bikes as transport and some did not know how to ride a bike in the City. DHA provided programming to teach people how to ride, thereby creating a new form of transportation that many had never been able to take advantage of before.

Mariposa planners designed wider sidewalks to accommodate large groups of walkers and to make the sidewalks feel safer. Residents create walking and cycling groups to travel together to events in town. There is also a coordinated walking group for getting children to school.

Planning and Programming for Safety. According to Erin Christensen Ishizaki, project lead and Associate Principal at Mithun, one of the overwhelming sentiments that came out of resident surveys was the need for increased safety. Before the renovation, there were few safe places to walk for everyday recreation. Residents worried about crime, collisions, and lack of adequate sidewalks. There were few places where people felt safe enough to gather outdoors and interact with neighbors.

Before the redevelopment, the boundaries between public and private space were unclear. Now, the open, shared spaces are more clearly defined and therefore more widely used. For example, the big plaza in front of the seniors' building looks out onto the park and the street. According to Christensen Ishizaki, these shared spaces generate feelings of ownership in the community: "The residents take on more of a stewardship role. They want to take good care of the community and be stewards of it."

Christensen Ishizaki and her team followed Crime Prevention Through Environmental Design (CPTED) principles in order to plan for safer neighborhoods. CPTED posits that effective design and use of buildings and public spaces can lead to reduction in the fear and incidence of crime, and improvement in quality of life.[ciii] CPTED theory is based on four principles: natural access control (doors, fences), natural surveillance (lighting, windows, landscaping),

territorial reinforcement (signs, sidewalks, ordinances), and maintenance (code enforcement, community clean ups).[civ] The seniors' plaza is an example of these best practices in action. It is a safe public place for people to gather and watch over the park. Both Christensen Ishizaki and Picard noted that an environment that encourages walking improves safety by creating more eyes on the street.[cv]

Furthermore, DHA installs cameras throughout the development and actively collaborates with the Denver Police Department, soliciting their input and edits to all building designs and plans.

These planning and programming decisions have already begun to bear fruit. Between 2009 and 2012, the total crime rate per 1,000 people decreased from 248 to 157.[cvi] Neighborhood crime rates strongly influence the ability of children to walk, bike, or play outside.

Mariposa's public spaces create safer places and engage residents in social interaction outdoors.

Planning and Funding

Funding Process.

Mariposa received funding from a variety of sources, including private fundraising, the City of Denver, federal stimulus funds, and a Hope VI Grant from the US Department of Housing and Urban Development.[cvii]

Overall, the project received $200 million in funding, with $4 of private funding for every $1 of public funding. The project attracted over $30 million in federal funds.[cviii] The private funding came from institutions such as the Colorado Housing and Finance Authority, driven "largely by the tax credits available to entities making investments in public projects."[cix]

The project received federal funds in 2009 as part of the federal stimulus package. The Obama administration was interested in supporting transit-oriented development projects like Mariposa.[cx] As such, Mariposa's Phase One building was funded by an American Recovery and Reinvestment Act Competitive Energy Modernization Grant.[cxi]

The HOPE VI grant was another major funding source, providing $22 million towards the project in 2010. HOPE VI Revitalization grants are awarded by the US Department of Housing and Urban Development as a result of recommendations by the National Commission on Severely Distressed Public Housing. The Commission proposed a National Action Plan to eradicate severely distressed public housing. The Plan targets revitalization in three general areas: physical improvements, management improvements, and social and community services to address resident needs.[cxii]

Community Engagement in the Planning Process. Early on, DHA created a steering committee of other local agencies and individuals who live and work in the neighborhood. This committee still meets today (October 2014) and has been involved in all aspects of planning and design.[cxiii] According to Christensen Ishizaki, "In all our work, we try to approach it from a listening standpoint" in order to understand community members' priorities.

In order to understand the community's priorities, the planners utilized stakeholder interviews, a pedestrian audit, youth visioning sessions, and outreach to specific groups. The process led to "community-driven design elements," including safe places to walk, the central plaza, parks, and community gardens.

Cultural Audit. A key part of the community engagement in the planning process was a cultural audit. The cultural audit, an innovative undertaking, is "a methodology of documentation and rigor that uses interview, survey, and in-depth market analysis to provide a contextual community snapshot."[cxiv] Over a nine-month process, the Mithun team conducted over 100 interviews, workshops, and meetings. After open-ended interviews with residents, the audit produced a summary of community opinion around desired services and features (e.g., 60% wanted locally-owned businesses and activities for youth), transportation and safety, shopping preferences, financial difficulties, and aspects of the community that are special.

Ethnographer Laura Curry conducted some of the on-the-ground community engagement work for the cultural audit. Curry spent about four days in the community, conducting intercept interviews (one-on-one, impromptu interviews done on location). Curry's intercept interviews allowed residents to lead her to places and people from whom she should learn more. Rather than holding meetings at a particular time or place to solicit residents' input, Curry went to them to ask what was important and what they would like for their community. These interactions engaged different participants and provided different answers than what a broader meeting might have produced. Additionally, the audit helped project planners to identify existing leaders within the community who would be interested in serving on the advisory committee.

External Partners. The success of Mariposa is due in large part to the extensive collaboration with external partners. The funding process was a collaboration between public and private entities. DHA provides numerous services on site, from the employment center to the healthy living coordinators. Responding to the resident demand for child care, Catholic Charities will open Mariposa's first Head Start center in 2015. The Colorado Health Foundation funds healthy living initiatives. Youth on Record empowers youth expression in the area of music. In collaboration

The new onsite bike share system has been implemented into the Master Plan along with traffic calming measures and a new bike lane.

with the Denver Public Schools, Youth on Record maintains a full recording studio on site. Finally, the University of Denver runs the Bridge Project, an afterschool program working with any youth ages 5 through college (most participants live in the Mariposa neighborhood).

Minimizing disruption to residents. Residents wanted to be able to stay in the community while renovations were taking place. In response, DHA left some of the old buildings standing while new buildings were under construction. The developers also worked to minimize the number of moves that residents had to make by constructing one building on a vacant site. Although this strategy attempted to minimize the number of moves for residents, some residents had to move twice.

Challenges. One summer, both Phase 2 and Phase 3 buildings were under construction at the same time. This construction created a large fenced off area that attracted dangerous activity from other parts of town. After a couple weeks, families notified DHA, saying they were afraid to let their children out at night. DHA hired a security firm for the rest of the summer.[cxv]

It is a challenge to build an environment and a community that encourages individuals to make significant lifestyle changes. Mariposa's design and programming make it easier for residents to make healthy choices, but it is ultimately up to residents to change. According to Christensen Ishizaki, the move makes a difference. Families are already going through a transition when they move, leaving other areas of their lives open to new and different routines: "It makes them open to new things, new ways of life. Yet we can always improve on how we communicate the choices we offer."

Summary Takeaways for the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project

Mariposa addresses the following strategies from the project's Best Practice Indicator framework:

Best Practice Indicator	Implementation at Blanchie Carter Discovery Park
Use of nature	Designed and built community gardens, courtyards, parks, playgrounds
Diversity of space	Each building has a different architect; public spaces incorporate many elements, from plazas to playgrounds; incorporates indoor and outdoor art
Safety	Used Crime Prevention Through Environmental Design principles; created boundaries between public and private space
Accessibility	Narrowed car lanes; added bike lanes and a new branch of the Denver bike share program; designed wider sidewalks; provided free bicycles for children
Sustainability	Uses the Healthy Development Measurement Tool to track progress toward project goals; ongoing steering committee and resident involvement in decision making

Additional takeaways and lessons learned include:

• Mariposa's strategy revolves around two key components: 1) removing barriers to access (e.g., safety, transportation) in conjunction with 2) providing new programs (e.g., the Healthy Living Initiative). These strategies align with the original goal of improving physical, mental, and community health outcomes in the neighborhood.

• A key part of the community engagement in the planning process was a cultural audit. Stakeholders working to move forward on this issue could use a similar protocol in parts of Wake County.

• The DHA uses its Healthy Development Measurement Tool to track progress toward project goals. It may be

helpful for others engaged in these effortsto follow a similar process: gathering baseline data and using a tool to track progress toward project goals.

- DHA prioritizes ongoing communication with residents. DHA makes it easy for families to give feedback, providing phone and in-person contacts. According to Picard, "At DHA, we're very connected to the people we serve because it makes it easier to do our job if they know they can come talk to us… Some of our case managers work on site so they have a great pulse on the ground." The planners' deliberate collection of data and resident input not only gives them credibility, but also ways to track progress toward goals. On-going communication with stakeholders is a recommended priority

Interviewees for this case

- Lynne Picard, Director of Workforce Development & Community Initiatives at the Denver Housing Authority (phone interview by Sachi Takahashi-Rial on October 9, 2014)

- Erin Christensen Ishizaki, project lead and Associate Principal with Mithun (phone interview by Sachi Takahashi-Rial on September 25, 2014)

Mothers' Club Family Learning Center

Location: Pasadena, CA
Space: Family/community center
Population: 120 children, ages six weeks to five years

Located in Pasadena, CA, Mothers' Club Family Learning Center serves 120 children and 110 adults with 22 staff members. Of the children served, 91% live in poverty and over half of the parents did not graduate from high school. 71% of parents speak a language other than English at home. The Center assists families living in poverty through two-generation learning with a variety of programs and spaces.[cxvi]

Background and History

The Center utilizes a dual-generation approach, working with both at-risk children and their parents and focusing on early childhood education in conjunction with parental education programs. The Center offers various services, including parenting education, mental health support, family literacy, ESL classes, and health and wellness. Children participate in Mothers' Club programming at the same time as their parents engage with the services and resources available at the Center, about three and a half hours every weekday. Mothers' Club invites the child's primary caregiver to participate in the parent programming. While fathers are able to participate, most of the parents that attend are young mothers.

Mothers' Club had been a tenant at the Quaker Community Center for 40 years. Its programming was limited to the morning due to the Quaker Center's afternoon programming. In 2004, the Quaker Center started planning the creation of a school that would need the space Mothers' Club was using. Mothers' Club moved into and renovated an existing building, completing the work in October 2007.

Model

Informal and Formal Parenting Lessons. According to an evaluation of Mothers' Club programming by the Institute at Indian Hill (IIH) at Claremont Graduate University, "Parents gain important skills in parenting, which they use in support of their children, especially in awareness of children's developmental stages, as well as literacy promotion, communication, stress management, and advocacy in the community for one's children."[cxvii] Mothers' Club brings in external partners to facilitate formal parenting classes. Parents practice these lessons as they fulfill required volunteer hours in their children's classrooms.[cxviii] Informal learning often takes place in the kitchens, which serve as community gathering and learning spaces. In the kitchen, mothers learn English and nutrition through cooking classes and celebrate holidays and birthdays with potlucks, building a

The shared kitchen offers a space for informal learning

supportive community.[cxix] Improvement in communication skills, developmental awareness and understanding, and parenting skills also translate into improved home relationships (e.g., with husbands or grandparents) and interactions with older children in the household.[cxx]

Designing for Children's Development. The Center facilitates development by providing age-appropriate spaces for each child, with separate rooms for each stage: infants, toddlers, 2-year olds, 3-year olds, 4-year olds, and 5-year olds. All children have cubbies for their belongings, providing ownership over the space and routine. According to a

Mothers' Club includes five developmentally appropriate classroom spaces

Mothers' Club parent, the prevalent display of child work shows that the teachers really care about their students and gives the students pride in their work.[cxxi] The building also includes a safe place where a child can go with a teacher to calm down if the child is anxious or frustrated.[cxxii] Parents comment that their children's transition to kindergarten was easier than other children's because Mothers' Club fosters independence.[cxxiii] In fact, the IIH evaluation stated, "Mothers' Club children achieve or exceed developmental milestones for their age, despite demographic factors that would predict otherwise."[cxxiv]

Caregiver Mental Health. The Center provides comprehensive mental health services for caregivers. Each parent receives a therapist, care plan, and development goals. Mothers' Club partners with Pacific Oaks University School of Cultural and Family Psychology to bring graduate interns in marriage and family therapy to earn their practicum hours with Mothers' Club families. Families also participate in a healing arts therapy course, which has been particularly helpful for parents dealing with domestic violence or depression. Parents also learn how to set personal goals. The IIH evaluation found that the program increased parents' confidence and self-awareness. Families gain a valuable network of other families, further enhancing the caregiver support structure.

Flexible Design. The space was planned to be flexible, incorporating a variety of programs and activities. There are spaces to serve both child and parent needs, including classrooms, a library, a quiet room for counseling, a large multi-purpose room, and two kitchens. The building welcomes adults into a learning environment by providing quiet spaces and areas for individual and small group studying. The multi-purpose room is used for large groups, performances, and presentations. The children's learning center is located around an atrium and includes five classrooms. Four of the classrooms have sliding windows to maximize exposure to the outdoors but still provide classroom boundaries. The classrooms are large and easily accommodate space for quiet time, art, and other programs.[cxxv]

Outdoor Spaces. The Center incorporates an outdoor learning center that includes quiet areas, art areas, playhouses, climbing structures, and a natural stream with a hand pump. There is easy movement between indoors and outdoors with extensive natural light through skylights and storefront windows. Two of the classrooms have roll-up doors to create an indoor/outdoor learning environment. Many of the children live in crowded apartments with limited access to nature, which led the Center to build in opportunities for access to the outdoors.

The outdoor learning center provides a diversity of spaces for different uses

Furthermore, the building, a green facility with LEED Gold certification (the first preschool nationwide to register for Gold Level certification), is used as a learning tool to explain sustainability concepts (e.g., photovoltaics). [cxxvi]

Planning and Funding

Developing a Strategic Fundraising Plan. The Mothers' Club board developed a strategic plan and hired a campaign consultant to conduct a feasibility study to determine whether they could fundraise between $3 and $5 million in three years from individuals, foundations, and corporations. The Center used a capital campaign to raise funds for both the building and an endowment. The campaign consultant worked closely with the staff and board to educate them about implementation of the campaign, to provide budget projections, and to help market the program. After the consultant designed a roadmap and the board unanimously approved it, the Center carefully followed the proposed strategy. Judy Wilson, former board chair, noted the importance of having the full support of the board.[cxxvii] Over the course of two years, the campaign raised $6.5 million.

Two flexible classrooms have roll-up doors to the play yard

Design Priorities for Access. The board had two priorities for the space: 1) that it be located in the constituents' community and 2) that it be accessible via proximate bus lines. After learning of an old print shop building for sale in Pasadena with a large parking lot that could be converted to a playground, the Center decided to buy and renovate. Mothers' Club worked with an architectural design team and a developer working pro bono to entirely remodel the existing building. The Center is located in the heart of the community it serves, allowing many families to walk or ride the bus.

Input from Stakeholders. Many viewpoints were included in the planning phase, including early childhood education specialists, Mothers' Club staff, architects, and a specialist in outdoor learning. Furthermore, the Center's architects spoke with various users of the space. The mothers who used the space noted that the kitchen was an important place for gathering and requested a large kitchen with a large table. The teaching staff mentioned that their former space lacked a place for children to play indoors (in case of rain), thus an indoor play space was incorporated into the final design.[cxxviii]

Funding Process. Wilson believes Mothers' Club "got some additional funding because we were really striving." For example, the Center intentionally set the fundraising bar higher because they wanted to gain LEED Gold certification. The board knew the children and mothers would benefit from water savings, energy efficiency, indoor environmental quality, solar panels, and major skylights for natural light. Although LEED certification required costlier choices, the board prioritized a healthy learning environment for children and families. The majority of funding came from very large donors, and members of the board gave what they were able. The capital campaign improved public relations in the long run and gave the Center a strong boost in visibility.[cxxix] In the end, the total cost was $3,080,300 with a building cost of $2,500,000 and a site cost of $476,800.[cxxx]

Safety and Security. Safety requirements and developmental levels were considered in creating the age group subdivisions outdoors.[cxxxi] For example, the older children have higher climbing areas, and the younger children have smaller slides. Mothers' Club's abundant glass walls and windows into the classrooms provide transparency, another

important aspect of safety. Staff commented that parents feel more secure when many eyes can see into the classrooms.[cxxxii] The only time the front and side doors to the building are unlocked during the day is in the morning and afternoon when families are arriving.[cxxxiii] There is a buzzer and intercom system for visitors throughout the day. Typically, the office manager lets people in the building, while also screening for security purposes.[cxxxiv]

Challenges. Space is a challenge for the Center because the building only allows them to serve a certain number of families (As of 2012, the waiting list contained 175 families. The program serves 110.[cxxxv]). Other centers that built their own facilities did so with eventual expansion in mind, but Mothers' Club renovated an existing building. To deal with the space issue, the Center is looking into adding programming on evenings and weekends.

Federal regulations pose another challenge to serving more families. As a Head Start-funded program, Mothers' Club must follow specific guidelines on programming and space usage. For example, facilities receiving Head Start funds must cap each classroom at eight students, although the Center's classrooms could fit 10 or 20 students.[cxxxvi]

Furthermore, Mothers' Club has found it much more difficult to secure funding sources for adult education than for its programming with children.

Summary Takeaways for the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project

Mothers' Club addresses the following strategies from the project's Best Practice Indicator framework:

Best Practice Indicator	Implementation at Blanchie Carter Discovery Park
Supporting positive interactions	Offers various services, including parenting education, mental health support, family literacy, ESL classes, and health and wellness; services translate into improved home relationships; foster relationships between caregivers to provide support outside of the center; parents volunteer in children's classrooms to put parenting education skills into practice
Use of nature	Outdoor learning center that includes quiet areas, art areas, playhouses, climbing structures, and a natural stream with a hand pump
Diversity of space	Spaces for parent education and small group sessions; spaces for children's learning; spaces for socializing and informal learning; flexible multipurpose spaces; ease of transition between indoor and outdoor spaces
Safety	Age group subdivisions outdoors; glass walls and windows into the classrooms for transparency; doors locked during the day
Accessibility	Located in the heart of the community it serves, allowing many families to walk or ride the bus
Sustainability	Services evaluated by third-party researchers; LEED Gold certified

Additional takeaways and lessons learned include:

• There are benefits to striving for high fundraising goals. A high-profile capital campaign can lead to increased visibility and improved public relations. Mothers' Club worked with well-known and well-respected leaders like their developer and the mayor of Pasadena (who served as honorary chair of the capital campaign) to enhance visibility of the organization and campaign. Setting high goals can also force good design and programming

decisions. Wilson found this was true with their goal of LEED Gold certification, as the LEED goals shaped decisions to design for environmental health.

• It is important to create high levels of expectations and support for staff. At Mothers' Club, early childhood teachers are highly qualified, requiring lead teachers to hold a bachelor's degree. All teachers must possess a permit certifying their education and experience level. Over half of Mothers' Club teachers are parents who once participated in the programming. According to Hector LaFarga, Jr., Executive Director at Mothers' Club, the most important trait they seek in potential staff is a willingness to work with parents. Staff greet families at the door to their classrooms every day and give them regular updates on their children's development. Staff also meet in small groups at the beginning of each day to look for ways to support one another and to prepare for the day. As a result of the Center's support and preparation for teachers, staff turnover is rare.

• Mothers' Club builds strong partnerships with community groups to leverage more resources on behalf of families. The Center would be unable to provide its level of comprehensive support services without outside partners. According to LaFarga, "We bring in many collaborators to complement our work. We work with a dental school to provide dental hygiene for families, a local clinic for hearing screenings, bring in members of the police department to talk about safety, plus our collaborators that teach ESL and parenting classes." Public partners include Pasadena City College, Pacific Clinics' Early Head Start Program, Pasadena Unified School District, and the City of Pasadena Health Department.

Interviewees for this case

• Hector LaFarga, Jr., Executive Director (phone interview by Sachi Takahashi-Rial on August 12, 2014)

• Judy Wilson, Former Board Chair (phone interview by Sachi Takahashi-Rial on August 18, 2014)

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Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health

Integrated Plan

Literature Review, Expert Interviews, and Additional Resources

C. Literature Review, Expert Interviews, and Additional Resources
Table of Contents

Literature Review Executive Summary

Background

This literature review is a product of the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project. This review of the evidence along with interviews with and other input from expert researchers and practitioners, aims to provide stakeholders with the information necessary to make decisions about which types of places and spaces to focus on and what approaches to use for the best possible results for children and families.

The review examines current knowledge about a wide range of characteristics of the physical and social environment that influence children's social and emotional development. The review includes multiple types of places frequented by children, such as schools and child care centers, green spaces and playgrounds, hospitals, and public housing. The authors also examine specific characteristics that either promote or hinder child development, including the presence of art, crowding, light, noise, and toxic elements. Finally, the review turns to two key aspects of planning spaces for children: accessibility of the space and participation in the space's design.

Methodology

This literature review identified over 200 relevant sources from peer-reviewed journals, books, and reports from governmental organizations, advocacy groups, dissertations, and web-based resources. The review targeted the most recent literature (post-2000), but includes systematic literature reviews that cover earlier periods, as well as some often-cited pre-2000 works. The review supplemented findings from quantitative and qualitative studies with interviews of experts (both scholars and practitioners) in the fields of environmental psychology, architecture and design, urban planning, public health and early childhood education. A list of interviewees and questions asked is in Appendix 2.

Academic interviewees were selected if they were frequently cited in the literature or authored reports that were especially relevant. Interviewees in the field of design were selected based on their affiliations with reputable national or local (Wake County) organizations that work in this area. One local interviewee was referred by a member of the project team.

Findings

Interviewees and experts in the literature across diverse disciplines and occupations often echoed one another when providing recommendations for future projects. While the professionals and academics cited in this document provided specific guidance relating closest to their fields of specialization, they also shared a common understanding or agreement on aspects of implementation, summarized below, which can serve as a key takeaway for stakeholders and funders.

Access is a significant barrier to effectiveness. Access refers to the ability of children and families to interact with the space. Lack of adequate transportation options to and from the space is one example of a barrier to access. Spaces that fail to plan for children and families with disabilities also contain access challenges. The most effective use of resources would be to focus on spaces where children spend the most time, and places that they and/or their families frequent already. These places include schools, child care centers, and housing facilities.

Green spaces and natural settings play a vital role in fostering attention and energy restoration for children. Loss of regular contact with nature has adverse consequences for children, including increased risk of asthma and attention deficit hyperactivity disorder symptoms, as well as decreased ability to manage stress. Green spaces have a unique role

to play since they can be incorporated into different types of places (from hospitals to residential areas to schools) and offer a multitude of social and emotional benefits. All eleven interviewees touched on the positive impacts of natural spaces.

Community input and development is crucial. The most sustainable projects include community participation (e.g., from parents, neighbors, local leaders) and, ideally, children's participation in the design process. This way, stakeholders and children feel ownership over the space and mold the design to fit their unique situations. For example, involving teachers in the planning process of a schoolyard renovation will enhance the effectiveness of the renovation itself. The planning process will take teachers' needs and practices into consideration, thereby providing them with more effective resources that they will use to benefit children. The planning process will also give architects and planners a chance to bring new inspiration and practices to teachers. Teachers will be most likely to use these new practices effectively if they feel included in the planning. Furthermore, places change over time, and good process will equip the users of a space with the skills to adjust and redesign a space in response to evolving needs.

Similarly, **if an organization or leader is able to provide ongoing assistance to stakeholders after transformation, the space is more likely to be utilized to its maximum potential.** Providing users with guidance for how to best utilize the spaces will sustain their impacts. For example, installing an interactive staircase within a low-income housing development will be most effective if there is also programming to inform families about the positive impacts of physical activity with their children. Programming could also teach parents how to use the staircase to engage and play with their children. In this way, the design addition could bring parents and children together to explore and play in ways that best support children's development.

Improving spaces with an eye to both caregivers and children will maximize impact. Caregivers' mental health is correlated with children's mental health. Whether the caregiver is a guardian, teacher, or other adult, restoring his/her emotional health and enhancing his/her relationship with the child can provide lasting effects. For example, two-generation learning centers can provide counseling and parent education for families while at the same time providing a nurturing space for their children.

Limitations

While there is extensive literature pertaining to spaces' effects on children's physical health and cognitive development, there is significantly less research that focuses specifically on mental health or social emotional development. When mental health focused evidence was not available, the research team included studies on physical and cognitive development outcomes in this review, with the expectation that related connections might be drawn to mental health outcomes. It appears, however, that more research is needed in this area.

Similarly, some areas lacked research on very young children, focusing more on school-age youth. For example, the research on flipped classrooms focuses mainly on school-age children. Yet while the specific models studied may not be appropriate for younger children, some components of the models may be useful to keep in mind when designing for younger children. For example, designing for student-student interaction and student-student mentoring may be applicable across development levels.

Some areas lacked research on children altogether. For example, very little is published about the impact of urban planning and aesthetics on children's interactions with the environment. However, we include a section on urban planning in this review as it relates to the families of the children in which we are interested.

Furthermore, the questions being asked ("Does ___ affect children's mental health?") often do not lend themselves easily to gold standard statistical methods. The gold standard would be to conduct a study where children are randomly assigned to either treatment or control groups and outcomes are measured objectively. However, it would be expensive and logistically difficult to assign some children to low-nature environments and other children to high-

nature environments. It would be ethically inappropriate to assign some children to low-quality housing and others to high-quality housing. Furthermore, stress and mental health are difficult to measure objectively. One person's idea of a distressing event may be different than another person's. As such, much of the research reported in this review is descriptive or correlational rather than empirical or experimental. In these studies, researchers capitalize on situations that already exist and control for other factors that may bias the results. For example, Wells and Evans' 2003 study of the effect of nature on children's psychological stress included a control for family income because socioeconomic status also can impact children's mental health. The study also used multiple measures of psychological distress to make sure that the measurement results aligned with one another. Yet the study could not completely rule out the question of whether something else is driving the effect of nature on mental health. Without randomization, it is difficult to tell whether the effect can be wholly contributed to nature or if there are other factors at play. Thus, caution may be necessary to interpret the research results, recognizing that the results may not be generalizable to all children.

Conclusions

With regard to the intersection of mental health and spaces, there exist more unanswered questions than answers. Many of the answers lead to new questions. For example, many studies find that extensive noise exposure can adversely affect children's mental health. Other studies find no effect. Some find that the degree to which children are negatively affected by noise varies based on other factors like age, gender, and whether the noise is controllable. This in turn leads to questions such as, "What is the vehicle through which noise affects children's mental health? In building a space for children, what types of noise should we be worried about?"

In considering models for the John Rex Endowment's work in Wake County, interviewees and the literature agree that a space on its own has less effect on a young child than the relationships that occur within that space. Spaces that promote developmentally appropriate and compassionate relationships between caregivers and children will be more effective than spaces where caregivers stand passively on the sidelines.

Literature Review

Methodology

This literature review identified over 200 relevant sources from peer-reviewed journals, books, and reports from governmental organizations, advocacy groups, dissertations, and web-based resources. The review targeted the most recent literature (post-2000), but includes systematic literature reviews that cover earlier periods, as well as some often-cited pre-2000 works. The review supplemented findings from quantitative and qualitative studies with interviews of expert scholars and practitioners in the fields of environmental psychology, architecture and design, urban planning, public health and early childhood education. A list of interviewees and questions asked is in Appendix 2.

Findings

Findings Part I – Common Ambient Qualities of Spaces that Affect Children's Social Emotional Development

INDOOR AIR QUALITY AND INDOOR CLIMATE

Several studies have examined the effect of indoor air quality on children's health and educational outcomes (Evans 2006, Andrews & Neuroth 1988). One study of classroom ventilation rates in 54 elementary schools in one US school district found a significant association between classroom level ventilation rates and math test scores (Shaughnessy et al. 2006). Two possible mechanisms through which inadequate ventilation may have adverse effects on student performance are increased absenteeism or drowsiness (Sanoff 2007, Shaughnessy et al. 2006).

Temperature also plays an important role in task persistence and energy level among children. Children exposed to increasing levels of heat in well-controlled laboratory studies displayed decreased task persistence, especially as tasks involved more complex thinking (Evans 2006, Johansson 1975). Research confirms that air conditioning during warmer seasons positively affects student performance. Similarly, teachers report that students are more lethargic in warmer classroom settings (Evans 2006, Humphreys 1974, Pepler 1971)

INTERVIEW HIGHLIGHT | *On the current state of research*

Most of the research that has been conducted looks at aspects of the physical environment that cause health problems rather than promote good health. – Professor Gary Evans, Cornell University (paraphrased)

TOXINS AND MOLD

Numerous studies have found compelling evidence that the presence of toxins, including lead, mercury, PCBs, and mold, influence the cognitive and social emotional development of children. Exposure to toxic elements in early childhood can lead to reductions in children's IQ, as well as defects in a wide range of developmental areas, including reaction time, visual-motor integration, hand eye coordination, memory, language development, attention span, and reading ability. This exposure can also cause increases in hyperactivity, impulsivity, aggression, and social withdrawal. For example, Mendelsohn et al. (1998) found that one- to three-year-olds with higher lead levels displayed lower tolerance for frustrating situations, even after including statistical controls for socioeconomic status. Some studies have found evidence that these negative consequences can persist into adulthood and may also impact educational outcomes, including high school graduation rates (Evans 2006, Hubbs-Tait et al. 2005, Koger et al 2005, Chiodo et

al 2004, Wigle 2003, Dietrich 2001, Bellinger & Adams 2001, Jacobson & Jacobson 2000, Grandjean et al. 1997, Spreen et al. 1984, Needleman 1979). Mold has also been shown to increase risk of asthma in children, the leading cause of absenteeism in school in the US (EPA 2010). The adverse consequences associated with these elements are worse in cases of poor ventilation (Evans 2006).

LIGHT AND COLOR

Exposure to natural light matters far more than the color palette used in interior design. According to Dr. Gary Evans, "despite widespread belief, there is no clear evidence that color affects mood, emotions, or psychological well-being in any systematic manner …. Levels of illumination, particularly the amount of daylight exposure, however, impact psychosocial well-being" (Higgins et al. 2005, Evans 2003, but see Read & Sugawara 1999 who find differentiation in wall color associated with increased levels of cooperation among preschool-aged children).

Both insufficient and excessive lighting have adverse effects on children. Prolonged insufficient exposure to natural light places children at increased risk of fatigue, distractibility, uncooperative social behavior, and depression (McColl and Veitch 2001, Kuller and Lindsten 1992). On the other end of the spectrum, excessive lighting (from too much daylight, artificial lighting, or glare) can cause headaches and impair visual learning. A 2008 study of 11 secondary schools in the UK found that 80 percent of the classrooms were too bright for the students' comfort. Problems cited included inadequate control of daylight (no blinds), use of outdated fluorescent lighting technology that resulted in an imperceptible flicker, and glare on the whiteboard from projectors (Winterbottom and Wilkins 2008).

NOISE

The most often cited sources of noise exposure for children are transportation traffic, especially from aircraft, music, and other people (Evans 2006). Studies of children's exposure to traffic noise from roads, trains, and the opening of a new airport, have found that increased exposure places children at higher risk of poorer mental health (Lercher et al. 2002, Bullinger et al 1999). Some studies have found that prolonged exposure to noise, even at a level insufficient to cause hearing loss, is associated with adverse effects on reading level (Evans & Maxwell 1997, Evans & Hygge 2005), long-term memory (Stansfeld et al. 2005, Hiramatsu et al. 2004, Haines et al 2001), speech perception (Evans & Hygge 2007), attention (Smith & Jones 1992), and hyperactivity (Stansfeld et al 2004). Some studies of adults, not replicated for children, have also found that noise increases levels of annoyance and aggression, and decreases persistence in activities as well as the likelihood of prosocial behaviors (Cohen & Sapacapan 1984, Glass & Singer 1972). Uncontrollable noise has also been associated with learned helplessness (Evans & Stecker, 2004).

The degree to which children are negatively affected by noise may depend on age (older children may suffer more adverse effects) (FICAN 2004, Bronzaft 1981), gender (Wachs 1978), duration of the exposure (Cohen 1986), the degree to which the noise is uncontrollable (Cohen et al. 1986), prematurity, and the presence of pre-existing developmental delays. Chronic noise exposure may also have a detrimental effect on adult-child interactions, resulting in adults who are more fatigued and less responsive to children (Evans 2006).

CROWDING

Crowding is measured by the number of people per room (Evans 2006, Evans 2001). There appears to be a developing consensus in the literature that crowding can lead to social withdrawal among young children (Evans 2006, Liddel & Kruger 1987, 1989), as well as teenagers (Evans et al 1998). Studies have found that, in crowded places, adults (e.g., parents, teachers) are less responsive to children, monitor children's behavior less frequently, talk less with young children and use less complicated forms of vocabulary, and rely on more punitive forms of punishment; families experience more stressful, strained relationships in the home; and children experience increased

levels of off-task time, distress, aggression, and feelings of helplessness, and decreased levels of cooperation, constructive play, persistence, social emotional competency, and academic achievement. In congested hallways or classrooms where ease of movement is constricted, children can also experience increased anxiety and tension (Sanoff 2007). In resource-rich environments, some of the negative effects of crowding may be partially mitigated. Children who experience crowding in multiple environments (e.g., both at home and at school) are at increased risk of greater adverse mental health outcomes (Evans 2006, Evans at al. 2002).

ART

There is evidence that experiences in the arts lead to enhanced social and emotional development as well as improved mental health (Upitis, 2011). Studies show that arts learning fosters cooperative, focused behavior, problem-solving, and self-confidence (Jensen, 2001). Arts learning also can develop a sense of connections with others (Davis, 2008; Noddings, 1992). Studies also show a positive relationship between studies in the arts and benefits for at-risk students (Flohr, 2010), including decreased risk of violent behavior and significant improvements in self-esteem (Respress and Lufti, 2006). Arts learning can take place through intra-curricular (learning in, about, and through the arts), extra-curricular (such as school musicals), and community and school-based arts partnerships. The physical environment can promote arts learning through inclusion of specific spaces to be used for that purpose.

Integrating children's art into places and spaces is another way to increase their ownership over a space, and possibly their self-esteem. When children in an elementary school created artwork that was permanently displayed in their school, they demonstrated a higher sense of school ownership than peers in a school that did not incorporate such artwork and participation (Killeen et al., 2003). Another study produced mixed results on the relationship between displayed student artwork and self-esteem. When the physical environment permitted children to get their own supplies, provided them with a task-appropriate work space, and was personalized to permit children to observe aspects of themselves in the environment (artwork, mirrors, photographs), some were more likely to complete tasks and therefore have a sense of competence and accomplishment.

Expressive arts therapy may promote psychological health and social support for vulnerable children. Expressive arts include activities such as dancing, drawing, drama, creative writing, painting, writing poetry, making music, sculpting, and photography (Phelps 2014). When children engage in expressive arts, their breathing slows, their blood pressure lowers, and the body becomes more relaxed (Lane, 2005). This helps reduce the fight-or-flight response associated with stress. Working with small groups in the expressive arts integrates peers in the process, cultivating social interaction, mutual support, peer modeling, and empathy development (Cumming & Visser, 2009). According to Carr (2009), the evidence base for art therapy is currently quite small and few randomized trials have been conducted. However, some controlled trials show positive impacts for art therapy. Chapman et al. (2001) found that pediatric trauma patients who received art therapy displayed a greater reduction in acute stress symptoms then those who received traditional hospital treatment.

Findings Part II – Places and Spaces Children Frequent Most Often and the Impact of These Spaces on Children's Social Emotional Development

GREEN SPACES, PLAYGROUNDS, PARKS, OUTDOOR SETTINGS, AND NATURAL ENVIRONMENTS

Built environments can help children experience nature more fully, a need that has become more pronounced in an age where children have become increasingly isolated from the natural world (Wendell et al. 2008). Loss of regular contact with nature has adverse consequences for children (Louv 2005), including increased risk of asthma and

attention deficit hyperactivity disorder symptoms (Kuo and Taylor 2004, Taylor et al. 2001), and decreased ability to manage stress (Wells and Evans 2003).

Green spaces and natural settings play a vital role in fostering attention restoration (Kaplan & Kaplan, 1989). The need for and benefit of restoration are well documented and tested (Interview with Taylor). Children and adults increasingly live in attention-fatiguing environments that place heavy demands on the need to focus on certain information and filter or suppress distracting stimuli, an ability researchers call "directed attention" (Berman et al 2008). Excessive fatigue impairs the ability of children to focus attention, regulate behavior and exercise judgment, and leads to increased irritability (Kaplan 1995). While there is less research around the impact on children, there is reason to believe that they may experience increased levels of fatigue since they are not born with fully functioning capacities (Interview with Taylor).

FROM THE LITERATURE | *On the cognitive benefits of natural environments*

"Nature, which is filled with intriguing stimuli, modestly grabs attention in a bottom-up fashion, allowing top-down directed-attention abilities a chance to replenish. Unlike natural environments, urban environments are filled with stimulation that captures attention dramatically and additionally requires directed attention (e.g., to avoid being hit by a car), making them less restorative." – Berman, M. G., Jonides, J., & Kaplan, S. (2008)

Landmark work on attention restoration theory (ART) identified four characteristics that promote restoration (Kaplan 1995). Experiences and environments reduce fatigue when they foster fascination, offer the opportunity to get away (what Kaplan refers to as "being away"), are "rich enough and coherent enough so that they constitute whole other worlds," and are compatible with "one's purposes and inclinations" (Kaplan 1995). It is not necessary to have all four characteristics, but green spaces do, which makes them especially effective (interview with Taylor, Kaplan 1995).

Both time in green spaces and views of green spaces have been found to have positive benefits for children (interview with Taylor) that include improved memory (Berman et al. 2008, Jonides et al. 2008) and educational outcomes. For example, one study compared 200 high schools and the views students had from classrooms and cafeterias. The study found that students performed better when they were enrolled in schools that provided views of green spaces from the cafeteria. The benefit of views of green spaces from the cafeteria, but not the classroom, supports the theory of attention restoration (interview with Taylor). Additional research has found that walking in nature improves attention-directed abilities of children in poor urban environments (Berman et al. 2008), and that increasing the richness of a green space is associated with decreases in the severity attention deficit symptoms (Taylor et al 2001).

Children growing up in the inner city are often at increased risk of negative developmental outcomes as a result of living in areas barren of rich green space. A study of the vegetation level of 64 public housing complexes in one city observed that children residing in more barren areas of low vegetation were significantly less likely both to engage in creative play and to play in the presence of adults than were children who lived in areas with more abundant green spaces (Taylor et al. 1998). Studies have also found that even small additions to quantity and quality of green spaces can result in positive outcomes for children (interview with Taylor).

Wells and Evans' 2003 study of 337 children living in rural New York demonstrated that exposure to nature actually moderates the impact of stressful life events on the psychological well-being of children. The study examined the impact of stress on children living in low- and high-nature settings, as measured by a scale with four items that evaluated the amount of nature in the window view, the number of live plants indoors, and the material of the outdoor yard. Children in high-nature settings exhibited less psychological distress (e.g., emotional and behavioral problems as reported by their parents and global self-worth self-reported by the child) in response to stressful life events than their low-nature counterparts. The researchers found this significant difference above and beyond the effects of socioeconomic status (that is, the differences in the effects of nature on children's psychological outcomes

are not due to family income). The mechanism through which nature affects mental health is unclear, though Wells and Evans suggest the possibility of attention restoration and social support (nature drawing children together to create supportive friendships).

Unstructured play supported by green spaces is critical to social development (Interview with Taylor, Wendell et al 2008, Ginsburg 2007). Play in green spaces facilitates development by encouraging more conversation and negotiation, as children are required to "create their own rules, manage their own projects and spend time learning in a self-directed manner about the world around them" (Wendell et al. 2008). Additionally, the more time children spend engaged in activities in green spaces, the stronger the benefits (Evans 2006, Hattie et al. 1997).

A key aspect to designing effective outdoor spaces for children is the provision of a wide selection of ways of engaging with the environment. Outdoor spaces with multiple natural and manufactured offerings engage in a more complex and diverse array of motoric, social, cognitive and creative play (Cosco & Moore 2009).

While numerous health and developmental benefits are associated with green spaces, they are insufficient without adult-child interactions (Interview with Taylor). Even when there are green spaces, it is important for parents and other adults to interact more with children in those spaces.

Additionally, adults can benefit from restorative environments, too. These benefits include increasing attentiveness to their children or students.

INTERVIEW HIGHLIGHT | *On the importance of green spaces*

Green spaces help children be their best. In that respect they are absolutely necessary, though not sufficient, to promoting children's social emotional development. – Andrea Faber Taylor, University of Illinois

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HOUSING

Housing Type. Evans' 2006 literature review of child development and the physical environment divided research on the link between housing and children's development into four major sub-categories: housing type, housing quality, structure and predictability of daily routines, and residential mobility (Evans 2006). Studies have found that, controlling for income, living in high-rise buildings (especially on upper floors) and in neighborhoods with a high concentration of multi-dwelling units is associated with adverse outcomes for children and youth. Adverse outcomes include increased incidence of behavioral problems, more restricted play, and poorer physical health (Evans 2006, Wells 2000, Taylor et al. 1998, Saegert 1982, Ineichen & Hooper 1974, Richman 1977, Gillis 1974). A possible mechanism driving the adverse outcomes in high-rise buildings is lack of access to outdoor spaces or views of green spaces (Taylor et al 1998, Coley et al. 1997, Sullivan and Kuo 1996).

Housing Quality. According to Evans' 2006 review, studies have linked poor housing quality to numerous adverse outcomes for children, including increased psychological distress (Gifford and Lacombe 2004, but see Greenberg et al. 1999), impaired cognitive and social development, impaired memory, and lower test scores (Greenberg et al. 1999, Obasanjo 1998, Michelson 1968, Wilner et al. 1962). These associations also have been shown to increase in strength and severity with duration of exposure (Evans 2006). Research points to multiple mechanisms through which poor housing quality may affect children, including strains on interpersonal relationships either between parents or between parents and children (Edwards et al. 1982, Moore 1975), decreases in the prevalence of social support networks (Evans et al. 2003, Obasanjo 1998), and increases in sickness that lead to higher rates of school absenteeism (Shaw 2004).

Structure and Routine. Lack of regularity and predictability within the home, a dynamic referred to by some scholars as chaos (Evans 2006), is associated with more behavioral problems, poorer educational outcomes (Brody & Flor

1997, Guidubaldi et al. 1986), more emotional distress (Evans et al. 2005), and less ability to self-regulate (Brody & Flor 1997). When children from chaotic homes enter adolescence, they are more likely to engage in riskier health behaviors (Fisher & Feldman 1998). Additionally, in households with less structure, parents interact with and monitor children with less frequency, both critical to children's social emotional and cognitive development. Finally, lack of structure and routine are often closely associated with increased mobility (frequency of moves), which research has found negatively affects children's ability to thrive (Adam 2004).

NEIGHBORHOODS AND URBAN ENVIRONMENTS

Many of the factors in places mentioned above, including noise, toxins, crowding, green spaces, and housing type and quality, are also important contributors to the impact of neighborhoods on children's health and development. City planners play a crucial role in terms of the overall design and regulation of neighborhoods. Planners' roles include determining zoning, mixed use development, traffic flow, public transportation, recreational opportunities and green spaces, sidewalks and bike lanes, and the geographic distribution of retail, education, and health services (Evans 2006). In planning neighborhood or urban environments for children, advocates suggest two key principles: 1) planning *for* children, which includes taking into consideration factors such as safety, availability of green space, and accessibility to necessary services and spaces; and 2) planning *with* children (McAllister 2008).

Safety and Surveillance. Studies demonstrate that perceptions of safety influence the extent to which people use spaces. For example, living near busy roads with heavy traffic patterns raises the risk of pedestrian injury and fatality among children. In response, parents are more likely to place restrictions on children's outdoor play, which inadvertently results in decreased development of motor and social emotional skills. Design that reduces crime can also enhance the mental and social well-being of children and may also increase social interaction among neighbors, resulting in less isolated, more socially supportive families (Planning Institute of Australia 2009).

Aesthetics. The attractiveness of a place or area affects the overall experience and use of a place. An attractive neighborhood invites people to use and enjoy its public spaces and to feel safe (Planning Institute of Australia 2009). Enhancing the aesthetics of a space makes it safer, and therefore increases access through it for pedestrians and cyclists. Aesthetics may not have a direct impact on children's mental health, but enhancing the attractiveness of a space increases access to restorative places for the most vulnerable children. Design strategies for promoting livable spaces include providing seating, shade, shelter, public toilets, bike racks, play equipment and green spaces. Small improvements can make a difference. For example, one study found that the presence of trees and vegetation in outdoor public spaces increased use of these spaces by both youth and adult residents (Interview with Taylor, Coley et al. 1997).

Green Space. Planners and neighborhood associations should advocate for reserving land for passive and active recreational uses that includes parks, open spaces, and proximal nature. Strategies include preserving natural environments, establishing conservation areas, adopting appropriate policies for urban storm-water management, creating bird sanctuaries and other natural settings around fields and creeks to promote interaction with wildlife, and establishing community gardens, central parks, and arboretums (Interviews with Lisa Tolley and Monica Pallett).

Access. Active transportation and mixed land use are two principal means whereby planners can increase accessibility of services and spaces to low-income families. Urban environments should be designed to promote multiple travel modes, including walking and cycling, and use of public transport. Strategies include creating footpaths with lighting, water fountains, and clear signage; bike paths with bike racks and lockers, signs and showers; and public transportation with safe shelter, lighting and signs (Planning Institute of Australia 2009). Mixed use, which co-locates complementary places, such as houses, shops, schools, offices, libraries, open space and cafes, promotes active transport to and between different activities. People are more likely to walk, cycle, or take public transport when they can conveniently undertake multiple activities at one destination. Additionally, active transport and mixed land use increase a sense of belonging and perceptions of safety, and decreases feelings of isolation (McKoy et al. 2011).

SCHOOLS AND CHILD CARE CENTERS

A sizeable portion of the literature examining the relationship between places and children's social emotional development focuses on learning spaces, including child care centers and schools. Research has found that children's cognitive, social, and emotional well-being are affected by the quality of learning spaces as measured by "size, density, privacy, well-defined activity setting, modified open-plan space, a variety of technical design features, and the quality of outdoor spaces" (Moore 2007, Evans 2006, Lackney 2005, see also Moore 1987), as well as various ambient qualities described in Part I of this section (e.g., air quality, lighting, noise).

Size and Density. Some studies have found developmental benefits associated with smaller schools and child care centers, and these benefits may be more pronounced for children from low-income households (Howley et al. 2000, Cotton 1996). While formal child care centers (compared to child care homes) provide children, on average, with more activities to encourage exploration and the development of motoric and social skills, a growing body of evidence suggests smaller centers provide higher quality early learning experiences (Moore 2007). Young children in smaller centers display more verbal initiative and reflective behavior (Travers & Ruopp 1979). Smaller schools are associated with improved educational outcomes (Howley et al. 2000), student behavior, attendance, involvement in extracurricular activities, and rates of students self-reporting a sense of ownership and belonging (Cotton 1996). Studies also find increased likelihood of parental involvement in smaller schools (Schneider 2002). Children in crowded learning environments are more likely to display aggression, social withdrawal, and hyperactivity, and express feelings of being tired, overwhelmed, or unhappy (Maxwell 1996, Lowry 1993).

Classroom Design. Beginning in the 1970s, some schools began to experiment with open-plan design, which featured few floor-to-ceiling walls. This contrasts the traditional classroom, which architects and designers describes as a "box" with a teacher positioned in front of students aligned in rows of desks. Evidence on the benefits of the first wave of open-plan design has been mixed at best. Studies have found little to no change in academic achievement indicators between the two types of learning spaces (Evans 2006, Gifford 2002). Children in open-plan spaces must also contend with more noise, distraction, and off-task time and the corresponding developmental challenges that accompany these factors (see part I above) (Evans 2006, Lackney 2004, Olds 2001, Moore 1986, Cotterell 1984, Kyzar 1977). Surprisingly, open spaces also suffer from problems with density and cramped spaces as researchers have noted children's propensity to cluster in certain areas, leaving others underutilized (Evan 2006, Sanoff 1995, Moore & Lackney 1993, Rivlin & Rothenberg 1976).

Modified open-plan designs that more clearly demarcate spaces for specific activities and provide secluded spaces for privacy or quiet reflection and individual work have been shown to mitigate some of the challenges presented by open spaces and increase comfort (Evans 2006, Olds 2001, Moore & Lackney 1993, Grenman 1988). Studies have found that younger children especially may prefer more enclosed spaces (Evans 2006, Ahrentzen & Evans 1984).

Finally, multiple studies and experts interviewed as a part of this review commented on the importance of making learning spaces more homelike. The transition from home to school can be stressful for very young children, as the institutions have very different cultures and physical dimensions. Incorporating physical and social home-like characteristics into the institutional setting may reduce anxiety for both parent and child (Lackney 2000). There is also evidence that more child-friendly classrooms are related to higher levels of voluntary participation and that overall aesthetic quality in educational facilities is related to students' task persistence (Lackney 2000). Strategies for making a classroom more homelike and less institutional include introducing niches and enclosures for privacy, appropriate lighting, soft furniture and flooring materials, and color and student artwork (Evans 2006, Lackney 2004, Sanoff 1995, Moore & Lackney 1993). Signaling the need for improvement, Higgins et al. note that "much of what is known about student comfort, particularly in terms of furniture, has yet to be translated into actual school environments" (Higgins et al. 2005).

More recently, some architects and educators have begun advocating styles of teaching and learning that embrace multiple learning styles and sensory modalities. The design studio model and the flipped classroom model are examples that demonstrate how spaces and curricula work together and how spaces can either complement an instructional style or hinder it. In the design studio model, classrooms are more akin to workshops than to traditional classrooms, with learning spaces characterized by different activity settings geared toward small groups. Students engage team problem solving, peer review, and experimentation in a highly interdisciplinary environment, where teachers function more as mentors than instructors (Interview with Taylor). The flipped classroom uses spaces similarly, though with more focus on student discussion and interaction in teams. Though there is little robust quantitative evidence that these models of classrooms affect students' mental health, some test classrooms have compared favorably to control classrooms. For example, in one New York elementary school, a flipped classroom resulted in significantly fewer disciplinary problems among the students both in-class and at home (Ogurek 2010). Second grade students in the flipped classrooms exhibited increased self-confidence and focus (Ogurek 2010). Little research on these models has been conducted with young children, but similar concepts are used in early childhood settings (e.g., learning centers, small group work) and may have similar social emotional outcomes for children.

Children's preferences for and responses to classroom design are not uniform. A 1990 study found that children (in kindergarten and first grade) expressed different preferences for color, shape, light, and complexity and diversity of stimuli, and that some of these differences were associated with gender (Cohen & Trostle 1990). Additionally, children with a history of lower persistence and academic achievement, and children who are English language learners, perform poorer, on average, in open-plan classrooms (Evans 2006). Given the different needs of students and the fact that certain arrangements are better for certain activities, experts agree that classrooms should have some degree of flexibility (although they may not agree on the best overall design) (Higgins et al. 2005).

While children display variation in the way they respond to certain classroom configurations or designs, they exhibit more uniform responses to uncleanliness and structural disrepair. Such environments are associated with increased absenteeism and, among older youth, dropout rates (Branham 2004). There is growing consensus that significant benefits for children can be realized by bringing poor quality spaces up to a base level of adequacy. Additional gains can be realized, but the size of benefit is less clear (Price Waterhouse 2007).

Finally, new ideas are constantly emerging. For example, in 2006, the Mayo Clinic released what they called the first chairless classroom that included, among other features, standing desks (Mayo Clinic 2006). While numerous new ideas have emerged around the best way to redesign the 21st century classroom, schools have been slow to adopt them. Some experts interviewed as part of this review lamented this fact, commenting on how little the typical American classroom has changed since the industrial revolution, when schools were designed as educational factories (see Interview with Taylor). Expressing a similar sentiment, one NC State professor commented, "Teaching methods have changed, but, often, the design of the classroom has remained static."

School Design Patterns. Much of the research on school design patterns uses academic achievement as the dependent variable instead of children's mental health. For example, a 2008 descriptive study analyzed the role of four key factors of the physical environment and layout of elementary schools: movement and circulation (the ease with which students can move throughout a space), gathering places for large groups, natural lighting and views, and areas that accommodate a diverse array of small group activities (Tanner 2008). The study found that each of the four design elements was positively related to academic achievement. A study by the same researcher found that students performed better in schools with carpeted, soft floors as opposed to hard floors (Tanner & Langford 2003).

In 2009, a team of researchers embarked on an instrumental case study design that, drawing on the perceptions and experiences of children, examined the importance of the physical environment for student outcomes. Researchers collected students' observations of the places children found most supportive using focus groups and equipping students with cameras to document the spaces. Researchers found broad consensus among the students relating to

places they identified as supportive learning environments. Key elements noted by students included ease of movement, aesthetics or the attractiveness of a space, lighting, flexible and responsive classrooms, elbow room, and security (Uline et al. 2009). These elements were associated with an increased sense of belonging and ownership, and greater feelings of competence and self-control.

FROM THE LITERATURE | *On the current state of research*

"Although the research often indicates the parameters of an effective environment, there is an overall lack of empirical evidence about the impact of individual elements of the physical environment which might inform school design at a practical level to support student achievement. However, at a secondary level of analysis, there are indications that environmental change can be part of a catalytic process of school development and improvement." – Woolner et al. 2007

Playgrounds and Schoolyards. Outside of the home environment, students spend most of their waking hours in schools or child care facilities. Given the important role green spaces and outdoor areas play in the development of children (see section on Green Spaces), and the lack of access to quality green spaces for some children who may benefit the most from such places, experts argue that it is critical to ensure schools and learning spaces provide access to rich natural settings, adventure playgrounds, and green spaces that invite complex and imaginative play (see interviews of Cosco, Evans, Faber Taylor, Taylor).

Play is crucial for children's physical, social, and emotional development. According to Ginsburg (2007), "As they master their world, play helps children develop new competencies that lead to enhanced confidence and the resiliency they will need to face future challenges. Undirected play allows children to learn how to work in groups, to share, to negotiate, to resolve conflicts, and to learn self-advocacy skills." Research shows that playgrounds and schoolyards are integral to bringing play into the academic environment. Utilization of these spaces has been shown to help children adjust to the school setting and even to enhance children's learning readiness, learning behaviors, and problem-solving skills (Ginsburg 2007). Including caregivers in play is also a unique opportunity to build positive bonds between children and adults that have many stresses in their lives. Yet some physical characteristics of playgrounds aid in development more than others.

Experts in the field recommend that one of the most important characteristics of a quality outdoor environment is the richness of the space, defined by a combination of manufactured and natural environments. Specific recommended elements include, in addition to the more traditional features of a playground like slides and swings, "gardens, vegetable gardens, butterfly gardens, stimulus shelters, natural and wild places," as well as "loose parts (portable materials), such as blocks and construction materials, tricycles, and water play materials" (Frost 2004). Several experts also lamented a culture in which excessive concerns for safety, often prompted by fears of litigation, have made it more difficult for children to explore and play in a way that best support a child's development (Cosco, Evans, Shapiro). Schoolyards situated in low-income communities that feature rich green spaces and play areas can increase access for nearby residents and children by functioning as co-located public parks or recreation areas that invite community use (interview with Cosco).

HEALTH CARE FACILITIES

A 2013 literature review of physical environmental factors in health care facilities that contribute to well-being and health reviewed 209 publications, including peer reviewed articles, guidelines, books, and reports (Salonen et al. 2013). Researchers found evidence that the following elements, in addition to safety, promote health and well-being: ventilation, heating and air conditioning, acoustic environment, interior layout and room type, daylight and views, access to green spaces and gardens, lighting, color, floor coverings, furniture, ease of movement and clear signage,

artwork and music. The effects of these elements ranged from directly promoting health to indirectly promoting well-being via improved behavior, attitudes, and social interactions.

In a 2004 literature review, researchers from Texas A&M and Georgia Tech identified more than 600 studies, most in the top peer-reviewed journals, that examined a similar topic concerning the relationship between health and a hospital's physical environment (Ulrich et al. 2004). They concluded that there was compelling evidence that a wide array of design aspects contribute to the well-being of patients (with no particular focus on children), and also that most hospitals were not aligned with these best practices. They identified the following key strategies: reducing noise, improving way-finding and access to natural lighting, increasing interaction with nature, music, art, and animals, and promoting social interaction to make it easier for families to support their loved ones.

Reduce Noise. Noise is the leading cause of sleep loss and distress in hospital settings, for both adults and children. Key interventions include moving from multi-bed to single-bed rooms (noise from another patient was found to be main source of noise; see Southwell & Wistow 1995, Couper et al. 1994), installing sound-absorbing ceiling tiles and flooring, and eliminating unnecessary noise within rooms from sources like patient alarms (Ulrich et al. 2004). In addition to increasing noise, multi-bed rooms have also been found to reduce the likelihood of social interaction, including family presence, and increase levels of stress.

Improve Way-Finding. Similar to findings in some studies of public schools, the inability to easily navigate a space causes distress. Within a hospital setting, which has many more visitors than a public school, the costs associated with poor way-finding is much higher, and occurs mainly in the form of staff time spent directing people who are lost (Zimring, 1990). Improving and increasing signage and ensuring directions are clear results in lower stress levels (Ulrich et al. 2004).

Improve Lighting, Increasing Natural Lighting and Access to Window Views. Several studies have found that more natural lighting increases the speed of recovery and reduces symptoms of depression. Benefits also extend to brighter artificial lighting (Ulrich et al 2004). There are additional benefits to the presence of windows and the views they provide (Rubin & Owens 1996, Verderber et al 1987, Ulrich 1984, Verderber 1982, 1986).

Increase Access to Restorative Activities. Some activities have been found to be especially effective at restoring patients who are attention-fatigued and distressed. Access to nature and gardens is the most effective strategy. Interactions with nature can be brief and still reduce stress and increase a patient's sense of control. Hospital gardens, in addition to reducing stress, have an added benefit of promoting social interaction (Ulrich et al 2004). Additional restoring activities include interacting with animals, listening to music, viewing art, and laughing (Devlin et al. 2003, Ulrich 1991).

Additional research has found evidence to support the following design elements: 1) homelike environments (Devlin et al. 2003); 2) smaller inpatient clusters that increase a feeling of belonging as well as satisfaction among staff (Shepley 2013); 3) richer spaces that are also flexible in terms of arrangement (Shepley 2013).

PARTICIPATION, SUSTAINABLE IMPACT, AND PROFESSIONAL DEVELOPMENT

There is a growing body of research that points to the importance of involving key stakeholders and users of a space in the design process, including young children, parents, teachers, and neighbors (Blackmore et al. 2010, Burke 2007, Woolner et al. 2007, Higgins et al 2005, Burke & Grosvenor 2003, Clark et al. 2003). Different users often have different perceptions and needs from one another, which also tend to differ from those of the architect or designer (Higgins et al. 2005). Soliciting child and parent input in the process promotes local variation and ownership of a place, fosters a sense of belonging, enhances self-efficacy and agency, and helps sustain the intended impact of a space (Blackmore et al 2010, Higgins et al. 2005). In school or child care settings, involving teachers is also critical as their buy-in, satisfaction and attitude toward the space will play vital roles (interview with Shapiro, Higgins et al. 2005).

Spaces and places likely need to change over time, and good process will equip the users of a space with the skills to adjust and redesign a space in response to evolving needs. One strategy practitioners have found especially effective is involving users of space in the design process from the start of a project through its completion.

INTERVIEW SNAPSHOT | *Participatory design in practice*

Nilda Cosco, Director of Programs at NC State's Natural Learning Initiative, described a process they have used in working with child care centers on redesigning spaces. The process begins with design experts working directly with teachers and staff members to develop ideas for the new space over two days. This step includes a component that equips teachers with the necessary skills to engage their students in the design process, too. Designers survey parents, and then take all the information they have gathered and prepare a design program, which participants review and revise. Finally, the design team works with staff members to prioritize design phases based on each site's budget, and participants develop an action plan for completion of the work. – Nilda Cosco, 2014 interview

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New or re-designed buildings alone are insufficient to promote the positive social emotional development of children. In order to fully realize the benefits of developmentally appropriate design, teachers and parents must be equipped with an understanding of the space, and the skills and pedagogy necessary to use it. In educational settings, the complementary role of professional development to the design of new spaces is often overlooked or undervalued (Blackmore et al. 2010). "Unless teachers are prepared and provided with necessary professional skills, tools, and resources to change their practices," comments Blackmore et al., "then new built spaces will not move them from default to innovative pedagogies." Supporting this claim, research has found, for example, that children perform better in open-plan classrooms when their teacher is comfortable with and has experience teaching in an open-plan classroom versus a traditional closed classroom (Gump 1987).

ACCESSIBILITY OF PLACES AND SPACES

When planning for accessibility, at least two dimensions of access stand out as important considerations: access of transport (can children get to the place?) and access of use (can children with a broad range of abilities use the space?). Transportation surfaced as one of the main barriers of access in Wake County (interview with Lisa Tolley). One way to overcome this issue is to target spaces that children's parents tend to frequent (e.g., pediatricians' offices, public transportation, churches) (interview with Kyle Snow). Another way is to bring spaces to children. For example, the Wake County program Read and Feed is a mobile classroom in a large bus that brings reading tutors and meals to low-income children's neighborhoods.

The principles of universal design address access of use concerns. According to the principles, "rather than designing your facility for the average user, you design them for people with a broad range of abilities and other characteristics" (Burgstahler 2009). Built on the values of inclusion, the principles require proactive planning and careful consideration of the users of a space and their unique and diverse needs. Designing for use means designing with the goal that all users feel welcome, can access and move within the space with ease, can participate in all activities, and can make use of the variety of spaces and equipment within the space (Burgstahler 2009). Involving potential users of a space in the design process can help identify needs that may otherwise go unaddressed.

Interviews

Methodology

We conducted interviews with scholars and practitioners from across the country in the fields of environmental psychology, architecture and landscaping, child development, and public health. Academic interviewees were selected if they were frequently cited in the literature or authored particularly relevant reports. Interviewees in the field of design were selected based on their affiliations with reputable national or local (Wake County) organizations that focus on the goals concerning children's mental health and the role of places and spaces. One local interviewee was referred by a member of the research team.

The conversations are documented below. Note that interviewers typed notes while listening to the respondent, but the interviews were not transcribed word for word. Please see Appendix 2 for a list of individuals interviewed, additional prospects with whom we considered speaking, and a list of questions we used as general framework for the interviews.

Patrick Brosnan
President, America's Schoolhouse Council and CEO, Legat Architects

Robin Randall
Vice President and Director K-12 Education, Legat Architects
Interview Date: June 11, 2014

Background

Patrick Brosnan is the President of America's Schoolhouse Council, a collaborative of nine design firms across the country. The goal of the collaborative is to learn from one another about innovative best practices in design for children. Patrick is also CEO of Legat Architects. The firm takes seriously the question of how a child's environment shapes the learning experience, a commitment demonstrated by the fact that Legat funds and conducts its own research on the topic.

Robin Randall is an architect, educator, and environmentalist. She works with Legat Architects as Director of K-12 Education. She leads client development, planning, and design across the practice. An expert in sustainable school design, Robin has researched indoor and outdoor learning environments that support curricula and communities.

What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

Randall described a site designed for a Montessori client, Seton Montessori in Clarendon Hills, IL. One of the project's unique aspects was the way it involved children and parents in the design process. The architects met first with the children who described the kind of space they wanted to learn in (this included a tree house). The designers then met with parents to further refine the idea, and finally with program staff to understand the type of environment they wanted to work in and to determine what type of work was feasible from a budgetary standpoint. More information at: http://setonmontessori.org/school/environment/preprimary-classrooms/

Randall also spoke about the importance of using environments to teach sustainability, and described the "living laboratory" they created at the Montessori School.

Brosnan added that their emphasis is on understanding how buildings teach. Buildings are not simply the place where instruction occurs.

Randall also referenced an article she prepared on the value of the outdoor classroom (see Randall in Appendix 1), and spoke about the "economics of biophilia." Biophilia refers to the innate human attraction to nature. The economics of biophilia refer to the small investments designers can make in nature-inclusive designs that reap large rewards in the long-term. For example, a hospital can save money in the long run by designing rooms to have nature views. Patients will heal faster, allowing hospitals to turn over beds and rooms more quickly. Much of Randall and Brosnan's design work places emphasis on nature-based learning and integrating nature in the classroom.

Brosnan spoke about one of their design projects that served a population of children with special needs. A majority of children in the child care facility had Individual Education Plans. He spoke about the importance of lighting in that setting and minimizing the amount of distractions. Randall added that lighting is important and that lighting needs vary widely from setting to setting. She referenced a particular case in which students were interviewed and said they had too much light in the school. The real problem was glare, which the students misinterpreted.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What kinds of places and spaces and quality improvements would you recommend it focus on?

One of the most important aspects of design principles for children is diversity of space. Children are diverse learners and the old model of education "in a box" is not best for children's development.

Learning environments should provide naturalistic learning experiences, security, a feeling of home, and areas for curiosity. They also placed emphasis on outdoor enclosed play spaces (open spaces within a building, like a courtyard area), and sensory gardens.

As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

They recommended following one of their projects from the development phase to completion and assessing the degree to which the space met the needs of the children.

Are there particular resources that I should be aware of?

- Peter Lippman, author of Evidence-Based Design of Elementary and Secondary Schools. Read an interview with Mr. Lippman here: http://holtthink.tumblr.com/post/76395390247/interview-with-peter-c-lippman-author-of

- Dr. Cynthia Uline, Director of the National Center for the Twenty-First Century Schoolhouse, San Diego State University, http://coe.sdsu.edu/edl/schoolhouse/planning/design.php

Nilda Cosco

Research Associate Professor
Director of Programs for the Natural Learning Initiative
North Carolina State University
Interview Date: June 19, 2014

Background

The purpose of the Natural Learning Initiative is to promote the importance of the natural environment in the daily experience of all children, through environmental design, action research, education, and dissemination of information.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What kinds of places and spaces would you recommend it focus on?

Spend money on the places where children are. Children may not often visit the park. I would say choose the spaces that children visit daily. For example, public housing.

Increase the quality of the environment and human context for people to enjoy. Here we are talking about places where intergenerational aspects are fundamental.

Improve quality of the natural environment even eating spaces, with gardens. Small interventions are possible. Maybe a full community garden is overwhelming. Shade to prevent skin cancer.

Establish a community participation process. It will not be sustainable without this.

As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

Cosco and others at the College of Design are currently working with multiple child care centers in and around Wake County. She spoke about the process they use to involve children and adults in the design process.

The process begins with design experts working directly with teachers and staff members to develop ideas for the new space over two days. This step includes a component that equips teachers with the necessary skills to engage their students in the design process, too. Designers survey parents, and then take all the information they have gathered and prepare a design program, which participants review and revise. Finally, the design team works with staff members to prioritize design phases based on each site's budget, and participants develop an action plan for how the work will be completed.

Cosco stressed the importance of training people who are the conduit on how to use, install, and design a space. The time for working in only one discipline is past.

Endowment should reframe its focus from mental health to well-being. Well-being touches on more than mental health, and includes aspects of efficacy and social relations. Well-being also reflects the interconnected nature of mental health.

The key question here: how are you going to *measure* your success?

Cosco also mentioned work NC State is involved with, in the "joint use" of outdoor spaces in schools (these spaces are also open to surrounding communities). Cosco highlighted the value of these resources for mothers. Information is available through NC State's parks, recreation and tourism management department.

In terms of policy, it is important to acknowledge and address concerns around liability.

Currently, there is considerable focus on large-scale urban design projects (e.g., transportation, sidewalks). We should consider what else we can do with existing environments.

Are there particular resources that I should be aware of?

• See http://www.naturalearning.org/nli-publications

• More specifically:

Healing Gardens for Children

Sensory Integration and Contact with Nature

Developing Evidence-Based Design

• Kellert, S. R., Heerwagen, J., & Mador, M. (2008). Biophilic design: the theory, science, and practice of bringing buildings to life. Hoboken, N.J.: Wiley

Evidence-based standards and guidelines?

Preschool Outdoor Environment Measurement Scale (POEMS) up to 5 or 6 years old. It is applicable to other types of environments.

There are many audits of spaces available such as the Active Living Research program of the Robert Wood Johnson Foundation. Cosco prefers evaluation tools that include an element of feedback for the person who is using the tool to learn what to do if they are weak in a certain domain.

Measurements should also serve as guides for improvement.

Gary W. Evans

Elizabeth Lee Vincent Professor
Cornell University
Interview Date: June 6, 2014

Background

"Professor Evans is an environmental and developmental psychologist interested in how the physical environment affects human health and well-being among children. His specific areas of expertise include the environment of childhood poverty, children's environments, cumulative risk and child development, environmental stressors, and the development of children's environmental attitudes and behaviors." (From: http://www.human.cornell.edu/bio.cfm?netid=gwe1#sthash.fXo2TVFW.dpuf)

What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

It is helpful to begin with an important distinction: Most of the research that has been conducted looks at aspects of the physical environment that cause health *problems* rather than *promote* good health.

In addition to factors highlighted in his 2006 paper, "Child Development and the Physical Environment (Toxic elements, Noise, Crowding, Housing and Neighborhood Quality, and Schools and Day Care Quality)", Evans noted new developments on obesity. There has been a lot of focus in this area, and on the connection between socioeconomic status (SES) and obesity (RWJ Foundation has funded research in this area). A good resource is Dube's 2010 book entitled *Obesity Prevention*. Obesity may be connected to certain aspects of child's mental health, including self-regulatory ability. Obesity is also characterized by strong tracking (e.g., it is very difficult to undo later in life).

Evans stressed the importance of remembering that things that are not clinically significant in early childhood may become significant later in life. Duration of exposure and intensity matter and should be taken into consideration in terms of what spaces and places to focus on. He offered an example of the importance of duration: Noise and blood pressure among factory workers.

In addition to obesity and the importance of duration, more recent research has also focused on the importance of loose parts and the ability to which a space promotes manipulation.

Finally, rigorous work continues to develop in the area of access to nature and the importance of places that promote restoration. Children and adults of low socioeconomic status (SES) have less access to natural spaces (crime or fear of spaces also contributes to this disparity of access).

Our project focuses on children ages birth to 5th grade. Are any of the factors or elements you just mentioned more important at different stages of a child's development, and, if so, how do they differ over time?

Opened-ended spaces are particularly critical when children begin locomotion.

Scaffolding is also very important, especially to young children when they start exploring the world around them. Kids need to be at the edge of where they are confident to grow. Adventure playgrounds and other types of environments that encourage exploration are critical when children start exploring. Litigation has really interfered with play in the United States.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What kinds of places and spaces would you recommend it focus on?

Evans encouraged a focus on using some resources to evaluate this project on places and spaces and positive children's mental health.

Priority area #1: The home, especially for low-income families. The home environment is critical in early childhood. Homes that are noisy, chaotic, crowded, and unsafe will have detrimental effects on a child's mental health.

In high-stress environments, parents are not as responsive. The broad objective should be improving housing quality so that it is at a level where it is not creating fear and anxiety in the parent. It is important to remember that caregivers also live and work in young children's places and spaces. Caregivers become less responsive in high-stress environments and this affects children.

Priority area #2: Places for restoration (e.g., gardens, parks, libraries).

The nature piece is critical to restoration. Evans spoke of the "hierarchy of spaces." Spaces need to be constructed or designed so that children can self-regulate the level of interaction they desire in the moment. We are social animals, but if we are around too many people, it backfires and leads to increased loneliness. The trick is to provide a diversity of space, including spaces for large and small groups, and for alone time. That way, children can regulate the type and amount of interaction they desire.

To what extent would you recommend the endowment base its focus on the amount of time children spend in the place or space?

Duration of exposure and intensity matter and should be taken into consideration when considering what spaces and places to focus on.

What types of quality improvements are the most cost-effective?

There currently is no good data or research that answers this question in a clear way.

Evans recommended we look at the National Academy of Science's Board on Children, Youth, and Families recent entitled, "Considerations in Applying Benefit-Cost Analysis to Preventative Interventions for Children, Youth, and Families." http://www.nap.edu/catalog.php?record_id=18708

If the John Rex Endowment wants the greatest results for its investment, it should focus on interventions that address and reduce poverty by increasing the number of resources available and accessible to low-income children *and* parents.

Many of the project's key stakeholders have expressed concerns that children from vulnerable populations often lack access to places and spaces that effectively promote their social and emotional development. How might the endowment direct its focus to address this concern?

He recommended talking with Ralph Taylor at Temple University who is an expert on crime and safety.

As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

Evans recommended the following strategy:

Look to those countries where poor children are worse off than their middle class peers but less bad off than children in the U.S. Take, for example, countries like Sweden and Scandinavia. What are those countries doing differently?

He also recommended looking into the policy/strategy of "Co-housing."

Are there particular resources that I should be aware of? Scholars or organizations with expertise in this area?

- Robin Moore, NC State
- Environmental Design Research Association

  www.edra.org
- IAPS (International Association People-Environment Studies)

  www.iaps-association.org
- Gary Moore, Emeritus Professor of Environment-Behaviour Studies at the University of Sydney
- Roger Hart, City University of NY
- David Satterthwaite, International Institute for Environment and Development
  www.iied.org

Articles or books?

Journal of Children, Youth and Environment (http://www.colorado.edu/journals/cye/index_issues.htm)

Robert Gifford's textbook (*Environmental Psychology: Principles and Practice*)

Evidence-based standards and guidelines?

Gary Moore's developmental scales for child-care centers are very good and thoughtful. The scale is the Children's Physical Environment Rating Scale (CPERS).

What's one question I didn't ask that you think I should ask going forward?

Evans suggested that instead of focusing on how to prioritize spaces or elements of spaces, the key focus should be on cumulative risk. There is extensive research on cumulative risk. The number of risk factors you are exposed to is linearly related to severity of negative health outcomes. The presence of multiple risk factors is why vulnerable populations are vulnerable. Develop strategies and interventions that reduce cumulative risk.

Andrea Faber Taylor

Child Environment and Behavior Researcher
University of Illinois at Urbana-Champaign
Landscape and Human Health Laboratory
Interview Date: June 10, 2014

Background

Expertise in children's outdoor environments, especially green spaces, and how they can be supportive of children's development. Taylor's research has focused on vulnerable populations, including children from extremely impoverished urban neighborhoods or children with ADHD.

What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

An important area not tapped into is fostering attention restoration (see research by Stephen and Rachel Kaplan of the University of Michigan). The theory is well developed and tested. We live in a very attention-fatiguing environment where demands on our attention and the necessary capacity to focus are very high.

Attention Restoration Theory (ART): we have to attend to and filter so much information coming at us. This process requires mental muscle that researchers refer to as directed attention. It fatigues with use. Excessive fatigue leads to detrimental outcomes in adults and children: irritability, increased mistakes, and impulsive conclusions. While there is less research around the impact on children, there is reason to believe that they may experience increased levels of fatigue since they are not born with fully functioning capacities.

This theory has lead experts to research how environments may be restorative. Work by the Kaplans has identified four characteristics that promote restoration. It is not necessary to have all four characteristics, but green spaces do, which makes them especially effective/efficient.

Both time spent in green spaces and views of green spaces have been found to have positive benefits for children. Some studies have compared places where there is no green space (a barren, built environment) to places where there is minimal green space (e.g., two shade trees). These studies have found that even the smallest amount of green space makes a difference.

Taylor stressed the importance of engaging in pretend play/a creative form of play. Green spaces support and encourage this type of play. She also referenced Simon Nicholson's theory on the importance of "loose parts," and lamented the high cost to children of taking the loose parts away in an effort to keep children safe. Play in green spaces tends to encourage more conversation and negotiation, both critical to social development. Taylor remarked that when kids play collaboratively, especially imaginatively, it is amazing how they all get on the same page.

Taylor also commented that green spaces alone are insufficient without adult-child interactions. Even when we provide green spaces, it is important for parents and other adults to play more with children. Taylor added, stressing the importance of green spaces for children, adults suffer from fatigue, too.

Taylor referenced a study that compared views students had from classrooms and cafeterias. The study found that students performed better when they were enrolled in schools that provided views of green spaces from the cafeteria (but not classroom). The benefit of views of green spaces from cafeterias supports the theory of attention restoration.

Additional research has found students with ADHD (symptoms similar to attention fatigue) also benefit from interactions with green spaces. Green spaces, according to Taylor, help students be their best.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What kinds of places and spaces would you recommend it focus on?

Daycares and schools (start with young children in day care, preschool, and elementary school). Once kids do get home, parents often don't have time to take children to a green space. Most out of school time is already scheduled.

She also recommended making the facility more like a home, and including programming that mimics activities of home life: participating in gardening, food production, cleaning, etc.

Taylor noted that when children bond with nature at an early age, recent research indicates that they grow up better stewards of nature. Having that intimate knowledge is so important.

To what extent would you recommend the endowment base its focus on the amount of time children spend in the place or space?

Taylor focused on daycares and schools because these are places where children spend the most time.

What types of quality improvements of these places and spaces would you recommend it prioritize?

Taylor said it is important to focus on the "richness" of the green space. A mowed lawn is not enough. Diverse green spaces that invite play and creativity and attract the diversity of life (birds, insects, etc.) are key elements of a rich green space.

Many of the project's key stakeholders have expressed concerns that children from vulnerable populations often lack access to places and spaces that effectively promote their social and emotional development. How might the endowment direct its focus to address this concern?

Daily access is critical if one of the important benefits involves attention restoration. Traffic/parking/lack of bike racks/no bathroom/no bench – these are all obstacles that prevent families with children from visiting green spaces. It is also important to have elements that attract the parents. Taylor acknowledged that few people send their children to the park anymore and noted that we can at least provide these settings in schools and daycare centers.

As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

- Ruth Staples Child Development Center – University of Nebraska (also partner with Nature Explorer): http://cehs.unl.edu/cyaf/ruth-staples-lab/

- Chicago design firm – Hitchcock design group; Chicago Commons Paulo Freire Family Center; redesigned schoolyard space benefitting a low-income area.

Are there particular resources that I should be aware of? Scholars or organizations with expertise in this area?

- Nilda Cosco, Director of Programs, NC State's Natural Learning Initiative

- Robin Moore, NC State's Natural Learning Initiative

- Stephen and Rachel Kaplan, University of Michigan

- childrenandnature.org

Articles or books?

- *Ecological Literacy: Educating our Children for a Sustainable World*

- *With People In Mind*, by Stephen and Rachel Kaplan

Evidence-based standards and guidelines?

- POEMS tool developed by Dr. Robin Moore and a team of other scholars

Russ Lopez

Assistant Professor
Boston University School of Public Health
Interview Date: June 16, 2014

Can you tell me more about your role with the Boston Schoolyard Initiative?

I didn't have a formal role with the project. The team at BSI wanted to document their process and their impacts. I conducted a few analyses and wrote some reports for them.

BSI disbanded this year because they had renovated all the schoolyards in the city. This was decided a year before they disbanded, before the change in mayors.

What elements of the physical environment have the greatest potential to influence the positive mental health of children?

People don't realize to what extent urban spaces have been degraded. Before BSI, Boston's schoolyards had no trees, no green space, they had just been paved over. The pavement was often cracked from the harsh winters. They were littered with garbage. This city was a very extreme case in terms of schoolyard quality before and after.

Turning the schoolyards around and cleaning them up made them usable during school time and after school hours. Students in Boston public schools are bussed all over the city, so their schools improved as well as the spaces near their homes. In the summer and after school, the schoolyards were utilized more by local children. They used to be empty and now they are always full of life.

There may be a psychological effect for the schoolchildren and community, just showing that someone cared about their spaces. After a BSI renovation, people that lived around the schools had better opinions of the schools.

BSI also made a conscious effort to make the schoolyards into outdoor classrooms. It is important to get students outside for more than just recess.

What is the best way to achieve sustainable change to improve children's environments? (Attention to building new spaces and/ or renovating already existing ones)

Building new schools in densely populated areas is problematic because the new schools would be far away from where people live. The benefits (less maintenance, new appliances and fixtures) are outweighed by the negatives of children having to travel very far to get to school. The schools would be less accessible to children and their families. Renovating existing spaces accomplishes two goals. One is enhancing a space that is potentially a community blight. The second is turning a previously underutilized space into a usable one. Building new would leave the blight of the old schoolyard intact, and potentially make it worse.

How did BSI leverage the support of other influentials (e.g., public or private funders, businesses, community leaders)?

The program touched on a number of local funders' agendas. The main grants were from education and environment-focused groups. The initial push happened in the right place at the right time and the Tufts University Goldberg Seminar reports were the catalyst.

About the Goldberg Seminar reports (http://activecitizen.tufts.edu/goldberg/goldberg-initiative-reports/): For nearly two decades, the Goldberg Seminar reports have informed Boston's civic discourse, leading to enduring changes. The reports were published by the Boston Foundation and widely disseminated throughout Greater Boston and across the country. Perhaps the most influential Goldberg Seminar to date focused on parks and open spaces, and resulted in

one of the country's most highly-regarded blueprints for restoring urban parks called The Greening of Boston. It proposed an action agenda that led to a doubling of the city's maintenance budget and paved the way for a dramatic parks turnaround.

Another advocate and partner at the outset was the Boston Greenspace Alliance. This group was inspired by the environmental justice movement to work on green issues inside the city. The group recognized there was a legacy in the city of a lack of open space. In particular, there was a lack of access to parks for the youngest children. Two key people made it happen, the head of Greenspace Alliance and a partner at the Boston Foundation. All of the parties involved at the outset were interested in environmental education and advocating for parks.

The high cost of the program can be a real barrier to replication. The initiative cost $30M over the years. Much of it came from state and city money for education, but it couldn't have happened without the private dollars as well. Private dollars came from primarily local foundations. The private dollars paid for materials such as trees and grass but mostly paid for time. The community process required many hours. BSI and districts had to hire extra consultants.

The biggest challenge in the community planning process was always the conflict between what the budget allowed for and what people wanted. This was always the biggest frustration. Communities would say, "We don't know how much money we have, we don't know what will work." There was a delay in response from the city, so the community would have a great plan and then find out later that it wasn't feasible. It was always the city having to come back and say "no" again and again.

The public dollars came out of the school capital budget. It cost about a couple hundred thousand dollars per school. Schools applied through a competitive process. For schools that needed a project but wouldn't apply, BSI gave planning grants to hire a planner. A lot of schools hadn't had site plans before. Architects worked with school planning groups to plan the renovations. The school planning groups varied in size and makeup. Principals were always involved. Some schools had teachers and students involved. Traditionally, when it comes to school capital and renovations, someone just tells the school what to do. This process was a breath of fresh air for community stakeholders who now had a say in their schoolyard.

Monica Pallett

Community & Outdoor Learning and In-service Training Coordinator
The Little School at Duke
Interview Date: June 11, 2014

Can you tell me more about your role at the Little School?

Monica was program manager at Duke's Little School from 2012-2013, running the day-to-day operations of the school. She had a personal interest in conservation, sustainable lifestyles, and introducing young children to the outdoors and transitioned into the role of Community and Outdoor Learning and In-service Training Coordinator for both the Hillsborough and Duke Little Schools. In that capacity, she planned and implemented all training for staff members. She also oversaw all outdoor learning, from coordinating gardens, to taking children out into wild spaces.

About the Little School's woods excursions: In Hillsborough, most of the land that they go on is owned by the town of Hillsborough and a developer that has yet to develop his land. The school's leader got the developer's permission to use his land for nature walks. Monica got permission from a local watershed to go to the watershed. In Durham, they use Duke's property, also with permission.

What elements of the physical environment have the greatest potential to influence the positive mental health of children?

We have a number of kids with sensory or behavioral challenges and they are usually completely different children out in the woods and playing in the creeks. On average, all of our children are far more cooperative, helpful and mature when we are on adventures out in the woods and there is now a strong body of research to support these observations.

Being out in the woods also allows teachers to de-stress and allows them another way to connect with kids. These caregivers' mental health is another important factor to consider when attempting to increase the mental health of children. Adults experience the stress of having to keep up physical spaces like playgrounds and classrooms. It is a burden to keep up things when kids degrade and break them but in the woods, this is not an issue. Adults can connect with students in different ways.

The EPA published a report about tree canopies. When people are under a canopy, their cortisol levels drop, which leads to enhanced physical and mental health.

The concepts of responsibilities and school jobs translate really well to having a conservation curriculum, understanding that we're part of wild spaces and we have responsibility to take care of the life here. Children are used to feeling vulnerable and powerless. But when they get the opportunity to be a caretaker of vulnerable things, it makes them feel more competent and secure in the world.

It is important for children to have uncompressed time, letting them lose themselves. Not structured play, but time for them to lose themselves and lose track of time, to be engaged with what they choose.

Noise inside classrooms can be detrimental to children's mental health. That level of noise doesn't exist in the woods.

Are there other ways that children's places and spaces can play a greater role in supporting the positive mental health of children (e.g., as a connector of families to important community resources or by improving involvement and engagement of parents)?

Families come to the Little School on garden days. The center feeds them lunch and children and parents and teachers plant together.

How do stages of children's development make a difference? (e.g., 0-3, pre-school, grades K-3, and grades 4-5)

The Little School takes children across the street, into the woods as soon as they're able to walk. Starting at 18-20 months old, they go to shallow creek areas and play in the water. The earlier you start them, the better. They become natural hikers. Even before they're verbal, they understand to stay in a line and follow safety instructions. Teachers tell them what to look out for: poison ivy and snakes mostly.

Older children get to take care of the younger children in some ways. For example, the older children scrubbed the slippery rocks and put sand on them to make them safe for the younger children to walk on. They all pick up litter together.

According to the literature, environmental education doesn't necessarily influence the conservation mindset of adults. Being in nature, having complete immersion in nature does influence opinions and actions related to conservation.

What is the best way to achieve sustainable change to improve children's environments? (Attention to building new spaces and/ or renovating already existing ones)

Monica is interested in working with a conservation group to identify wild spaces near child care centers and preschools that can be put in trust for education. She envisions the children becoming caretakers of these spaces and using them for exploration and learning. It would benefit both the spaces and the people involved. This land could be owned by churches, governments, institutions like universities, etc.

How did you leverage the support of other influentials (e.g., public or private funders, businesses, community leaders)?

Monica developed partnerships with various university and community groups. These include facilities and sustainability offices at Duke to get permission to play in their woods and creeks, watershed management and outreach teams at both schools where they have adopted nearby creeks, agricultural extension agencies at both schools, Audubon society at both schools to do birding projects, and Orange County solid waste management's outreach person worked with their pre-k teachers to make worm bins for each classroom. Future partnership goals include the North Carolina Forest Service and The Sierra Club to make more spaces accessible to the schools and then to develop real hands-on activities for teachers to do with children which take care of those spaces.

Going forward we are going to be interested in looking at how different strategies compare to one another. Some criteria for comparison are cost, practical feasibility (e.g. what JRE can reasonably influence), the number of non-profit places and spaces currently in Wake County that JRE could potentially influence via the intervention, and the number of vulnerable children whose mental health is improved by the intervention. Can you talk about some of these considerations and perhaps some of the challenges you've faced in this work?

Traditional teachers are less likely to take the children out into the woods. The Little School has been hiring people who enjoy nature and for teachers who identify with the classroom space more, Monica is interested in why they are uncomfortable leaving for the forest.

State regulations do not govern the actions of child care centers outside the fenced walls of the center. The state considers it a field trip every time the children leave.

Transportation could be a barrier if there are not natural areas near the school. The Little School uses the Duke bus and the Hillsborough local bus system to go to parks and the library. Traveling via bus empowers children to be their most responsible grown-up selves, and they rise to the challenge proudly.

Safety is of utmost concern; have to have a good safety culture.

It can be prohibitively expensive to create a new child care center. There are costs associated with the building being in compliance with licensing. For example, the fire marshal needs to check your building, it must be in compliance with sanitation requirements. Monica envisions a child care center where the children move from public space to private space throughout the day and no building needs to be built or renovated for the center's use. The children use the spaces that already exist. For example, the children would go from library to community center to community garden to church. There could be different groups of children rotating through the spaces during the day. The spaces are based on partnerships with public and private entities. With the savings from the building costs, the organization could pay its people more and have better-qualified personnel.

There are places that focus on making natural play spaces at schools, which is well-intentioned but costs time and money trying to approximate a wild space instead of using a real wild space.

Afterschool for children through fifth grade could be a possibility. It could be a job creation scheme, training middle school kids and high school kids to work with younger children in wild spaces. Older children would gain teamwork and leadership skills, and all would gain conservation skills and positive mental health.

Have other localities – cities, towns, school districts, parks and recreation departments, implemented practices or programs related to places/spaces for positive children's mental health?

Summer camp programs.

Forest kindergartens.

Children First in Durham, a child care center run from a home.

Learning Outside, in Orange County offers a forest kindergarten for kids three and older. Targets the homeschool community. Kids are outside all day. One of their volunteers founded the first forest kindergarten in US. Wendy Banning, the director, could be a resources.

What aspects of Wake County's specific context and conditions (e.g., geographic layout, politics, and climate) have implications for the development and implementation of the integrated plan for optimizing places and spaces?

Monica doesn't think it would be any different than Hillsborough or Durham. She would be willing to take teachers out to woods and help them develop confidence in that topic.

Are there particular resources that I should be aware of?

Research on forest kindergartens.

Whom else should I talk to?

Google "nature preschools." Greenhearts.org has a lot of information on nature preschools as well.

Ania Shapiro

Architect, Child Care Division
Facilities Management & Services Programs
US General Services Administration/PBS
Interview Date: June 13, 2014

Background

Chief national architect overseeing 110 centers across the nation that work with children aged five weeks to pre-K. Shapiro has a great interest in and passion for designing spaces for childhood development. In her role, she works closely with architectural firms to ensure they are complying with best practices established by the General Services Administration (GSA).

What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

The most important criterion is to create a nurturing and safe environment. A full explanation of the different factors and elements that go into a safe and nurturing environment is in the GSA Child Care Center Design Guide (see end of interview for link to guide). Shapiro stated that she works to ensure spaces meet all federal and state criteria and requirements and that 90% of their centers were NAEYC accredited (compared to approximately 10% nationwide). Shapiro also stressed the importance of creating spaces that are as homelike as possible, and non-institutional.

Additional factors: environmental sustainability, integrated design (included well integrated with the community), and the quality (and well-being) of providers. Shapiro said she continually notices when she goes into a center that when there are happy teachers, the children are also happy. Finally, access to green space natural light in every classroom, access to a playground with separated areas for different age groups, and the design of the classroom are all essential components. With regard to the playground, she stated that GSA was trying to create playgrounds that had a more natural and wilder feel – but they were often limited by regulations.

Our project focuses on children ages birth to 5th grade. Are any of the factors or elements you just mentioned more important at different stages of a child's development, and, if so, how do they differ over time?

Shapiro stated that the age of a child is important to take into consideration when designing a space, as children's developmental needs differ widely over the age range covered by this project. She referenced the GSA Child Care Center Design Guide as place to learn more.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What kinds of places and spaces and quality improvements would you recommend it focus on?

Shapiro opened by remarking on the importance of early childhood education. There is no better investment we can make. In her opinion, the biggest return on investment will come from focusing funding on projects that benefit the youngest children. Shapiro also lamented the expense of child care, which often means only middle class and upper class families can afford it and those who may need it most cannot.

In terms of priorities, Shapiro encouraged the John Rex Endowment to pay attention to the physical design of child care centers, including natural light and the playground, proper didactic programming for the children, and the

quality of the provider. Place an emphasis on getting support from the community and parents, and use this support network to determine proper spaces for any new places. Good design is essential. A center should foster a nurturing home life environment where children are allowed to learn by play.

What types of quality improvements are the most cost-effective?

Shapiro noted that one of the challenges they constantly face is that high quality centers are very expensive. However, she restated her belief that the investment is one of the best.

Are there particular resources that I should be aware of?

GSA Child Care Center Design Guide

http://www.gsa.gov/graphics/pbs/designguidesmall.pdf

Kyle Snow

Director for the Center for Applied Research
National Association for the Education of Young Children
Interview Date: June 19, 2014

Background

Snow has directed the Center for Applied Research since 2010. His team ensures that NAEYC's work has basis in research and fosters communication connecting research, policy, and practice. Prior to this position, Snow received training in developmental psychology at Cornell University.

What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

NAEYC has program standards that guide the structure of the environment for young children. All guidelines are captured in our early childhood program standards. Some of them are directly related to physical environments and mental health.

Snow focused on a set of best practices that build from a pyramid approach. The base consists of developing an environment supportive of children's positive relationships and growth. Once that foundation is built, the next step is to ensure regular, flexible activities. Lastly, include parents and teachers in identifying challenges in development and then marshal resources to provide intervention where needed. This approach will create diverse and challenging environments that provide benefits for social and emotional well-being and academic outcomes. For example, with play environments, each should allow opportunities for children to play in multiple ways.

Safety should always be paramount.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What kinds of places and spaces would you recommend it focus on?

Snow recommended focusing on developing an environment that addresses specific vulnerabilities head on. For example, an environment that addresses the needs of low-income children would include access to high-quality food, clean, wide-open spaces to play, technology, and books.

One thing we are starting to know: children growing up in high-risk environments are themselves at heightened risk of poor developmental outcomes. These children are often not effectively screened for problems until the problems are manifested – screening is important, and then acting upon the net result.

A lot of literature and programs emphasize focusing on spaces where we can actually reach families. For example, there are literacy programs that work through the context of pediatricians' offices. Most families get their kids to see some kind of pediatrician during the first months of life. The pediatrician's office is a great access point for families who otherwise would not be on the grid. Also, some innovative work has been accomplished through public libraries, which provide a different access point. Churches within African American communities provide another important access point.

Think about access points. Snow recalled a recent effort that worked through the local public transportation system to communicate information to the community, which was successful because it effectively targeted the audience for dissemination.

As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

Tulsa, Oklahoma: Community Action Project (Steve Dow, Director). This not-for-profit organization functions as hub for a whole range of social and human services. One of the challenges facing community-based non-profits in terms of service delivery is that funding streams come from so many places, and each funding stream has to be managed. A few community agencies do a great job pooling together all the services that vulnerable families need.

Are there particular resources that I should be aware of?

• ACF: Building financial stability for families project, Building Strong Families project

• Vanderbilt: Center on the Social and Emotional Foundations for Early Learning (NAEYC builds off the pyramid model developed by Vanderbilt)

Anne Taylor

Emerita Professor
School of Architecture and Planning
University of New Mexico
Interview Date: June 19, 2014

Background

Taylor is "an ACSA Distinguished and Regents Professor Emerita from the School of Architecture and Planning at the University of New Mexico where she spawned the Architecture and Children program and did research on the effects of the physical environment on learning and behavior. Internationally known, she is co-author of Architecture and Children curriculum, guidebooks, and recently published *Linking Architecture and Education: Sustainable Design of Learning Environments.* Anne's goal is to implement Design Education in schools everywhere, to tap children's and adults' creativity and to tie creative design projects to math, science, technology and the arts. She says we should go from STEM to STEAM and include all the arts including architectural design in children's education." (from: http://architectureandchildren.com/index.php/about/who-we-are).

See **TED Talk video** that Taylor delivered in September on linking Architecture and Student-Centered Learning Environments (http://youtu.be/AoSMYeAI87Q)

On teaching architecture and design to children: No subject is more interdisciplinary than architecture. Every kid ought to have a measuring tape and measure the world.

Q: Is architecture an appropriate subject for young children? Yes. Even in preschool, kids are building with blocks and learning foundational concepts of architecture and design.

What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

Even the schools being built today are built and functioning in the same old thing. That is not the answer. That model is obsolete. It gives no power to children to do their own learning. Instead, Taylor recommends transitioning to the "architectural design studio" model. "It is my feeling that we need to turn classrooms into studios where students can learn by themselves." The teacher does not need to be up in the front of the room with students in straight rows. A studio design includes places and centers for different kinds of activities. One of the problems is that our teachers are not trained to use these kinds of spaces.

Highly recommended some videos on Edutopia of collaborative efforts to redesign classrooms:

http://www.edutopia.org/remake-your-class-collaborative-learning-video (reviewed this video; it is an excellent example of working with a small budget to change a classroom in one weekend and using a process that involves a teacher and students in the design process). See also: http://www.edutopia.org/master-classroom

We need to create more exciting environments that make kids go, "wow!" Let's knock down walls between classrooms, and use the core curriculum standards to inform design. It takes a lot of thought and a lot of work. And one challenge is that school districts hire "value engineers" who do not know about child development and are charged with building a space to accommodate a certain number of children at the lowest cost.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What kinds of places and spaces would you recommend it focus on?

Priority 1: Homes & Parenting

Coach parents how to set up learning environments in the home.

Priority 2: Classrooms

Visit the nearest school of architecture and look at their classroom spaces and the way instruction occurs within it. New spaces will require a new curriculum. Taylor has written curriculum for design studio classrooms for a school district in CA. We should translate developmental needs into architecture and see how the core curriculum relates to design principles. School spaces – their design and architecture – can become learning tools, like museums.

Priority 3: Natural Environments & Green Spaces

Referenced the growing body of research that makes a compelling case for natural environments, green spaces and playgrounds. Pointed to a school in Flagstaff, AZ that has a nature trail around the school. All students and teachers walk one mile around the track before school.

Involving children and parents where possible is important. You can even include preschoolers. Taylor worked with 4 and 5 year olds to design a playground. She involved architect students who worked with children using clay, drawing, and model building.

Spaces should be multisensory, and focus on supporting concept development, developmental needs, and the core curriculum.

Are there particular resources that I should be aware of?

• Basic Needs chart in the back of her latest book, *Linking Architecture and Education: Sustainable Design of Learning Environments*

• See also: The Ecology of The Learning Environment:
http://education.jhu.edu/PD/newhorizons/future/creating_the_future/crfut_taylor.cfm

An excerpt follows:

"Classrooms for the Future

In our workshops and seminars where teachers and children were asked to redesign their classrooms for the future, many unique design ideas have emerged beyond the given developmental and curricular determinants.

Some of the following represent those ideas:
1. *Eliminate desks and substitute other personal space storage and writing surfaces.*
2. *Design light and moveable partitions. Children will be moving through the environment in the future.*
3. *Create mobile furniture that has multiple uses for children.*
4. *Create an environment that is receptive to new technology and electronic devices.*
5. *Create stackable seating scaled to children.*
6. *Provide for privacy in the classroom. Corners are relatively unused spaces which could be privacy "relief" places. Some children learn better by themselves or in small groups in private spaces.*
7. *Use innovative storage systems for tables and computers to free space for other activities.*

8. *Give heating, cooling, plumbing information in the architecture by leaving a portion exposed.*

9. *Design colorful, attractive, and hospitable hallways.*

10. *Design a Velcro wall to which special instructional items can be attached.*

11. *Design hallway graphics and mini-museums.*

The rationale for this programming process is based on research from the field of Design and Behavior, which shows that if a learning environment is designed based on what is taught and learned, and if the facilities or adjacent spaces reflect concepts and principles to be learned, then both behavior and learning are affected by the design of the environment."

Lisa Tolley

Environmental Education Program Manager
Office of Environmental Education and Public Affairs
NC Department of Environment and Natural Resources
Interview Date: June 30, 2014

Background on the Office of Environmental Education and Public Affairs

The environmental education section of the NC Office of Environmental Education and Public Affairs in the NC Department of Environment and Natural Resources was established to increase environmental literacy and natural resource stewardship in North Carolina by encouraging, promoting and supporting environmental education programs, facilities and resources throughout the state.

The office manages a nationally recognized professional development program that certifies educators in environmental education. The NC Environmental Educator Certification Program provides enrollees with outdoor teaching skills, science and nature content knowledge and environmental education methods. The program is widely recognized as a credential for hiring purposes across the state, and many enrollees credit the program with advancing their careers. The program has certified more than 1,000 individuals and there are currently more than 700 enrolled in the program.

The office serves as a liaison to the Department of Public Instruction to ensure that environmental and related science content is integrated into the Common Core State and NC Essential Standards. They also work with DPI to connect teachers with the many workshops, field trips, materials and other non-formal educational opportunities offered through city, county, state and private science and environmental education facilities throughout the state. Many classroom teachers take advantage of the NC Environmental Educator Certification Program, the NC River Basin publications and the multitude of resources and professional development opportunities identified and promoted by their office.

Is positive mental health one of the motivations behind the work that you do?

It is. Natural spaces have been shown to restore people, even just views of them from windows.

A movement toward more natural areas is getting more popular in NC. More and more facilities are adding this type of natural space. The movement is continuing to grow. Child care centers are incorporating natural play areas. We've seen schools creating outdoor classrooms. On our website, there is a list of 200 facilities that incorporate natural spaces for children. The list includes botanical gardens, arboretums, and aquariums, but we've see an increase in facilities with other goals adding natural space.

The zoo in North Carolina added a kids' zone with a mud pie station and water station. They also have a woman who went to England and completed a play trainer program where you learn to play.

I'd love to learn more about work that's being done in Wake County now, and where you feel there may be room for improvement or expansion on those efforts.

In this area, the movement builds from the idea that children aren't in the outdoors enough anymore. Many people have experiences where their grandparents, their parents, or they themselves grew up on a farm. It's great to say kids should be free-range, to explore and play, but it depends where you are. If you're in an urban area, there may not be private or public areas for children to safely use to be in nature.

Maryland has a map of natural play areas and our office is in the process of making a similar map.

The Kids Together Park in Cary and other child care facilities that Nilda and Robin (at the Natural Learning Initiative) have assisted are also great examples of works in Wake that are moving toward this idea of children in nature. Preschools reach out to my office and say they need help with their outdoor area. They have just one structure on asphalt, no shade, trees, sand, or grass. I refer these preschools to NLI constantly.

Our office certifies people in environmental education. They have to do a community project when they finish their certification. Many certified individuals organized to plan and build the types of spaces I've described.

I'm on the leadership team for Children in Nature in North Carolina. Children in Nature is a national organization.

Many of the project's key stakeholders have expressed concerns that children from vulnerable populations often lack access to places and spaces that effectively promote their social and emotional development. How might the endowment direct its focus to address this concern?

We got 20 Americorps volunteers who focus on underserved populations. In order to define underserved, we look at tiers of counties, free and reduced price lunch eligibility, and physical and mental disabilities. Two Americorps members worked with the Salvation Army's Center for Hope. The volunteers added vegetable gardening beds.

Another local organization working with high-risk populations is the Botanical Garden in Chapel Hill. They were working with at-risk youth, particularly teenage girls. They also have a horticultural therapy program there that goes out to children's hospitals.

Every year we survey teachers to figure out what the barriers are to implementing environmental education. Transportation is always ranked right up there. I know organizations that have partnered with rental car places to get donations of vans and funding for different projects. That type of corporate sponsorship can increase access and transportation. We've got a lot of members that are informal educators that target underserved schools. They go out to underserved schools. But then there's a catch-22 because state parks want them to come see the park, get that immersion, but access is more difficult that way. Some state parks have found that if they attract teachers, offer perks to them, they will find ways to get children out. For example, free park passes to teachers.

Many of the project's stakeholders are also interested in how interventions can impact caregiver-child interaction. That could be relationships between parents and children or even teachers and children. How might the endowment direct its focus to address this concern?

I know a member who targeted a low-income housing complex for a program including bird boxes. They worked with families and children, looking at and taking care of the local bird life.

The Walnut Creek Wetlands Center is a partnership started through an Episcopal church in an underserved area of southeast Raleigh. The church was instrumental in getting it built. So kids in that neighborhood that don't have as much to do in the afternoons are engaged in the Wetlands Center. Sherry A. Graham is the Director of the center.

As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

The Grove School in Cary: http://www.groveschool.com/cary/

As far as outdoor elements, you may want to visit the Kids Together Park in Cary (Robin Moore with NLI was one of the designers: http://kidstogethercary.org/index.htm)

White Deer Park in Garner has a natural playground http://www.youtube.com/watch?v=BXk-TJ0bgGc (video by Joe Miller)

Prairie Ridge EcoStation in Raleigh has a nature play space http://naturalsciences.org/prairie-ridge-ecostation/nature-play-space as does the

NC Botanical Garden http://www.wral.com/lifestyles/goaskmom/blogpost/11089325/

Chapel Hill Botanical Garden. Nancy Easterling, Director of Education.

The U.S. Environmental Protection Agency and the National Institute of Environmental Health Sciences have a child care facility in Research Triangle Park called First Environments Early Learning Center

From the FEELC website:

Designed to maximize natural light, FEELC's "interactive building" uses found objects and donated materials that change in response to children's interests. The grounds hold many gardens, including an edible garden harvested for meals at the school, natural areas for exploration, a playground and outdoor stage. Found objects made into art by children hang from ceilings, walls and are scattered indoors and out.

FEELC's sustainable operations policy creatively and cooperatively maximizes funds, staff and community resources. Sustainability permeates both programming and operations. Creatively reusing discarded and donated materials teaches conservation while fostering creativity. Gardening introduces earth friendly practices like mulching, capturing irrigation water and planting to attract bees and butterflies. Catching and releasing small insects for study inspires scientific exploration and demonstrates the need to preserve natural habitats.

FEELC recruits and retains professional teachers who are dedicated to the hearts and development of young children. Staff collaboration, cross–training and the opportunity to use individual creativity make for very low turnover rates among staff.

Are there particular resources that I should be aware of?

- The Southeastern Environmental Education Conference is in September. It takes place near the North Carolina Zoo. That might be a good place to meet others who are working in this space.

- Horticultural Therapy Program at the NC Botanical Garden http://ncbg.unc.edu/horticultural-therapy

- Healing and Hope Through Science is a program of the North Carolina Botanical Garden that serves hospitalized children at Duke and UNC hospitals. http://ncbg.unc.edu/healing-and-hope

- American Horticultural Therapy Association http://ahta.org/horticultural-therapy

- Closing the Achievement Gap: Using the environment as an integrating context for learning. See attached document. Gerald A Lieberman has done research on benefits of integrating the environment into the curriculum using an interdisciplinary method. http://www.seer.org

- David Sobel – http://www.antiochne.edu/employeedirectory/david-sobel has done work on place-based education and cognitive development of children. Beyond Ecophobia: Reclaiming the Heart in Nature Education. David Sobel has written a great deal on this subject. http://www.amazon.com/Beyond-Ecophobia-Reclaiming-Education-Literacy/dp/0913098507

- Kids in Parks http://kidsinparks.com/about

- Several NC State Parks are in partnership with Kids in Parks to do Track Trails.

- Last Child in the Woods – Richard Louv http://www.amazon.com/Last-Child-Woods-Children-Nature-Deficit/dp/156512605X

- Both the Center for Human Earth Restoration and the Center for Education, Imagination and the Natural World focus using children and the environment and follow the philosophies of Thomas Berry.

- Center for Human Earth Restoration http://www.centerforhuman-earthrestoration.com and the video, Making Peace with Bugs http://science.unctv.org/content/making-peace-bugs

- Center for Education, Imagination and the Natural World http://www.beholdnature.org/programoverview.php

These are links to the results from two teacher surveys we sent out to determine how non-formal educators could better serve teachers

Beyond the Field Trip: What Teachers Really Need

http://web.eenorthcarolina.org/resource/about.aspx?s=106876.0.0.37430

http://web.eenorthcarolina.org/core/item/page.aspx?s=112317.0.0.37430

We are located in the Nature Research Center in downtown Raleigh and have an environmental literacy center. To search the catalog visit http://catalog.ncdcr.gov/vwebv/searchAdvanced and choose "Environmental Education Office" under "Library Location."

Cynthia Uline

Director, National Center for the Twenty-First Century Schoolhouse
San Diego State University
Interview Date: June 17, 2014

Background

Uline's work extends over the past 19 years, first in higher education at Ohio State University, where she focused on school design and its influence on learning and the community. She also taught a course on facility planning. Now Uline serves as the Director of National Center for the Twenty-First Century Schoolhouse. She has developed an online facility planning certificate program. Her research has looked at the relationship between the physical and social environments in K-12 schools, and includes quantitative and qualitative analysis (e.g., surveys combined with case studies). She also has an interest in sustainable school design and leadership.

What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

A repeated message from students is that a factor that matters most is their sense of belonging. What aspects of the physical environment help them feel connected? Qualities include movement (ease with which people can find their way through a building), ability to be independent in spaces, and elbow room. Dense populations are usually a negative factor in student learning. Students should feel like they have the space to stretch and move, the ability to be comfortable and able to learn. Classrooms must be flexible and responsive (to both students and teachers). Flexible means space being able to change based on activity.

Others important aspects of spaces include play of light (presence of natural light), views from the outside, social exchange, aesthetics (pleasing nature of environment; clearly tied to notion of belonging), safety and security.

See Uline's article "The Walls Speak" for a full review of this research.

Our project focuses on children ages birth to 5th grade. Are any of the factors or elements you just mentioned more important at different stages of a child's development, and, if so, how do they differ over time?

Uline believes these factors are generally important across all age groups. She stressed the importance of developmentally appropriate design and referenced Crow Island School as an example. Crow Island School, originally designed with John Dewey's philosophy of education in mind, was one of the first schools to take seriously the size of children it was meant to serve. The school was built to scale, and displayed attentiveness to the individual child, driving home the point of developmentally appropriate spaces. Uline also noted that as children get older, they have increasing desire to have some control over their space, and that design should promote independence and autonomy where appropriate.

If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

What types of quality improvements of these places and spaces would you recommend it prioritize?

If we are talking about students who are from low SES who tend to attend school or daycare in facilities that are less than optimum: Bringing spaces up to some sense of adequacy is a big job in and of itself. Our research shows that

things as simple as cleanliness make a big difference. Cleanliness operated separately from all other variables we investigated. Poor kids attend schools that look different from the schools that wealthier kids attend. Upgrade facilities across dimensions of facility quality mentioned above.

What types of quality improvements are the most cost-effective?

It is possible to renovate education facilities in a cost effective manner that increases quality.

Aspects of the environment that have been most often shown to make a difference: light, A/C (those aspects that have a physiological impact on people); aesthetics (paint, artificial lighting, soft versus hard environments, introducing carpeting, flexible soft furniture); and spaces that are flexible enough to respond to kids' different learning styles.

Many of the project's key stakeholders have expressed concerns that children from vulnerable populations often lack access to places and spaces that effectively promote their social and emotional development. How might the endowment direct its focus to address this concern?

Focus on school facilities because children spend more time in school than in any other place with the exception of the home.

As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

See Anne Taylor's book (below).

I would recommend that you focus on a range of places (Montessori schools, K-12 neighborhood schools, schools in museums, incredible shared use spaces).

Are there particular resources that I should be aware of?

- *Linking Architecture and Education,* Anne Taylor, New Mexico Scholar and Architect
- *School Design Together,* Ed. Pamela Wollmer

Appendix 1: Bibliography Sorted by Topic

Articles and reports are sorted into the following thirteen topics. The topics emerged as the literature review progressed. The research team noticed that some topics have been more heavily researched than others and that some have more of a basis in peer-reviewed articles. Two topics, Psychiatric Residential Treatment Facilities and Libraries, did not arise organically, but were deliberately searched. These two topics had come up in talks with stakeholders as possible places of interest. However, they do not have as much support in the literature as the other subjects.

Works noted with an asterisk were read carefully by the research team. Works without an asterisk received less careful evaluation but may be of use for future related projects.

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* Indicates that the researchers contacted the organization or individual for an interview

Appendix 2: Interviewees and Prospective Interviewees

The following sections contain a list of experts whom the researchers interviewed and a list of experts who the researchers contacted but did not interview. The interviewers called and emailed prospective interviewees to make contact and schedule times to talk. After carrying out a robust set of interviews, the interviewers stopped contacting new prospective interviewees and reduced attempts to contact those who had yet to respond.

Interviewed

Gary Evans, Cornell University
College of Human Ecology
Department of Design and Environmental Analysis
Department of Human Development
http://www.human.cornell.edu/bio.cfm?netid=gwe1

Nilda Cosco, NC State University
College of Design
Natural Learning Initiative
http://design.ncsu.edu/research/natural-learning-initiative

Patrick Brosnan (and Robin Randall), America's Schoolhouse Council
Board President, America's Schoolhouse Council
CEO of Legat Architecture
http://asc1.dreamhosters.com/

Andrea Faber Taylor, University of Illinois at Urbana-Champaign
Landscape and Human Health Laboratory
http://lhhl.illinois.edu/about.htm

Monica Pallett, The Little School at Duke
The Little School at Duke
http://www.thelittleschool.net/duke/staff/support-staff

Russ Lopez, Boston University
Boston University
School of Public Health
http://people.bu.edu/rptlopez/

Ania Shapiro, U.S. General Services Administration (GSA)
U.S. General Services Administration (GSA)
GSA Child care Division
Child care Operations Center of Expertise
https://www.wbdg.org/wbdg_dgc.php

Kyle Snow, National Association for the Education of Young Children
National Association for the Education of Young Children (NAEYC)
Center for Applied Research

* Indicates that the interviewee prospect was contacted

Anne Taylor, University of New Mexico
University of New Mexico

Lisa Tolley, NC Department of Environment and Natural Resources
Environmental Education Program Manager
Office of Environmental Education and Public Affairs

Cynthia Uline, San Diego State University
National Center for the 21st Century Schoolhouse
San Diego State University

Prospective Interviewees[1]

*Peter Barrett, University of Salford
Salford Centre for Research and Innovation
p.s.barrett@salford.ac.uk

Thomas Barrie,[2] NC State University
College of Design
Director, Affordable Housing and Sustainable Communities Initiative
http://design.ncsu.edu/research/architecture-in-the-public-interest

Herbert Broda, Ashland University
Professor, College of Education
http://www.ashland.edu/coe/faculty-staff/dr-herb-broda

*Joe Frost, University of Texas at Austin
Professor Emeritus, Department of Curriculum and Instruction, College of Education.
http://www.utexas.edu/experts/joe_frost

Roger Hart, City University of New York
Director of the Center for Human Environments and the Children's
Environments Research Group at the Graduate Center
City University of New York
http://www.gc.cuny.edu/Faculty/Core-Bios/Roger-Hart

*Deborah McKoy, University of California Berkeley
Executive Director
Center for Cities & Schools
http://citiesandschools.berkeley.edu/staff-mckoy.html

*Myeta Moon, KaBOOM!
Director of Advocacy
KaBOOM!
https://kaboom.org/about_kaboom/staff/advocacy_community_engagement

1 * Indicates that the interviewee prospect was contacted
2 On the Project Stakeholder Council

*Gary T. Moore, University of Sydney

Emeritus Professor of Environment-Behavior Studies

School of Architecture, Design & Planning

http://sydney.edu.au/architecture/staff/homepage/gtmoore.shtml

*Robin Moore, NC State University

College of Design

Director of Natural Learning Initiative

http://design.ncsu.edu/research/natural-learning-initiative

David Satterthwaite, International Institute for Environment and Development

International Institute for Environment and Development

www.iied.org

*Jennifer Sisak, NC Council of Educational Facility Planners

President, NC Council of Educational Facility Planners, International (CEFPI)

Ratio Architects

http://www.cefpi.org/i4a/pages/index.cfm?pageid=3506

*C. Kenneth Tanner, University of Georgia

Faculty of Engineering with a specialty in school design

cktanner@uga.edu

Appendix 2b: Framework for Interviews

Questions

1. What factors or elements of the physical and social environments in children's places and spaces have the greatest potential to influence the positive mental health of children?

2. Our project focuses on children ages birth to 5th grade. Are any of the factors or elements you just mentioned more important at different stages of a child's development, and, if so, how do they differ over time?

3. If you were advising a philanthropic endowment with limited financial resources on the best strategy for transforming local spaces and places to promote the positive mental health of children, especially children from vulnerable populations:

    a. What kinds of places and spaces would you recommend it focus on?

    b. To what extent would you recommend the endowment base its focus on the amount of time children spend in the place or space?

    c. What types of quality improvements of these places and spaces would you recommend it prioritize?

    d. What types of quality improvements are the most cost-effective?

4. Many of the project's key stakeholders have expressed concerns that children from vulnerable populations often lack access to places and spaces that effectively promote their social and emotional development. How might the endowment direct its focus to address this concern?

5. As part of this project, we plan to conduct case studies that examine places that have successfully promoted the mental health of children. Can you identify a few specific places and spaces that are especially effective at promoting children's positive mental health?

6. Are there particular resources that I should be aware of?

    a. Scholars or organizations with expertise in this area?

    b. Articles or books?

    c. Evidence-based standards and guidelines?

7. What's one question I didn't ask that you think I should ask going forward?

Appendix 3: Catalog of Exemplary Places

This catalog was compiled from sites recommended by interviewees, models referenced in the literature, and projects that have won awards or gained national recognition. Exemplary places tend to incorporate multiple aspects that have the potential to improve children's mental health. For example, a hospital space may include both a rooftop garden as well as an arts component. The researchers also took care to include spaces that attract vulnerable children and their families already. This way, the access barrier would be somewhat ameliorated. The researchers also emphasize exemplary models that already exist in Wake County, since it would be ideal for the John Rex Endowment's work to build upon the work and momentum already underway.

Outdoor Spaces

Boston Schoolyard Initiative, Boston, MA

The Boston Schoolyard Initiative is a public-private partnership between the City of Boston, Boston Public Schools and the Boston Schoolyard Funders Collaborative. The Boston Schoolyard Initiative website contains information, worksheets and templates to support the work of schoolyard committees, including meeting agendas, flyer templates and resources for engaging the schoolyard community in the schoolyard planning process.

www.schoolyards.org/

Imagination Playground at South Street Seaport, NYC, NY

Architect and designer David Rockwell has designed a space where children 12 and under can be the masters of their own universe. He has tapped the European tradition of adventure playgrounds, in which creative fun is prioritized over the exercise of gross-motor skills. "Play is how we explore the world," he says. "And so many great playground ideas have been edited out by overplanning."

The space's perimeter is a wooden runway in the shape of an infinity symbol. The area within is dominated by loose parts—mostly found objects, such as wheelbarrows, buckets, rope and large white sheets—and a truckload of foamy blue shapes manufactured by Rockwell's design team. There is also an abundance of sand and water. Although there will always be Parks Department--trained "play associates" on hand to oversee the loose parts, things are bound to get messy.

http://www.timeout.com/new-york-kids/things-to-do/imagination-playground-at-south-street-seaport

Same designer, similar space:

Betsy Head Park (newly planned playground), Brooklyn, NY

http://www.nytimes.com/2013/12/18/nyregion/in-a-brooklyn-park-design-movable-parts-at-play.html?_r=1&

Maryland Public Schools

In September 2010, the Maryland State Board of Education adopted new regulations (COMAR 13A.04.17.01 Environmental Education Instructional Programs Grades Pre-kindergarten to 12) that require all Maryland public school systems to provide a comprehensive multidisciplinary environmental   education program infused with current curricular offerings. This program is aligned with the Maryland Environmental Literacy Curriculum. In June 2011, the Maryland State Board of Education adopted COMAR 13A.03.02.04 adding Environmental Education as part of the State graduation requirements.

Maryland public schools collaborate with the Maryland Association for Environmental and Outdoor Education.

Since 1985, MAEOE, a nonprofit educational association, has served thousands of teachers and students at all grade levels, natural resource managers, nature center staff, and environmental program managers with dynamic training programs, workshops, conferences, awards programs, networking opportunities, publications, and related resources.

http://marylandpublicschools.org/NR/rdonlyres/FCB60C1D-6CC2-4270-BDAA-153D67247324/32899/PlanningConstructingUsingSchoolCourtyards_062012.pdf

North Carolina Joint Use Agreements

North Carolina Department of Public Instruction and Division of Public Health (2012). Promoting Physical Activity Through Joint Use Agreements: A Guide for North Carolina Schools and Communities to Develop and Use Joint Use Agreements.

http://www.nchealthyschools.org/docs/home/use-agreements.pdf

Robin Moore, Raleigh, NC

Projects designed by Moore at NC State including:

- Bright Horizons Family Solutions Child Development Center, Research Triangle Park
- Environmental Yard, Berkeley, CA
- Nature Playscape, Cincinnati Nature Center
- Kids Together Park, Cary
- Blanchie Carter Discovery Park at Southern Pines Primary School

School and Child Care Spaces

Ann Reid Early Childhood Center, Naperville, IL

To make children feel at ease, the space was divided into a "learning village" of four educational neighborhoods that are connected to each other via communal areas and provide multiple opportunities for interaction. The corridors, or neighborhood "streets," have various instructional wall surfaces and built-in manipulatives, e.g., letter blocks on skewers in hallways.

The children at Ann Reid get a firsthand experience of the sustainable landscape design from windows that frame seating areas that are snuggled within the millwork and finished with cushions. Just outside the windows, rain is celebrated on stone pathways that follow sweeping curves to maximize the opportunity for infiltration before a last-stop catch basin.

The facility also includes windows along the lower wall in classrooms to allow light to enter and meet the district's intent to encourage students to be more engaged with nature.

http://www.schoolconstructionnews.com/articles/2011/08/17/early-education-center-uses-child-centered-design

Atrium School, Watertown, MA

This project called for the adaptive reuse of a brick warehouse on a limited site in a mixed industrial/residential neighborhood into a functional schoolhouse for an expanding, independent K-6 program. The transformation required rethinking the building's orientation relative to site and creating a playful interior sequence that breaks down the long and narrow building volume.

http://www.designshare.com/index.php/projects/atrium-school

Chicago Commons, Paulo Freire Family Center, Chicago, IL

Opened in 2001, the Freire center, named after the influential Brazilian educator, is operated by Chicago Commons, a group that offers a wide range of resources for residents in the city's poorest neighborhoods, from early childhood education programs to adult day care for the elderly.

The center and its federally funded education programs have been a "safe haven" in the neighborhood, which has experienced serious gang violence.

Like the other three family centers operated by Chicago Commons, the Back of the Yards facility operates under the Reggio Emilia approach to education, a method that prioritizes a child's involvement in their school surroundings, makes teachers "co-collaborators" and encourages parental involvement.

The building's hallways are lined with kids' "experience" projects, like a colorful canvas painted by brooms and art projects made from recycled materials.

The goal is to make the toddlers "school ready," and Chicago Commons leaders boast of the percentage of their students who've met or exceeded expectations for "kindergarten readiness."

http://www.dnainfo.com/chicago/20131023/back-of-yards/paulo-freire-family-center-safe-haven-back-of-yards

Child Care Center at Hort Woods, State College, PA

The Hort Woods Center curriculum is integrated with the Penn State College of Health and Human Development (HHD). According to Linda Reichert, Center director, "The HHD Family Studies students do full-time internships here, and School of Visual Arts students work with the kids on a variety of sustainable arts. The School of Music students also do activities with preschoolers every week. Kids get exposure to tap dancing, ballet and even traditional Irish dancing. We are very lucky to have the campus as an oasis of resources for child enrichment." It is a true living laboratory for Penn State.

The building has three natural, outdoor learning environments that were designed to accommodate the center's varying age groups. The first floor includes five classrooms for infants and toddlers, shared and common spaces, a multipurpose area called the "imagine-atrium," an atelier, a library and outdoor patios. The second floor includes five classrooms for preschool children, family gathering areas and library space. The building's sustainable design intentionally focuses on educating the young children who attend the center about the importance of conserving natural resources. The center's three natural playgrounds help young children get in touch with the natural environment. Features include a custom climber, pull-up bars, musical instruments, interactive water features and meandering pathways with special impact-absorbing surfacing material.

http://news.psu.edu/story/290932/2013/10/10/campus-life/penn-state-child-care-center-awarded-leed-platinum-certification

The Children's School, Stamford, CT

"This modified one-room schoolhouse for an established Montessori school is designed to support their child-centered teaching methodologies. The open space encourages the free movement of the child through different learning areas. Environmentally sensitive design features instill values of conservation and stewardship in the students" (from DesignShare.com).

http://www.designshare.com/index.php/projects/the-childrens-school/intro

Community Action Project, Tulsa, Oklahoma

Our method is to combine early childhood education of the highest caliber with innovative family financial and health services and targeted community improvement efforts.

The Community Action Project (CAP) of Tulsa is the largest anti-poverty agency in Oklahoma. We believe every family and every child deserves the same opportunity for success. This is achieved by empowering low-income families with the education and tools they need to break the cycle of poverty. CAP Tulsa provides the support and guidance with early childhood education and comprehensive enrichment programs for the entire family.

CAP Tulsa specifically focuses on a two generation approach that aims not only to prepare young children for future success in school, but also their parents through programs designed to increase parenting skills, employability and earning potential. Our goal is that children enter school prepared for success, families create a nurturing and secure environment for their children and that families are connected to one another.

http://captulsa.org/about-cap/

First National Child Development Center, Omaha, NE

Our Child Development Center espouses a child-centered philosophy of teaching and learning. It is based on the premise that each child is an individual with a unique pattern of development capabilities, temperamental characteristic and learning styles. Our roots and commitment to a child centered philosophy lie in our respect for the "specialness" of young children and our collective delight in the unfolding wonders of their growth and development. Small group sizes, intensive teacher child ratios, and highly qualified and trained faculty provides assurance that each child receives individual attention and a sense of belonging. The facility has over 100 square feet per child of interior space-exceeding national and state licensing standards. Spacious muscle play areas with interior slide and riding toys, also used for parent events or large meetings, are attractive to children, parents, and faculty. Lare "window box" seats bring the outdoors indoors. There are platform loft areas for dramatic play, science exploration, and storybook time. Outdoor playgrounds designed for each age group with multiple zones, safety surfaces, interesting trike paths, climbers and sand/ water play features. Interior water room that is interactive and available all year round.

http://www.designshare.com/index.php/projects/first-national-child-center/narratives

Fuji Kindergarten, Tachikawa, Tokyo, Japan

The oval-shaped building makes full use of the tight urban site. The design maximizes the space available for secure but unconstrained play and child development in line with Montessori principles, with a roof deck running around the entire single-story structure and a large enclosed central courtyard. Three mature trees have been incorporated into the building, protruding through the roof to form a green canopy that provides welcome shade for part of the roof deck in summer. The school has been designed to allow children to mix and move around at will. There are no fixed walls between the classrooms, and children can move between class groups. All furniture can be easily rearranged to accommodate different group sizes and different activities. As well as chairs and desks for the children, there are many wooden boxes that are used to partition smaller areas or to provide additional benches for seating. For most of the year, the large sliding screens that form the inner wall of the building are pushed back, opening up the interior spaces to the sheltered courtyard in the center of the school. In the winter, when the sliding wall screens remain closed, the rooms are kept warm using an underfloor heating system. Lighting can be adjusted using ceiling-mounted pull cords.

http://edfacilitiesinvestment-db.org/facilities/9

Great Beginnings Early Education Center, Lee's Summit, MO

Excellent educational programs are seldom the result of a building alone; however, through the cooperative efforts of a diverse group of participants the center was a natural. Spawned by a private donation, the School District was challenged to provide a much needed new facility for Parents As Teachers and Early Childhood Education so the staff members can work side-by-side and share employee resources and facilities in order to best serve children and families.

The new facility doubles the amount of space dedicated to these programs. Central to the facility is an entry lobby with clerestory windows, a spacious multi-purpose room, offices and therapy spaces. To the south are twelve classrooms for the physically or developmentally delayed children accepted into the Early Childhood program. The design promoted the use of shapes and colors for way-finding to provide a recognizable element for students. The Parents As Teachers program is to the north and contains thirty-six individual work stations for parent educators in an open workstation concept to maximize staff interaction.

Parents As Teachers (PAT) is a home/community/school partnership designed to support parents in their parenting role. This free, voluntary program provides personal visits from certified parent educators who are trained in early childhood development. They assist parents in recognizing and discovering the seven developmental stages in their child's life and in discovering any conditions that might hinder their child's development. Last year nearly 10,000 family visits were made by 34 parent educators in Lee's Summit. Additionally, PAT provides other services including developmental screenings, parent group meetings, teen parent groups, and special programs for children with disabilities, English as a Second Language families, and single-parent households.

Combining these two programs in a shared facility allows more children to be served, and provides greater staff flexibility and collaboration. Despite the challenges along the way, the end result is a cohesive facility harmoniously blended into a park setting providing an enriching educational environment.

http://www.designshare.com/index.php/projects/great-beginnings-early-education-center/intro

Harris Family Children's Center, Exeter, NH

This facility incorporates principles from the Reggio Emilia schools in Italy. It provides extraordinary early education for the faculty and staff children of a secondary school in New England. Sited on 15 landscaped acres, the center provides wonderful outdoor as well as indoor learning experiences for infants to five years.

http://www.designshare.com/index.php/projects/harris-family-childrens-center/intro

Head Start at Windermere, East Cleveland, OH

The concept of the site location places a federally funded Early Education Facility near public transportation. A parent or guardian dependent on public transportation could walk their child from the transit station to the facility and proceed on public transportation to their place of work. This necessitated constructing an extension of the existing canopies. To keep the walking distance to a minimum, the front entry of the facility does not face south to main avenue but to the north nearest the station. The reversal of street engagement required that special attention be paid to the rear of the building which fronted the street and to indicate the actual entry to the building.

http://www.designshare.com/index.php/projects/head-start-at-windermere/images

J. Lyndal Hughes Elementary School, Roanoke, TX

The school is in Northwest ISD, near Fort Worth, TX. It was the first in a series of schools built from the districts' most recent prototypical design. The school is efficient, innovative, inviting and functional. Designed to house 650 students, grades K-5, one of this school's standout features is the garage door-like overhead panels that separate classroom spaces from the "flex spaces" that connect two classrooms. Another innovative feature is the cafeteria space

that opens up to become a performance stage, allowing the room to double as an auditorium. This feature extends the capabilities of room beyond students and teachers to become an event facility for the community at large. The school's predominant feature — in the corridors, classrooms, offices and assembly/public spaces — is its transparency and flood of natural light. The result is an open, welcoming and secure environment that is both a neighborhood school and a community multi-purpose facility.

http://www.designshare.com/index.php/projects/lyndal-hughes-elementary-school

Mothers' Club Family Learning Center, Pasadena, CA

Two-Generation Learning means that parents and children simultaneously acquire new skills and knowledge that result in positive outcomes for both generations. Research demonstrates that increasing the education levels of parents increases learning outcomes in children. Research also shows that children from low-income families do better in school if they participate in high-quality early childhood programs that require intensive parent involvement.

Mothers' Club is the only agency in Pasadena offering a dual generation approach to at-risk children and their parents. Our high-quality early childhood education requires active parent participation and is consistently ranked among the top programs in the region. Our holistic services for parents include English as a second language classes, parenting education, mental health support, family literacy, computer training, kindergarten transition, health & wellness, and much more.

http://www.designshare.com/index.php/projects/mothers-club-family-learning-center

PK Yonge Developmental Research School, Gainesville, FL

"A unique & progressive community on a beautifully wooded site. The school's prized possession is their Tumblin' Creek, which is not only the heart of the campus but also a threshold between the primary and secondary campuses. The elementary school is situated alongside the creek, taking advantage of the views and the shade from the existing, mature trees. The main drop-off point is at the north side of the campus - students will then descend down ramps and stairs, following the site's topography to the main entrance that is at the center of the school. The double-height main entrance commons is open & welcoming, connecting all three of the Small Learning Communities: Kindergarten & 1st Grade (ground level west wing), 2nd & 3rd Grades (ground level east wing), and 4th & 5th Grades (second level). The focus of the school's design is to be respectful to the beautiful site that it sits on and to strive towards the highest environmental sustainable standards. This school, with planning and design work by Fielding Nair International, exemplifies a 21st century learning community. This video shows how the curriculum and learning at the school is impacted by the space they are practiced in" (from DesignShare.com).

http://www.youtube.com/watch?v=NT7Sy9APTPo&feature=youtu.be

Ruth Staples Child Development Center, Lincoln, NE

The Ruth Staples Child Development Laboratory is a high quality children's program where college students train to be teachers and scholars learn more about young children through research. Our nationally accredited program offers full day child care services for children eighteen months through five years. As a teacher training facility, university students take an active role in the classrooms by planning, implementing, and evaluating activities with the children, under the supervision of our outstanding faculty.

In addition to our classrooms children can visit specialized areas such as our indoor wading pool or art studio. Children have daily outdoor play in our spacious, state-of-the-art playground, and the Angeline Anderson Children's Garden. The Garden provides opportunities for children to observe, wonder, and marvel in their relationship with nature.

http://cehs.unl.edu/cyaf/outreach/staplesLab.shtml

Tacoma Community College's Early Learning Center, Tacoma, WA

A comprehensive approach to early learning center design considers the educational priorities of three groups. First are the young children, supporting their learning in appropriate ways at the very earliest age. Second are the young adults who, as new parents or before they become parents, need to be educated about child development and parents' important role in it. Third are the practitioners and providers who need to be well educated and updated regularly on the latest research and best practices.

Early learning center designs should have an integrated focus on children, parents and practitioners. The facility, which serves up to 116 children, includes classrooms for infants, toddlers and preschoolers. There is a resource room where parents can study and consult about guiding their child's learning progress.

Classrooms are paired to share storage, food prep and toileting/changing facilities. Each pair of classrooms has a shared project area for messy activities like crafts and eating, with direct access to outdoors.

http://www.djc.com/news/co/12020008.html

Healthcare Spaces

University of Wisconsin's American Family Children's Hospital, Madison, WI

American Family Children's Hospital is a comprehensive pediatric medical and surgical center featuring nationally recognized pediatric specialists in fields from Cardiology to Cancer, including faculty from the University of Wisconsin School of Medicine and Public Health's Department of Pediatrics.

http://www.uwhealthkids.org/patient-guide/when-you-arrive/35284

Nemours Children's Hospital, Orlando, FL

Nemours is one of the largest integrated pediatric health-care systems in the United States. The nonprofit children's health organization provides primary, hospital, and clinic-based specialty care, prevention and health information services, and medical education programs in Delaware, Florida, New Jersey, and Pennsylvania. It also conducts research with a broad reach.

Design includes

- Floor-to-ceiling views of nature
- Children can control the color of lights in their hospital rooms
- Concierge-like greeters
- Rooftop garden

http://www.ideo.com/work/experience-design/

Phoenix Children's Hospital, Phoenix, AZ

The "big idea" for the campus is to create a welcoming oasis that provides shade and healing while emulating the natural beauty of the surrounding mountains and desert.

The campus is organized around north/south and east/west axes to promote logical way-finding throughout the campus. Distinct color palettes, animal sculptures and digital nature photographic wall covers also help with way-finding.

Ambulatory and inpatient functions are combined into one tower. Innovative stacking improves family orientation, reduces patient and staff travel distances and facilitates logical campus groupings.

A landscaped rooftop garden – decorated with oversized planters and located on the third floor – provides a play area, outdoor dining and lounge seats for patients, families and staff.

http://www.hksinc.com/insight/seeing-the-benefits-of-great-childrens-hospital-design/

Award-Winning Spaces

American School Board Journal, Learning By Design Awards Winners (see link for example)

http://issuu.com/stratton/docs/fall_2010?mode=embed&layout=http%3A%2F%2Fskin.issuu.com%2Fv%2Flight%2Flayout.xml&showFlipBtn=tru

Architectural Portfolio Citation Winners

http://schooldesigns.com/Architectural-Portfolio.aspx

Innovative Learning Environments: Design Awards Meet Research-Evidence

http://www.brikbase.org/sites/default/files/aia_cae_researchscholar2012.pdf

OECD's Designing for Education: Compendium of Exemplary Educational Facilities 2011

Showcases over 60 recently built or refurbished educational facilities from 28 countries. Collectively, these projects demonstrate state-of-the-art design in this field and each one is lavishly illustrated with color photos, plans and descriptions.

http://www.oecd.org/education/innovation-education/centreforeffectivelearningenvironmentscele/designingforeducationcompendiumofexemplaryeducationalfacilities2011.htm

Appendix 4: Organizations Working in Policy Areas Relevant to Children's Places and Spaces

The researchers identified the organizations in this section through conversations with interviewees and through resources from the National Clearinghouse for Educational Facilities website, which is no longer active. Similar information is available at the Education Facilities Clearinghouse website . This list is by no means exhaustive but helped to clarify resources and prospective interviewees. Note that many of the descriptions in this section are direct quotes from each organization's web site.

*America's Schoolhouse Council

National consortium of educational planners and designers dedicated to improving student learning through better academic facilities.

BEST: Building Educational Success Together

BEST is dedicated to expanding the effectiveness of those working to improve outcomes for children in urban public schools, focusing on the need for healthy, safe, and educationally adequate schools that are community anchors and are built and maintained in a fiscally and environmentally responsible manner.

Center for Cities and Schools. University of California, Berkeley

The Center is committed to bridging the fields of education and urban policy to create equitable, diverse, and livable cities and schools. The Center works to promote understanding of how the varieties of natural and built environments are related to school quality. This is done through investigating issues around land use policies that support quality schools, coordinating school and housing policy, and thinking outside the box of traditional school facilities. The website includes research, resources, news and events

Centre for Effective Learning Environments

In January 2009, OECD's Programme on Educational Building became the Centre for Effective Learning Environments. CELE promotes the exchange and analysis of policy, research and experience in all matters related to educational building. CELE members consist of individual governments and research agencies throughout the world. Its work is of relevance to policy-makers in national and regional authorities responsible for educational facilities, to architects, system level and institutional managers, and to researchers in the field.

Center on the Social and Emotional Foundations for Early Learning at Vanderbilt University

The Center on the Social and Emotional Foundations for Early Learning (CSEFEL) is focused on promoting the social emotional development and school readiness of young children birth to age 5. CSEFEL is a national resource center funded by the Office of Head Start and Child Care Bureau for disseminating research and evidence-based practices to early childhood programs across the country.

Children's Environments Research Group

The Children's Environments Research Group (CERG), links university scholarship with the development of policies, environments, and programs to fulfill children's rights and improve the quality of their lives. There are two major strands to our work. The first is a broad concern with the fulfillment of children's rights. The second is a more specific focus on the planning, design and management of children's physical environments.

* Indicates that the researchers contacted the organization for an interview

Children, Youth, and Environments Journal

CYE facilitates the dissemination of knowledge and stimulates discussion in support of inclusive and sustainable environments for children and youth. The peer-reviewed online journal publishes papers on a broad range of topics using different approaches, including quantitative and qualitative empirical research, theoretical, methodological and historical investigations, critical literature reviews, design analyses, post-occupancy evaluations, policy studies, and program assessments.

Collaborative for High Performance Schools

CHPS's mission is to facilitate the design, construction, and operation of high performance schools: environments that are not only energy and resource efficient, but also healthy, comfortable, well lit, and containing the amenities needed for quality education.

Council of Educational Facility Planners, International (CEFPI)

An international non-profit organization and source of information for building, renovating, and evaluating schools in order to create optimum educational facilities

Department of Health and Human Services - Head Start Facilities

Assists program directors and facilities managers with planning and designing Head Start and Early Head Start centers

DesignShare

DesignShare is the central address for the very best in educational facilities and their impact on the learning process. DesignShare provides an invaluable service as a facilitator of ideas and resources about best practices and innovation in schools from early childhood through the university level. Since 2000, over 400 case studies have been collected that showcase the most innovative learning environments from over 30 different countries.

*The International Making Cities Livable Council

IMCL is an interdisciplinary, international network of individuals and cities dedicated to making our cities and communities more livable.

The Making Cities Livable movement promotes True Urbanism, the time-tested principles of appropriate human scale architecture, mixed use shop/houses, and a compact urban fabric of blocks, streets and squares. Outdoor cafes and restaurants, farmers' markets and community festivals also enliven the public realm.

The principles of True Urbanism create a "city of short distances" where balanced transportation planning makes possible commuting via pedestrian networks, bicycle networks, traffic-quietened streets and public transportation. A measure of the city's livability is how good it is for children and youth. If a city lacks livability, they are the first to suffer. A city built on True Urbanist principles provides the ideal environment for the physical, mental and social development of children and youth.

IMCL provides consultation services on the topic of Child-Friendly Communities: The IMCL team offers an innovative approach to evaluate the impact of the built environment on the social and physical health of children and youth in your city or neighborhood, and to identify – with involvement of the community - the most effective ways to improve health and well-being through strategic interventions in the built environment.

*KaBOOM!

KaBOOM! is a national non-profit dedicated to saving play for America's children. Our mission is to create great play spaces through the participation and leadership of communities. Ultimately, we envision a place to play within walking distance of every child in America.

National Association for the Education of Young Children

NAEYC's mission is to serve and act on behalf of the needs, rights and well-being of all young children with primary focus on the provision of educational and developmental services and resources. NAEYC's website includes publications on caring spaces, learning places, children's environments that work, natural spaces for children, etc.

Education Facilities Clearinghouse

The Education Facility Clearinghouse program (EFC) was awarded to the Graduate School of Education and Human Development at the George Washington University by the U. S. Department of Education on October 1, 2013. The EFC was originally established in 1998. The purpose of the Education Facilities Clearinghouse is too collect and disseminate research and other information on effective practices regarding the planning, design, financing, procurement, construction, improvement, operation, and maintenance of safe, healthy, and high-performing facilities for Pre-K through higher education.

*National Institute of Building Sciences

The National Institute of Building Sciences is a non-profit, non-governmental organization that successfully brings together representatives of government, the professions, industry, labor and consumer interests, and regulatory agencies to focus on the identification and resolution of problems and potential problems that hamper the construction of safe, affordable structures for housing, commerce and industry throughout the United States. Authorized by the U.S. Congress, the Institute provides an authoritative source and a unique opportunity for free and candid discussion among private and public sectors within the built environment. The Institute's mission to serve the public interest is accomplished by supporting advances in building sciences and technologies for the purpose of improving the performance of our nation's buildings while reducing waste and conserving energy and resources.

*Natural Learning Initiative at North Carolina State University

The purpose of the Natural Learning Initiative is to promote the importance of the natural environment in the daily experience of all children, through environmental design, action research, education, and dissemination of information.

*School Design and Planning Laboratory (SDPL) at the University of Georgia

SDPL's mission is to advance the design and planning of safe, comfortable, developmentally appropriate learning environments for primary, elementary, middle, and high schools.

*School Design Research at College of Design, North Carolina State University

Current learning styles and teaching methods suggest the need for a new form of learning environment, and changes in the facility planning process where active collaboration is needed to reflect the diverse expertise of all stakeholders in the school community.

The Third Teacher +

The Third Teacher+ is an educational design consultancy within the global architecture firm, Cannon Design. We're a multidisciplinary group that looks at the whole picture, the whole ecology of learning. We design learning environments and use design thinking to strategize cultural, pedagogical and organizational change with clients. We believe that design can be a powerful driver of organizational learning and change. Our process is human-centered, connection seeking, experiential, and iterative. We believe that this approach and mindset is crucial to uncovering who we are as organizations, communities, and cultures and shaping who we want to become. Our process helps us facilitate authentic and holistic conversations on change. The design of places and spaces helps make manifest these shared values and empowers communities to learn, work, play, create, and connect more richly. The Third Teacher + in action: http://www.edutopia.org/remake-your-class-collaborative-learning-video

* Indicates that the researchers contacted the organization for an interview

Appendix 5: Tools for Evidence-Based Guidelines, Assessment and Measurement

Gary T Moore. The Children's Physical Environments Rating Scale (CPERS5)

"The purpose of this scale is to provide a scientifically reliable and valid assessment instrument that can be used easily by early childhood educators, architects, landscape architects, other designers, policy makers, and regulators to assess the quality of the physical environment of child care, preschool, kindergarten, and other early childhood education facilities.

The Children's Physical Environments Rating Scale (CPERS) can be used for quality assessment, post-occupancy evaluation, fundamental research, and comparative cross-country research on the environmental quality of early childhood education facilities. The scale can be used to provide systematic evaluative information to inform policy makers, managers, childhood educators, architects, and parents. The scale can also serve as a shorthand design guide for the programming (briefing), design, and pre-occupancy design evaluation of new centers, or the renovation of existing buildings."

http://www.acefacilities.org/RetrieveDocument.ashx?DocId=107eafb6-2422-4460-8236-4ef10aec3ec9

A Practical Guide to Planning, Constructing, and Using School Courtyards. Maryland State Department of Education School Facilities Branch, Jul 24, 2012

"The Maryland Department of Education guideline for courtyard design is for use by local planning committees and architects in designing new schools and developing major renovation/addition projects. This guide also will be useful to school systems, school-based staff, and parent/community groups seeking to revitalize and make better use of existing courtyards. It includes recommendations for building and plant materials; safety and security; size, volume, and orientation; construction, accessibility, maintenance, and code compliance. The guide is illustrated with numerous color photographs, diagrams, and examples from Maryland and around the world. It documents the benefits of school courtyards, including: letting natural light and ventilation into classrooms; providing a safe, contained, outdoor area for instruction; supporting environmental education programs; and offering opportunities for creative, hands-on educational activities.

In September 2010, the Maryland State Board of Education adopted new regulations (COMAR 13A.04.17.01 Environmental Education Instructional Programs for grades Pre-kindergarten to 12) that require all Maryland public school systems to provide a comprehensive multidisciplinary environmental education program infused with current curricular offerings. This program is aligned with the Maryland Environmental Literacy Curriculum. In June 2011, the Maryland State Board of Education adopted COMAR 13A.03.02.04 adding Environmental Education as part of the State graduation requirements."

http://marylandpublicschools.org/NR/rdonlyres/FCB60C1D-6CC2-4270-BDAA-153D67247324/32899/PlanningConstructingUsingSchoolCourtyards_062012_.pdf

Lackney, 2000. Thirty-Three Educational Design Principles for Schools & Community Learning Centers

Educational Design Institute. This research is sponsored by the National Clearinghouse for Educational Facilities (NCEF).

The intent of this document is to provide a framework of educational design principles from which educators and design professionals can structure the content of their educational facility development process, from the earliest

strategic and educational planning stages right through to design, construction, occupancy and facility management.

The thirty-three educational design principles encompass the body of knowledge concerning well-designed learning environments. These principles are derived from a variety of sources: from the reflective practice of educators and design professionals to the empirical research of environmental psychologists and educational researchers. Each educational design principle embraces an underlying premise that all learning environments should be learner-centered, developmentally- and age-appropriate, safe, comfortable, accessible, flexible, equitable and cost effective. The premise interwoven through all principles should be understood to moderate the appropriateness of each principle in practice.

The ultimate goal of applying the 33 principles to school design is to optimize the school and its surrounding community as an effective setting for learning. No single school building process will be able to address and implement all of these principles; some may not apply to the situation, others might not be appropriate due to budgetary limitations. For example, school size research suggests we build learner groupings of 100; however, building a school this small may not be cost effective. Therefore, other principles may need to be employed in combination to meet this principle, such as the principle of creating schools within schools. The objective in using this book as a design guide is to consider as many of these principles as are appropriate. The principles are divided into educational facility planning and design process principles, principles for site and building organization, principles for primary educational space, principles for shared school and community facilities, and community spaces, principles related to the character of all spaces, and principles related to site design and outdoor learning spaces.

http://faculty.arch.tamu.edu/rjohnson/courses/StudioF05/33SchoolDesignPrinciples.pdf

Moore, Robin. The Preschool Outdoor Environment Measurement Scale (POEMS)

The Preschool Outdoor Environment Measurement Scale (POEMS) was developed as:

- A checklist for child care teachers/caregivers and administrators interested in learning more about creating higher quality environments for children's outdoor play and learning .

- A checklist for directors and program administrators planning quality outdoor environments for young children or those who are working to improve their existing space.

- A reference tool for landscape architects and designers working with child care programs to design quality outdoor play and learning spaces.

- A guideline for new construction of child care facilities.

- A reference tool for funding agencies supporting healthy, high-quality outdoor play and learning environments for children.

- A source of guidance for policy initiatives in early childhood development.

- A research instrument to study the implications of outdoor environmental quality in children's development and learning.

http://www.poemsnc.org/

National Association for the Education of Young Children (NAEYC) Accreditation Standards and Criteria

There are ten program standards, with specific criteria attached to each, which programs must meet in order to achieve NAEYC Accreditation. The framework of the standards and criteria focus on best practices in the field and the benefits to stakeholders in early childhood education.

- Standard 1: Relationships
- Standard 2: Curriculum
- Standard 3: Teaching
- Standard 4: Assessment of Child Progress
- Standard 5: Health
- Standard 6: Teachers
- Standard 7: Families
- Standard 8: Community Relationships
- Standard 9: Physical Environment
- Standard 10: Leadership and Management

http://www.naeyc.org/academy/primary/standardsintro

Sanoff, H. (1995). Creating environments for young children. Raleigh, North Carolina State University.

The planning and design of child care centers has been undertaken without sufficient knowledge of children's spatial behavior, resulting in centers not providing appropriate physical conditions for young children's developmental needs. Research suggests that physical environment is important in supporting child development. Child care settings convey silent messages about the intentions of the caregivers and administrators, which can also influence children's behavior. The physical space requirements and activities of the preschool environment should reflect person-environment relationships which meet children's needs for personal space and privacy. This workbook contains exercises and other learning materials for young students that follow principles of good design. The book contains the following units: (1) "Goal Setting"; (2) "What Is a Learning Environment," including components of a learning center, along with how to create and rate learning centers; (3) "Playroom Design Principles," focusing on light and color, planning, and modeling the playroom; (4) "Building Image"; (5) "Planning the Facility"; and (6) "Planning Outdoor Play," including play zones, planning outdoor play (POP), playground safety, playground document scale, and mapping children's behavior. (Contains 103 references.)

Appendix 6: Literature Review Methodology

Methodology

This literature review identified over 200 relevant sources from peer-reviewed journals, books, and reports from governmental organizations, advocacy groups, dissertations, and web-based resources. The review targeted the most recent literature (post-2000), but includes systematic literature reviews that cover earlier periods, as well as some often-cited pre-2000 works. The review supplemented findings from quantitative and qualitative studies with interviews of expert scholars and practitioners in environmental psychology, architecture and design, urban planning, public health and early childhood education. (For a list of interviewees and questions, please see Appendix 2.) Research was sorted and cross-referenced into the following subgroups:

1. General studies on the relationship between spaces and places and mental health
2. Arts/Design
3. Children's participation in the design process
4. Community design
5. Hospital design
6. Housing
7. Early childhood centers and schools
8. Libraries
9. Lighting
10. Noise
11. Outdoor spaces
12. Psychiatric Residential Treatment Facilities
13. Urban environments

Key Search Words & Phrases

1. "Creating places and spaces that promote children's positive mental health"
2. "Positive mental health spaces children"
3. Built environment
4. Social emotional development
5. Mental health
6. Child development
7. Environmental psychology
8. Design AND child-care centers OR preschools OR hospitals Or playground
9. Physical environment
10. Outdoor spaces
11. Participation AND design
12. Healing environments
13. Accessibility and Universal Design
14. Ambient features of spaces (e.g. crowding, noise, natural light, air quality)

Sources Used to Identify Relevant Literature

1. Proquest Database
2. Peer-reviewed literature reviews
3. Education Full-Text Database
4. Google Scholar
5. Websites of organizations working this area
6. Governmental reports
7. Works cited in relevant articles and books
8. Recommendations through books
9. Interviews with leading experts in the field

D. Service Provider and Parent/Guardian Focus Groups Report

Introduction

This document summarizes the focus groups held as part of the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project. Focus groups provided critical input from service providers and co parents/guardians about the necessary components of spaces designed to promote mental health for children 0 – 8 years. The focus group format was designed to collect thoughtful input from Wake County service providers, and parents and guardians living in Wake County about the planning process the project team was undertaking.

Six (6) focus groups with 10-15 participants each were conducted over a four-month period as described in the following chart:

Type of Focus Group	Facilitator	Date
Young Child Mental Health Collaborative	Sarah Sabornie	June 26, 2014
Direct Service Providers	Jenni Owen	August 6, 2014
Leaders of Service Provider Organizations	Jenni Owen	August 13, 2014
Parents/Guardians Parents/Guardians (Spanish Speaking)	Ruth Peebles Ruth Peebles Petra Hagar	September 2, 2014 September 11, 2014 September 14, 2014

The project team developed a set of questions, which facilitators used to guide each focus group discussion. (See Appendix A for list of questions.) Many questions were purposefully open-ended to allow participants to introduce topics or additional areas of discussion for consideration. A summary of each of the focus group discussions follows. Please refer to Appendix B for a detailed list of participants in each of the focus groups.

Young Child Mental Health Collaborative

The Young Child Mental Health Collaborative has a history in Wake County of identifying mental health needs and gaps in service for children ages birth to five. The Collaborative has been a catalyst for change and support for mental health initiatives effecting young children.

This focus group included representatives from Wake County Human Services, North Carolina State University Department of Psychology, Lucy Daniels Center, Alliance Behavioral Health, Learning Together, and a clinical psychologist.

Young Child Mental Health Collaborative Focus Group Summary

Focus group participants were particularly interested in learning what the literature review for this project suggests regarding children's positive mental health in the context of places and spaces. Participants expressed that there are important variables to consider other than positive environments and that the location of a space may not itself be a catalyst for positive outcomes. For example, relationships within spaces are critical when focusing on children's mental health.

Participants raised questions regarding available funding for professional development, transportation and accessibility enhancements, all issues relevant to optimizing the potential positive benefits of places and spaces. Participants expressed concern about the capacity of some providers to adopt strategies for promoting positive mental

health in children. Focus group participants also suggested looking at grocery stores and Laundromats as places that the project may want to focus on given that many families frequent those locations. Wake County is large and in some parts of the County, children may be isolated. In some cases, transportation is an issue; in others, children are left unsupervised at home. Some children, particularly vulnerable children, who are the focus of the project, receive limited or no services in the summer. Some providers observed that parents and guardians do not always have the energy to take children to spaces and places or it appears not to be a priority. Providers also reported that parents seek places and spaces that accommodate children with physical disabilities and that some parents also express the need for addressing safety, particularly in urban areas.

This group reported that the topic of spaces and places for children should include other community resources, such as: Ready to Learn Centers, Durham Museum of Life and Science, clinical psychologists and healthy social behavior specialists, preschool professionals, professionals with the Wake County Public School System, and representatives of the faith community.

Recurring Themes

An overriding theme within this focus group was the assertion that this project should emphasize social design over physical space. Participants expressed concern regarding child care settings and the need for training of child care staff. They also expressed a strong desire to enhance and replicate what they believe is already working well in Wake County (e.g., Ready to Learn Centers). A secondary concern was the isolation of children and families in Wake County and the need for improved access (i.e., transportation).

Direct Service Providers and Provider Leaders

The first focus group with direct service providers included representatives from the Raleigh Children's Developmental Services Agency, Wake County Human Services, and multiple departments of the Wake County Public School System, including Office of Early Learning, Care Coordination for Children, and Project Enlightenment.

The second focus group with providers was with a cross section of provider leaders and included representatives from Wake Area Health Education Center, Alliance Behavioral Health, Habitat for Humanity, Child Care Services Association, YMCA Triangle, Lucy Daniels Center, Wake County SmartStart, and the Southeast Raleigh Assembly.

Providers identified the following as strategies they use to plan for their spaces:
• Individualized Education Programs (IEP)
• Tracking student needs and allowing the use of senses/sensory input
• Waiving fees for families unable to afford services
• Addressing family members' medical needs

Noted assets of current spaces included safe, fenced-in, structured spaces and spaces that focus on and support parents. Also noted was the presence of gardens, sand and water play. Assets also include safe spaces that offer sensory activities, interactive opportunities, climbing (indoor/outdoor), bathrooms and water fountains.

To increase positive impact on children's mental health, the groups recommended:
• Free parking;
• Access to a bus line that is within walking distance;
• Bilingual employees;
• Services and activities for the neighborhood; and
• Green space in neighborhoods, e.g., a place to safely walk with a baby.

In addition, they highlighted the need for staff to receive professional education and for parents to receive a resource list of places they can visit and use with their children. The groups also mentioned the importance of focusing on individual communities.

Providers recommended that efforts be made to:

- Integrate the culture within play that children of this generation are interested in;
- Identify the most effective ways of sharing information with professionals who are often unaware of the programs and resources that are available;
- Address underutilization of existing community centers;
- Provide more support in the child care workforce and for teachers;
- Collaborate with non-traditional partners;
- Engage pediatricians to be key messengers in the campaign to promote the use of healthy places and spaces;
- Offer more organic play opportunities;
- Offer providers administrative support and a positive emotional workplace so that they can effectively work with parents and children; and
- Educate parents and teachers about the important elements that contribute to a child's healthy play such as what to encourage, when to stand back, and when to help children understand when "play is not play."

Examples of specific innovative places and resources that focus group participants mentioned include: Pullen Park, The SEED Project (social emotional project for child care centers), a partnership between Friendship Chapel in Wake Forest Hope, Habitat for Humanity and Smart Start (Farm to Childcare Program).

Provider Focus Group and Provider Leaders Recurring Themes

Providers expressed a wide range of options for planning for intentional use of places. They agreed that there is value in bringing places and assets directly to children and families. They expressed concern about children with special needs (physical, emotional, developmental) and an interest in addressing parental needs. Providers expressed the importance of allowing children to play in unstructured ways; the importance of addressing lack of access to places and spaces and the barriers associated with cost, transportation and language; and the need for staff to receive professional development to be informed of and knowledgeable about places that support children's positive mental health.

Parents and Guardians

The project carried out three focus groups with the parents and guardians of young children. Participants included residents from the Salvation Army Shelter, Habitat for Humanity homeowners and Wake County Human Services clients.

Of high importance to parents and guardians was that their children spend time in safe, clean, learning environments that require background checks and drug screening of staff. They seek opportunities for their children to learn, foster positive interactions with peers, and offer age appropriate programming and nutritional meals. The reputation of the business or agency where their children spend time and positive interaction was also important to participants. Parents stated that they seek places that require good behavior, provide good supervision and allow children to express and be themselves. In addition, parents expressed the need for places to accommodate families with lower incomes.

The places where parents were most happy about their children spending time include:

- Home with family and relatives and those places with positive male role models;
- School recreational centers with college students serving as role models and where activities and programs are available for all ages;

- Parks or water parks that allow children to play and "let off steam";
- Locations where children can be themselves and there are not so many restrictions; and
- Museums and libraries.

The places where parents were least happy about their children spending time included:
- Their current neighborhood where safety is an issue;
- In the streets unsupervised or with negative family members;
- Alone at home when parents have to work;
- The shelter that has limited activities for children;
- Crowded or small spaces; and
- Locations that are far away and have limited or no parking.

Barriers and issues of concern include:
- Cost and limited budget;
- Lack of transportation (distance from home and work);
- Activities that interfere with school schedule;
- Lack of energy after work to take children to places;
- Lack of opportunities for children of all ages;
- Lack of age appropriateness;
- Lack of educational content; and
- Lack of security and safety.

Some of the special places that parents take their children are:
- Museums (Marbles Kids Museum and Museum of Life and Science, North Carolina Museum of Natural Sciences)
- Recreational places (local boxing arena, bowling alley, Boys and Girls Clubs)
- Congregations (churches and others)
- Parks and other outdoor venues (playgrounds, Pullen Park, Jordan Lake)
- Amusement Centers (Adventure Landing, Buffalo Road Water Park)
- Healthy food places (Farmer's Market)
- Movie theaters
- Public facilities (Massenburg Center)
- Stores (Pet Smart, Circuit City)
- Places to eat (Chuck-E-Cheese)

Parent/Guardian Focus Group Recurring Themes

The places and spaces that parents like most are: home, parks, playgrounds, libraries, agencies such as Boys and Girls Clubs, churches with activities and programs for youth, museums, and other places for learning. Parents expressed a strong desire to spend quality time with children.

Parents want a safe environment, a place that offers:
- Good supervision for their children;
- Role models and positive influences;
- A safe learning environment;

- Age appropriate activities and programming (accommodates children of all ages); and
- A place where children can be themselves and grow.

The common barriers to access places and spaces include cost, lack of transportation, and a lack of places and spaces that accommodate children of all ages. In addition, the schedule of local activities offered on weekdays often interferes with children's evening schedules.

Outside of school, children spend most of their time with parents, friends and relatives. Parents expressed that their children spend most of their time at the following places: at home, playground, daycare, library, school/school events, museums, church, community centers, mentoring groups, movies, the mall, boxing establishment, football and basketball practice, and at afterschool programming/tutoring.

Conclusion

Service providers and parents/guardians agreed that there is a consistent need for places and spaces that offer good supervision, positive influences, and age appropriate educational activities. Additionally, providers are concerned about children with special needs having access to places and spaces and in attending to the parents' needs. Providers recognize a need for children to have opportunities to play in an unstructured way.

Parents/guardians and service providers agree that the common barriers to access places and spaces are cost and lack of transportation. There is often a lack of accommodations for children of all ages at spaces and places, as well as scheduling conflicts with school activities, or language barriers.

Providers expressed a wide range of options for planning for intentional use of places and agreed that there is value in bringing places and assets to children and families. Professional development among staff members is critical and providers must be informed and knowledgeable of available places for children so they can help families access them.

Focus Group Questions

Providers

1. Do you plan for the use of the spaces in your work or organization in which children spend time?
   a. Think about the places related to your work and organization where children spend time.
   b. What are the assets of those spaces? How might those assets affect the mental health of the children you serve?
2. What are the drawbacks of those spaces? How might those drawbacks affect the mental health of the children you serve?
3. Think about how adults (parents, guardians, caretakers, teachers, professionals) can or do interact with children in those spaces.
   a. Can you think of ways that the spaces promote positive adult/child and child/child interaction?
   b. Can you think of ways that the spaces hinder positive adult/child and child/child interaction?
4. What characteristics of spaces and places do you think are most important to children's positive mental health and why?
5. In your professional opinion, what places in Wake County exemplify those characteristics?
6. If you could alter one or more aspects of the spaces where you work with children (not including a private home) to increase the positive impact on children's mental health, what would you alter and why?
7. Thinking more broadly about places in the community where children frequently spend time, what one or two aspects of those spaces would you alter?

Parents/guardians

1. Where do your children spend time?
2. Which places are you **MOST HAPPY** about your children spending time and why do you like these the most?
3. Which places are you **LEAST HAPPY** about your children spending time and why do you like these the least?
4. What's hardest about using your favorite places for your children?
5. What is most important to you about the places where your children spend time?
6. What is most important to you about the places where any children spend time?
7. Is there a special place that your children spend time that you would like us to know about so other children can enjoy it, too?

Attachment 2
Focus Group Participants

Young Child Mental Health Collaborative

Name	Organization
Patti Beardsley	Wake County Human Services
Nancy Brake	Wake County Human Services
Jennifer Evans	Wake County Human Services
Mary Haskett	NCSU Department of Psychology
Sharon Loza	Frank Porter Graham Child Development Institute
Veronica Marmaud	Alliance Behavioral Health
Nora Roehm	Capitol City Speech Therapy
Donald Rosenblitt	Lucy Daniels Center
Lauri Scholl	Alliance Behavioral Health
Kathy Spurlock	Learning Together
Barbara Still	Clinical Psychologist

Service Providers

Name	Title	Organization
Nikole Debrauwer	Early Intervention Service Coordinator	Raleigh Children's Developmental Services Agency
Ashley Montague	Social Worker	Wake County Human Services
Maria Robayo	Public Health Educator	Wake County Human Services
Sandy Somers	Social Worker	Wake County Public School System
Erica Stuckey	Social Worker	Wake County Public School System Office of Early Learning
Susan Sweney	Social Worker	Wake County Public School System
Stephanie Veeder	Social Worker	Wake County Public School System Office of Early Learning
Wendy Williams	Social Worker	Wake County Human Services
Val Wilson	Instructor	Project Enlightenment

Service Provider Leaders

Name	Title	Organization
Ruby Brown-Herring	Associate Director of Program Services for Mental Health and Public Health Education	Wake Area Health Education Center (AHEC)
Wendy Gantt	Child Mental Health Therapist	Alliance Behavioral Health
Barbara Gotay	Parent	Habitat Homeowner/ Community Organizer
Pam Hartley	VP of Exhibits and Education	Marbles Kids Museum
Syretta Hill	Director, Neighborhood Relations	Habitat for Humanity of Wake County
Deborah Kalwat	Behavior Specialist	Child Care Services Association
Kevin McLeod	Senior Director of Community Outreach	Alexander Family YMCA
Deborah Mugno	Director of Education	Lucy Daniels Center
Elizabeth Santana	Director of Early Childhood Initiatives	Wake County SmartStart
James Todd	Director of Community Impact Programs	Southeast Raleigh Assembly

Parents and Guardians

Name	Organization
Amel Bendjellal	Habitat for Humanity
Barbara Gotay	Habitat for Humanity
Jacqueline Johnson	Habitat for Humanity
Aleesha McCarthy	Habitat for Humanity
Jo-Ann Robertson	Habitat for Humanity
Maria Hurtado	Wake County Human Services
Santa Clara Valderrama Hernandez	Wake County Human Services
Alajandra Avalos	Wake County Human Services
Jessica Beaird	Wake County Human Services
Bryanetta Beaird	Wake County Human Services
Avelia Sanchez Angeles	Wake County Human Services
Karina Sias Hernandez	Wake County Human Services
Julia Gongara	Wake County Human Services
Rebecca Gongara	Wake County Human Services
Maria Hernandez	Wake County Human Services

E. Service Provider and Parent/Guardian Survey Reports

Following are summary reports of the service provider and parent/guardian surveys.

Service Provider Survey

The project's survey of Wake County service providers was designed to collect broad based input on multiple aspects of the project's scope. Attachment A lists the survey questions. The survey sought to:

- Gather information about providers' current spaces including:
  - > A classification of the type of space
  - > The provider's identified strengths and concerns about that space
  - > An indication of how children, parents, and caregivers interacted within the space
- Solicit feedback about providers' goals for their spaces and how they would change their spaces
- Solicit providers' opinions about the most important conditions and components of spaces within their organizations, and in the community
- Determine how much time children and parents spent together while in the organization, and why or why not they did or didn't interact while in the spaces
- Identify policies that promote or interfere with creating spaces that promote children's positive mental health
- Solicit recommendations for further investments in their own spaces as well as in Wake County

[Note: The survey attempted to determine how much time children spent with staff at organizations but due to confusion about terminology, the responses were not reliable thus they are not reflected in this report.]

Respondents shared extensive information about their own spaces and their views of important elements or conditions of a space for children. Respondents focused particularly on the necessity for children to be safe in the space as well as be able to move around and safely explore. When discussing the use of space, many respondents described the need for providers and parents to be trained on how to engage and interact with children in these spaces. The responses are described in more detail below and much of the raw data can be found in the Attachments.

Methodology

The survey was conducted on line using the Qualtrics platform employing skip logic in some of the questions and encouraging additional comments through the use of "other" choices throughout the survey. A link to the survey along with an invitation to complete the survey and forward it to other Wake County providers was sent by email to approximately 100 people. The recipients received two reminders to complete the survey. There was also outreach to Stakeholder Council members, specific organizations, and other individuals to improve the response rate. The survey was open for three weeks in August.

Seventy-three (73) people completed some or all parts of the survey. 70% of survey respondents identified themselves as Administrative/Management staff and 30% identified themselves as Program staff. A segment of Management staff are likely involved in some aspect of program delivery.

A diverse sampling of organizations responded to the survey. More than one staff person from the same organization responded to the survey in some cases, and respondents sometimes placed themselves in more than one of the following categories thus the total shown here is higher than the number of respondents.

Child Care = 14	School = 6
Hospital or health clinic = 6	Playground = 6
Park = 3	Museum = 2
Housing = 4	Library = 2
Community center = 14	Family services = 22
Homeless shelter for families = 3	Church = 2
Child abuse prevention program = 1	Mentoring program = 1
In-home respite program = 1	Parks and Recreation programs = 2
Domestic violence program/shelter = 1	Federally qualified community health center = 1
Child mental health clinic =1	Child advocacy center = 1
Drop in center and shelter for youth = 1	

Some respondents do not provide services to children in Wake County. They included funders, a Managed Care Organization, community collaboratives, a state agency, and a membership association.

The following pages summarize the responses from the survey, organized by the sequence of the survey questions. A copy of the survey tool can be found in Attachment A. Readers may want to review the survey tool first in order to familiarize themselves with the sequence and flow of questions. The specific survey question(s) related to the summary that follows are noted throughout in parentheses.

Types of spaces

The survey asked what types of spaces children spend their time in when they are at the provider's (respondent's) organization (Question #1). Responses were typical to the type of organization (e.g., indoor classrooms for schools, waiting rooms for service organizations, sleeping spaces for shelters). Of note is that 34 of 73 respondents stated that they have an outdoor play area. Many other spaces were noted as being designed specifically for children and include children's libraries, visitation rooms, class rooms, indoor and outdoor play spaces (Question #2).

Children's interaction with parents

The survey asked questions about how often children are with their parent(s) when they are using spaces within respondents' organizations (Questions #3 and #4), whether the parent and children are interacting with each other (Question #5), and if they are, whether this was an intentional part of programming (Question #6).

How often with a parent

Never or almost none of the time	36%
Some or all of the time	64%

As a follow up to those that answered that children and parents are together some or all of the time in their spaces, the survey asked when children and their parents are together in the space, whether or not they are engaged and interacting ("participating in an activity together, whether it's playing or socializing or something more structured").

When children are with a parent

Interacting with parent while in the space	59%
Not interacting with parent while in the space	41%

Children and parents who interacted with each other

The interactions between children and parents in the space were an intentional part of programming	60%
It just naturally happens	44%

"Children are playing while parents supervise."

Respondents who indicated that children are spending little or no time with a parent in the space were asked why (Question #7).

Children and parents who did not interact with each other

Parents don't seem to know how to interact or engage with their children	33%
Parents appear uninterested in interacting or engaging with their children	28%
Parents are overwhelmed or distracted with the program or other matters	42%
The space isn't set up for it	28%
Do not know why	12%
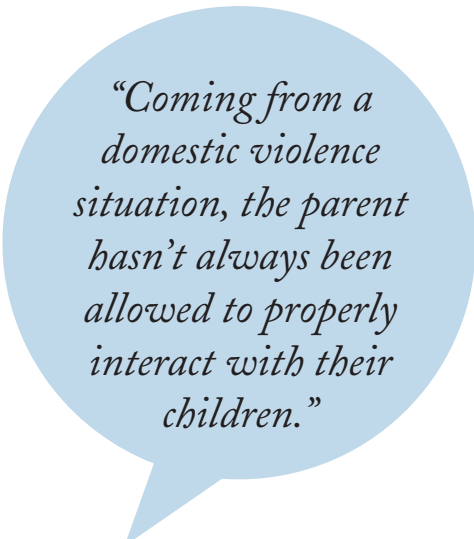
The responses indicate that there is an opportunity to influence how and under what conditions parents are interacting with their children since they are with them a majority of the time at responding organizations.

Eighteen (18) respondents that answered this question also provided comments that echo themes arising in multiple forums throughout the project, including how parents should be engaged and interacting with their children.

"Some parents do a wonderful job interacting, others are often on tech devices or interacting with other adults."

"Some parents see their role as stepping back to facilitate children's independent play or social play with other children."

Other comments highlight the challenges parents face when dealing with personal crisis.

"Coming from a domestic violence situation, the parent hasn't always been allowed to properly interact with their children."

The survey responses highlight a difference between spaces that are designed for children to spend time in while their parent applies for or receives help, and those that are designed as a service to the child. The survey results suggest a need to arrive at some consensus about how parents and service providers should interact with children when they are using spaces that are not specifically designed as a service to them.

This and related questions raise the question about whether the community at large has a common expectation of parents while their children are using spaces. It also highlights perceptions by service providers about the parent's interest or capacity to interact with their children.

What makes a good space that supports positive children's mental health?

The survey included questions that asked respondents what was most important to consider about spaces for children that promotes their positive mental health (Question #11). The survey did not indicate whether spaces would be new spaces or an expansion or modification of existing ones. Responses were categorized in most instances by age groups, i.e. 0 – 2 years; 3 – 5 years; 6 – 8 years.

Safety is a common theme across all age groups and is a priority.

Respondents noted age appropriate materials as a priority for all age groups. They also noted utility as important, e.g., "easy to maintain, easy to clean, affordable and will be sturdy enough to hold up over time."

"Emotional safety."

"Taking sharp corners, curvy spaces, and high places away for newly walking children."

"Safe area for climbing."

The survey asked respondents to categorize their answers by age group. The results follow.

The **0 – 2 year old age group** elicited responses related to developmental needs (toys that are easy and challenging), allow for parental supervision as well as independent, safe exploration, and promote interaction with other children and adults. As in other parts of the survey, some noted that parents should be willing to "participate 100% instead of wanting child to go sit down" and suggested the need for workforce development to promote this interaction: "staff who can model for parents who should stay with the child."

The **3 – 5 year old age group** emphasized the need for children to move around safely without crowding, promote educational and motor skill development and multiple types of play, i.e. large group, small group, and solitary. And this: "high quality responsive care and supportive environments that encourage development across the domains."

For **6 – 8 year olds,** responses supported the need for private spaces as well as group play, noted a necessary balance between structured and free play, recognized a need to support creativity and imagination in this age group, and echoed themes related to parental engagement, i.e. "give parents a chance to engage with other parents, and to learn to play with their child." Larger play spaces were also seen as important.

Across all age groups is recognition that children need space to move around freely and safely with supervision.
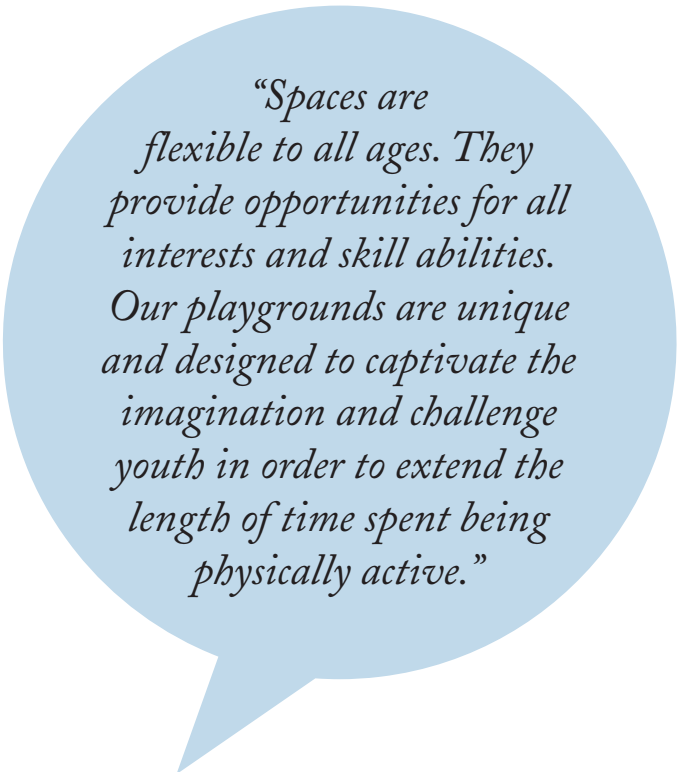
Best and worst characteristics of spaces

The survey asked organizations to describe the best characteristics about their current space and to communicate their greatest concerns (Questions #13 and #14).

Most positive characteristics about spaces

Thirty-nine (39) people responded to this open-ended survey question about what they like best about their current spaces (Question #13). Their responses addressed:

- Age specific design (infant rooms, multi-generational learning design)
- Materials (books, television, children's furniture)
- Design elements (large, open, bright, safe, supervised, promotion of parent child relationship, open time/space to play)

"Spaces are flexible to all ages. They provide opportunities for all interests and skill abilities. Our playgrounds are unique and designed to captivate the imagination and challenge youth in order to extend the length of time spent being physically active."

Concerns about spaces

	Respondents	
Crowding	21	62%
Personal safety/security	16	47%
Noise	14	44%
Age appropriate materials	15	44%
Staff or volunteer skills or expertise to interact with the children in the space	12	35%
Mixing with other groups including other ages, young adults, and adults	10	29%
Indoor Climate (heating and cooling)	5	15%
Indoor air quality	4	12%

Seventeen (17) respondents commented on this survey question. Many comments related to not having enough space and others to not having the right type of space.

• Need more for their sleeping areas and common areas
• More space in general and more equipment/play structures
• More classrooms and indoor gym
• Need more outdoor playgrounds
• Accessibility of outdoor areas

Two comments reflect that space design is particularly relevant when considering the different needs of children. The space affects the ability of staff and parents/guardians to provide opportunities for services and interaction.

"Adequate supervision, especially considering the histories and behaviors of a good amount of the children we serve."

"Not having separate spaces for behavioral needs."

The next question on the survey asked what respondents would like to change about their current spaces. These comments illustrate the degree to which providers know what is important to the families they serve – both specifically and conceptually. Some organizations simply desire a larger footprint, however, many responses highlight how organizations might take advantage of a design "audit" and recommendations for enhancing what they have.

What service providers would change to improve spaces by age group (Question #15)

0-2 year olds
• Make it more homelike, outdoor area for infants, cleaner floors
• More space, specifically designed for age group
• Windows
• More pleasant and welcoming waiting room; more attractive and comfortable furnishings and play materials
• Area for floor play
• Add on to back of the facility and make it wheelchair accessible
• Separate toy area so younger children don't have choking hazards

3-5 year olds
• Take out staff storage cabinets
• Upgrade the outdoor learning environment
• More indoor and outdoor space
• Improved accessibility for special needs; more interactive exhibits for younger children; larger area for foundational skill building not shared by programming space
• Better space and variety of outdoor activities for 3 and 4 year olds
• More toys and appropriate activities
• Areas they can play and interact with other children their age safely
• Space

6-8 year olds
• A quieter space that is used for the younger kids…such as a room with partial walls – not forming altogether separate rooms, but providing some structure to the space so that the older kids could have the semi-privacy and quiet that they might need…
• Have more physical space and materials to occupy the children while they wait for their parents, not have the waiting room near the front entrance
• Extra space for children of all ages for kids that need a break or behavioral/sensory needs
• More indoor space
• More programming space and equipment, teaching staff or volunteers
• Add more games stations, basketball, ping pong
• Make it larger for everyone, increase staffing and resources

Prior sources of funding for children's spaces

The survey asked whether organizations had received dedicated funding to develop children's spaces (Question #16). Eleven (11) responded that they had; twenty-two (22) responded no (that funding for "spaces" is a part of general support). Examples of funded children's spaces included:

- A youth facility
- Technology, smart board, speech and education apps
- A building (Center of Hope)
- A therapeutic garden and greenhouse
- Federal, state and private grant for community centers and parks development
- PNC Grow Up Great grant for programs for families with a young child; a nature play space; remodeling of a study hall

Policies that either promote or interfere with the organization's efforts to create spaces to promote children's positive mental health

The survey asked about policies that either facilitate or interfere with an organization's ability to create spaces that promote children's positive mental health (Questions #17, #18, #19, #20).

The responses in this area highlighted policies that are known to or appear to promote positive children's mental health:

- Our school maintains lower enhanced ratios…Conscious Discipline for behavior guidance, materials in the classroom are readily available
- Programming (that provides for) programming parameters, needs for children to have outdoor play time, sleep time, and curriculum that is based on socialization and equal spaces for each child (25 square feet per child in center)
- Mandatory Safe from Harm training curriculum, trauma informed services training and circle of parents training
- We are a 5 star school that follows the state requirements and all environmental rating scales standards
- Developmentally appropriate research-based programs to early childhood educators and families focused on increasing their comfort level using the outdoors, science and nature to teach and connect with their children
- COA (Council of Accreditation) regulated and standards; GCC (Governor's Crime Commission) and supervised visitation
- Patient and family centered care policies
- Funding requires training and resources to child care center staff so that they can provide breastfeeding-friendly environments
- Accredited child advocacy centers are required to be "welcoming and child-centered"
- Requirements for background checks

There were very few policies noted that interfere the organization's ability to create spaces to promote children's positive mental health. An example:

"Medical requirements and funding and space limitations have a negative impact on the outpatient spaces. Also, day care regulations preclude us from providing more sibling spaces."

Use of spaces outside the organization

The survey asked about the use of spaces outside of the respondent's organization (Question #21). Forty-three (43) people responded with the responses almost equally divided between those who do use other spaces and those who do not.

Of the 20 that indicated they do use other spaces, here is a sampling of their responses:

• Programs are held at churches and/or community centers
• Children in emergency shelter spend evenings (6pm – 6am) in congregations
• Field trips
• Trips to museums, farms
• Neighboring parks, pools, churches and pools
• Public parks, museums, natural areas, etc. to provide our audiences with opportunities for experiential learning
• Parks, playgrounds
• Library, museums, and activities such as bowling and the State Fair
• Community centers like Boys and Girls Clubs or other facilities to bring our Read and Feed program to them

The survey asked which spaces in the Wake County community were important for this project to consider (Question #24). Thirty-seven (37) people responded noting the importance of the following spaces:

Non-profit organizations 77%

Child care centers 72%

Playgrounds or other natural learning environments 69%

Shelters for homeless families 64%

Common areas in housing developments.......................56%

Neighborhoods 54%

Parks 51%

Schools 49%

Churches 31%

Physician offices, clinics or hospitals...........................18%

Pools 10%

The survey asked which conditions were important for the project to consider (Question #25). Forty-one (41) people responded to this question and prioritized the conditions according to the following table:

Parental or caregiver engagement and interaction..88%

Inclusiveness for all levels of ability and development...................................78%

Accessibility (geographically nearby, reachable by public transportation) 78%

Community safety...73%

Inclusiveness for a range of cultures and languages 73%

Affordability...71%

Adult supervision 63%

The use of nature to learn and play 61%

Environmental conditions/crowding...49%

Traffic safety..46%

The use or promotion of art 34%

Noise 32%

Clean air 24%

Climate control (heating/cooling) 24%

Recommendations for funding

The survey asked for respondents' recommendations for funding (Question #26).

Responses fell into these four categories:

1. Services expansion, e.g., mental health services for children and parents, before and after school programs for school aged children, support groups for parents, and parent education on using spaces effectively with their children and understanding the value of play.

2. Maximizing current spaces, e.g., through enhanced collaboration and coalition building, increasing access to the space.

3. Creating new spaces, e.g., in low-income communities with an emphasis on safety through supervision and community planning and buy-in, inclusive design.

4. Workforce development, e.g., for child care teachers and others to effectively promote child play and child parent relationships.

Conclusion

The survey gathered a significant amount of information from a diverse range of Wake County providers about their current spaces and their goals and ideas for enhancing those or developing new ones. Respondents also provided details about what conditions or elements were most important to consider, and which investments they thought should be prioritized within their own organizations, as well as within Wake County more broadly. Many of the responses were consistent with themes emerging from other parts of this project, including information gathered through focus groups and interviews. A few conclusions are especially worth noting.

1. **Conclusions related to physical and social elements of the space**
   - Most organizations do not have dedicated funding for children's spaces, however, they have areas designated for children.
   - There is potential to enhance providers' current spaces easily and affordably with design expertise. There is comparable support for enhancing provider and parent knowledge about how best to use redesigned space.
   - The goals of spaces used to deliver services to children are different from the goals of spaces that children use as a waiting area when accompanying their parents to receive services. In the case of spaces for children to use while services are provided to a parent, the focus is less on direct service delivery and more on safety for the child and reassurance to the parent that they may "take care of business" without being distracted.
   - Many organizations have outdoor space but do not appear to focus on maximizing the value of using those spaces; they do, however, identify other outdoor spaces, e.g., playgrounds and neighborhoods, as important.
   - There is awareness among providers and a fair degree of agreement that having space where children can safely and independently explore, learn, and be active, is important. Consensus is lacking, however, with regard to the level of supervision required and by whom (parent or staff or ameliorated by design elements).
   - Safety while in a space is a top priority. Safety has several dimensions including not hurting oneself or others, and, not getting hurt physically or emotionally because of poor design or, by people within the space or because of the proximity of the space to people engaged in unsafe behaviors.
   - There is support for space that allows children to have solitary time, as well as spend time in small or large groups.
   - There is agreement that it is important for children to move freely in a space.
   - Materials in a space are viewed as important and are a current need for many providers.

2. **Conclusions related to use of the space**
   - Parents are with their children for the majority of time when they are at organizations. There is a prevalent opinion that parents and some staff do not know how to interact or engage with children in spaces and could benefit from guidance/training.
   - There is a lack of consensus regarding the expectations for parents to interact with and engage with their children while the children are in a play space; relatedly, there is a need to consider how parents in crisis are able or willing to interact and engage with their child while at organizations, including homeless shelters.
   - There is an identified need and support for training for providers and parents on how to engage and interact with children in a play or natural space.
   - There is rich expertise in Wake County within organizations working with children and a need by other organizations for that expertise for staff and program development.
   - In general, there is a need for enhanced collaboration across organizations on multiple levels including sharing of ideas, collaborative planning, and the collaborative use of space.

SURVEY OF WAKE COUNTY SERVICE PROVIDERS

The John Rex Endowment is interested in examining Places and Spaces and how they promote positive mental health – healthy social and emotional development – for children in Wake County. A project team comprised of professionals from the Center for Child and Family Policy at Duke University (http://childandfamilypolicy.duke.edu) and the Center for Child & Family Health, a private, non-profit organization (www.ccfhnc.org), has been tasked with identifying best practices in developing and transforming the physical and social environments in which children live, learn and play. The team is soliciting and will utilize the valuable input and feedback from parents, service providers, and others to create a plan for John Rex Endowment to consider in their future investments in this area. Therefore, we are inviting you to complete this survey about your organization's current investments and programs, your opinions about future funding opportunities, and your concerns about eligibility requirements or priority areas for funding. Thank you for taking this survey, which will require about 15 minutes of your time. The John Rex Endowment is particularly interested in children ages 0 to 8 years old. If this age group does not match up with the ages of children you serve, please just answer the following questions to the best of your ability and feel free to add clarifying comments.

Your Name
_____

The Name of Your Organization
_____

Your role in your organization:
- ❏ Administration/Management
- ❏ Program (name program below)
- ❏ Other: _____

Please tell us what type of organization this is. If it is multi-use, check all that apply.
- ❏ Child care center
- ❏ School
- ❏ Hospital or health clinic
- ❏ Playground
- ❏ Park
- ❏ Museum
- ❏ Housing
- ❏ Library
- ❏ Community Center
- ❏ Family Services
- ❏ Shelter for homeless families
- ❏ Church
- ❏ Other: _____

ABOUT THE ORGANIZATION

1. **When children are receiving services from your agency, where do they spend their time? Please check all that apply and assign percentages if you can.**
   - ❏ Indoor Classroom
   - ❏ Outdoor Classroom
   - ❏ Indoor play area
   - ❏ Outdoor play area
   - ❏ Indoor private office
   - ❏ Indoor group meeting room
   - ❏ Common areas, i.e. waiting rooms, dining facilities, living rooms
   - ❏ Sleeping spaces
   - ❏ Other space, please describe:

2. **Are there spaces within your organization that are designed specifically for children? Please check all that apply.**
   - ❏ Indoor classroom
   - ❏ Outdoor classroom
   - ❏ Indoor play area
   - ❏ Outdoor play area
   - ❏ Indoor private office
   - ❏ Indoor group meeting room
   - ❏ Common areas
   - ❏ Living spaces
   - ❏ Sleeping spaces
   - ❏ Other space, please describe:

   - ❏ Our organization does not have any spaces that are specifically designed for children.
   - ❏ Additional Comments:

3. **Are the children who spend time at your organization usually, sometimes, or never with their parent(s)? This information will inform our thinking about optimal designs for children.**

4. **When children are using spaces within your organization, how often are they with their parent(s)?**
    ❏ Never
    ❏ Almost none of the time
    ❏ Some of the time
    ❏ All of the time

5. **In your opinion, when children and their parent(s) are together, are they usually engaged with each other and interacting? In other words, are they both participating in an activity together (whether it's playing or socializing or something more structured) or are they usually playing or spending time separately?**
    ❏ Yes
    ❏ No

6. **Is this intentional, (e.g. your organization offers joint parent-child programming) or does it happen by chance, (e.g. in a waiting room or other shared space)?**
    ❏ It is intentional and part of our programming.
    ❏ It just naturally happens.
    ❏ Additional comments:

    _____

    _____

    _____

7. **Why are children and parents together but not usually engaged with or interacting together? Choose all that apply.**
    ❏ Parents don't seem to know how to interact or engage their children.
    ❏ Parents appear uninterested in interacting or engaging their children.
    ❏ Parents are overwhelmed or distracted with the program or other matters.
    ❏ The space isn't set up for it.
    ❏ I don't really know.
    ❏ Other:

We are also interested in knowing whether children spending time in spaces in your organization are usually, sometimes, or never with a caregiver like a teacher, counselor, or other staff of volunteer. This information will help inform our thinking about the optimal designs for children.

8. **In your opinion, when children are using spaces within your organization, how often are they engaged with and interacting with a caregiver?**
    ❏ Never
    ❏ Almost none of the time
    ❏ Some of the time
    ❏ All of the time

9. **Is this intentional (e.g. it is a specific staff responsibility) or does it just happen naturally?**
   - ❏ It is intentional.
   - ❏ It just happens.
   - ❏ Additional comment:

   _____

   _____

10. **Why are children spending very little or no time with a caregiver while they are in the organization? Choose all that apply and add a comment, if appropriate.**
    - ❏ The organization or program is not set up to encourage engagement or interaction.
    - ❏ Our program staff does not have training or experience specifically related to engaging or interacting with children.
    - ❏ Staff appears uninterested in interacting with or engaging children.
    - ❏ The space at our organization is not set up well for that.
    - ❏ I do not know.
    - ❏ Comments:

   _____

   _____

11. **What do you think are the most important factors to consider when developing spaces for children to promote their positive mental health? Consider children in the following age groups. Skip the age group if you have no opinion.**
    - ❏ 0-2 years
    - ❏ 3-5 years
    - ❏ 6-8 years
    - ❏ Comments:

   _____

   _____

12. **What goals have you or your organization considered or would you or your organization consider when developing spaces for children?**
    - ❏ 0-2 years
    - ❏ 3-5 years
    - ❏ 6-8 years
    - ❏ Comments:

   _____

   _____

13. Please describe what you think are the best characteristics of your organization's spaces for children.

_____

_____

_____

14. What are your greatest concerns about your organization's current spaces and how they are or can be used with and by children and their parents or caretakers? Please check all that apply and add others, if appropriate:

❏ Indoor air quality

❏ Indoor climate (heating and cooling)

❏ Personal safety/security

❏ Noise

❏ Crowding

❏ Mixing with other groups including other ages of children, young adults or adults

❏ Staff or volunteer skills or expertise to interact with the children in the spaces

❏ Age appropriate materials for the spaces

❏ Other: _____

❏ Other: _____

❏ Other: _____

15. If you were able, what would you like to change about your current spaces for children?

❏ 0-2 years

❏ 3-5 years

❏ 6-8 years

❏ Comments:

_____

_____

_____

16. Has your organization ever received funding specifically to develop children's spaces?

❏ Yes - If yes, please describe this funding and what it was used for.

_____

❏ No (funding for "spaces" is part of our general support budget).

❏ Please add any information that would be helpful for us to understand the type of funding you received and for what purpose:

_____

_____

17. Does your organization have policies (these could be organizational, required by a funder, or governmental in nature like a regulation) that FACILITATE your ability to create spaces to promote children's positive mental health?
   - ❏ Yes
   - ❏ No

18. Please tell us about the type of policy or policies (organizational, funding, or governmental) and describe it or them below.

   _____

   _____

   _____

19. Does your organization have policies (these could be organizational, required by a funder, or governmental in nature like a regulation) that INTERFERE with your ability to create spaces to promote children's positive mental health?
   - ❏ Yes
   - ❏ No

20. Please tell us about the type of policy or policies (organizational, funding, or governmental) and describe it or them below.

   _____

   _____

   _____

21. Does your organization use other spaces (outside of your organization) for children ages 0-8 years of age? For instance, do you provide or coordinate transportation of children or families to get to and use other spaces (e.g. parks, playgrounds, camps, museums)? Please describe these arrangements.
   - ❏ Yes
   - ❏ No

22. Please share anything else you want us to know about the opportunities for parents or caretakers to spend time with their children in your organization.

   _____

   _____

   _____

23. If it were up to you, what would you want funding to support in your organization, in order to promote positive mental health in children ages 0-8 years in Wake County?

   _____

   _____

24. **What do you feel are important for this project to consider because of their potential to FACILITATE OR NEGATIVELY IMPACT positive mental health in children ages 0-8 years?**
    - ❏ Parks
    - ❏ Pools
    - ❏ Playgrounds, parks or other natural learning environments
    - ❏ Child care centers
    - ❏ Schools
    - ❏ Common areas in housing developments
    - ❏ Non-profit organizations serving children and families
    - ❏ Physician offices, clinics or hospitals
    - ❏ Neighborhoods (areas not defined by specific landmarks, but where children do or should be able to gather)
    - ❏ Churches
    - ❏ Shelters for homeless families
    - ❏ Other:

25. **What do you feel are important for this project to consider because of their potential to promote positive mental health in children ages 0-8 years?**
    - ❏ Community Safety
    - ❏ Traffic Safety
    - ❏ Environmental Conditions - Crowding
    - ❏ Environmental Conditions - Noise
    - ❏ Environmental Conditions - Clean Air
    - ❏ Environmental Conditions - Climate Control (Heating/Cooling)
    - ❏ The use of nature to learn and play
    - ❏ Inclusiveness for all levels of ability and development
    - ❏ Inclusiveness for a range of cultures and languages
    - ❏ The use or promotion of art
    - ❏ Adult supervision
    - ❏ Parental or caregiver engagement and interaction
    - ❏ Affordability
    - ❏ Accessibility (geographically nearby, reachable by public transportation)
    - ❏ Other:

26. If it were up to you and you had the necessary resources, what would you do in Wake County to promote positive mental health in children ages 0-8 years that is either an expansion of an existing place or space OR a new place or space?

_____

_____

_____

Is there anything else that you think we should have asked in this survey, but did not? If so, please note that here along with any additional input.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

We may wish to follow up with some respondents. If you would be willing to talk to a member of our team in greater depth about your responses to the survey, please give us your name and contact information.

Name
_____

Email Address
_____

Phone Number
_____

Parents and Guardians Survey

The Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project conducted a survey of Wake County parents and guardians to gather input on a variety of topics within the project's scope. The survey sought to gather information about parents' use of current spaces including:

• Where their children spend the majority of their time

• Where parents are most/least happy about their children spending time, and why

• Identifying the difficulties in using favorite places

• What parents value most about the places where their children spend time

• Identifying any special needs their child/children might have in regard to those spaces

The survey questions are in Attachment A at the end of this document.

Methodology

The survey was conducted electronically using the Qualtrics platform. It encouraged additional comments through the use of "other" choices throughout. A link to the survey was sent by email to Stakeholder Council members, along with an invitation to forward it to Wake County families. Project team members sent the survey to a range of other individuals who live and/or work in Wake County asking them to share it as widely as possible. Members of the team also distributed paper copies of the survey at various Wake County organizations' meetings.

Sixty three (63) people completed some or all of the survey. Seventy (70) % of the parents (44) were in the 31-45 years age range, while 27% (17) were 46 or older. Two parents did not indicate their age.

Following is a summary of responses and key takeaways from each question.

How old is your child(ren)?

Most children were in the broad 2 months to 17 years age range, with a heavy emphasis on the 3-10 year old age range. Three parents had children who were older (19-24 years).

Where does your child(ren) spend most of their time?

The survey asked where children spend time. Most parents said that school and home is where they spend the majority of their time. Additionally, children spend time at friends' homes, neighbors' and relatives' homes, as well as museums and parks.

Very few children spend time at child care centers or at community centers. "Other" places listed included library, church, sports activities and playgrounds.

#	Question	A little	A lot	No time	Total Responses
1	School	6	54	4	64
2	Child care center	8	3	51	62
3	Home	4	57	1	62
4	Relatives' homes	38	6	17	61
5	Friends' or neighbors' homes	53	2	6	61
6	Park	42	16	4	62
7	Museum	42	6	14	62
8	Community Center	19	1	40	60
9	Inside	22	38	1	61
10	Outside	24	36	1	61
11	Other	6	6	1	13

Which places are you most happy about your child(ren) spending their time, and why?

There was a trend in responses showing that many (about 2/3) of these parents are happiest about their child/children spending time outdoors, either in free play or in organized activities. Also, parents are happy when their children are at home or in school. They enjoy parks and museums as places for their children to spend time, as well as "inside time" dedicated to reading, family time, or educational activities.

Many parents like when their children are outdoors getting exercise, and want them to be somewhere that they can safely play and learn. They enjoy when there is a social aspect involved in their children's day, when they are connecting with other children in a less structured environment.

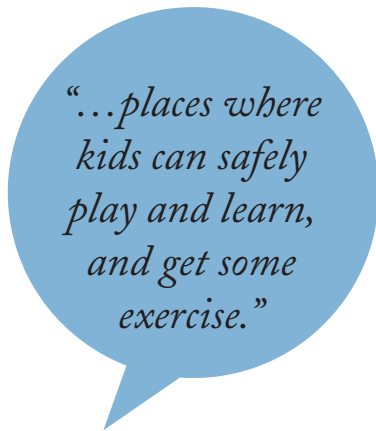> "…they are engaged and active, having fun….learning and improving skills… exploring nature… .getting fresh air."

> "…places where kids can safely play and learn, and get some exercise."

Which places are you least happy about your child(ren) spending their time, and why?

Most parents agreed that they are least happy when their children are inside, especially when they are watching TV or spending time on other devices (computer, tablet, phone, or gaming system). Some parents dislike having their children at a child care center or in other people's homes. Still others dislike when their children are in the car or at school.

Parents feel that these places have a negative effect on their children's communication/interpersonal skills, as well as their mood. They feel their children are being overwhelmed with too much sensory information, and that these distractions do not promote good work habits. Their opinion is that their children are frustrated and bored with spending too much time in the car, driving to places, activities, etc.

As a result of these negative activities, parents believe they are not getting enough exercise, and there isn't much learning through experience taking place.

What's hardest about using your favorite places for your child(ren)?

Parents say that there are time constraints, which limits their ability to get to and utilize the kinds of places they would prefer their children were enjoying. Scheduling is an issue, as well as transportation. Finding places for multiple-aged children to enjoy is a concern, as well as fun and safe places expressly for teens.

Climate/weather is a factor often cited, and also the financial cost of going to or participating in these places or activities.

What's most important to you about the places where your child(ren) spend time?

Across the board, safety was parents' number one concern about any place where their child spends time. They want

it to be a good place to learn, and a fun place to play. The location of the place is important to them as well. About half of parents said that cost is a factor.

Less significant issues were that it is easy to get to, or that their friends or children's friends go there as well.

What's most important to you about the places where any child(ren) spend time?

Similarly, as for their own children, safety was the first concern of parents. Providing a good place to learn and have fun was second to safety. Location and cost were a concern to half of the parents; the ease of getting there and that their peers also go there was not a significant concern.

Are there any places that your child(ren) spend time that you think other children and their families would like to know about?

Below is a list of places that parents highlighted (listed in no particular order):
- JC Raulston Arboretum
- Isabella Cannon Park, Pullen Park, Durant Park, Umstead Park, Laurel Hills Park, Olive Chapel Park, Kids Together Park
- Hemlock Bluffs Natural Area, Neuse River Trail, Hill Ridge Farms, Wilkerson Nature Preserve
- Lake Johnson, Lake Crabtree/Park, Jordan Lake
- Marbles Museum, The Museum of Life and Science, NC Art Museum, NC Museum of Natural Science
- NC State University
- Fort Macon
- Delta Program Airport observation park at RDU airport
- Raleigh greenways
- Morrisville rock wall gym
- Wake County public library system programs

Does your child/children have any special needs that affect their access to spaces or require their use of certain spaces such as health clinics, hospitals, office buildings, etc.?

There were three parents who responded affirmatively for varied reasons. Two had physical needs: 1) a nut allergy, and 2) a gastric tube, which limits child's activity. The third expressed an access limitation: living in a rural area where there are no public spaces, and no access to public transportation.

Is there anything else you think we should know about the places where children spend time and what you think is most important about those places?

Parents' feedback included (unedited and in no particular order):
- North Carolina should have free museum days or museum passes at the public library (like in Boston)
- Need more free local places designed for year-round education and play nearby, especially in South Raleigh
- More parks because the current ones are overcrowded and unsafe
- Green space, with plants, places for kids to explore, hide, play
- There should be an opportunity to interact with other children to learn/practice social skills.
- Public transport! There should be a metro or train so kids could go there by themselves once they are older
- Parks and Recreation: fun for the kids, meeting new people and learning
- I know a lot of boys spend time at Dream Sports in Apex – supervised time mostly for kids interested in sports

- Would love for my children to spend time at the local community centers, but the Centers are usually booked with other events and my kids don't get to use the facilities, or my kids do not have transportation to get there while I am at work

Conclusion

One factor for consideration is that the results of this survey, while informative, may not accurately represent Wake County families as the project's capacity did not allow for a long-term, extensive recruitment of respondents. The results should be considered in combination with other information collected by the project.

Of the parents who did complete the survey, most mentioned that they want their child(ren) to be outdoors, getting fresh air and experiencing nature. This was a significant theme in the responses. Another important point to note is that parents are most concerned that their children and other children are safe in the places where they are spending time. Parents are happy with their children being at school or at home, especially if home time is spent away from electronic devices (family time, reading). Time constraints, scheduling and transportation are the most difficult aspects of utilizing the places where they would like their children to spend time.

SURVEY OF PARENTS AND GUARDIANS IN WAKE COUNTY

Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health
Survey: Input from Parents and Guardians

Basic Information

1. Your Age:
    - ❏ 13-18
    - ❏ 19-30
    - ❏ 31-45
    - ❏ 46-up

2. How old is your child/children?

3. Does your child/children spend a little time, a lot of time, or no time at these places? Please check the appropriate box for each setting.

	A little	A lot	No time
School	❏	❏	❏
Child care center	❏	❏	❏
Home	❏	❏	❏
Relatives' homes	❏	❏	❏
Friends' or neighbors' homes	❏	❏	❏
Park	❏	❏	❏
Museum	❏	❏	❏
Community Center	❏	❏	❏
Inside	❏	❏	❏
Outside	❏	❏	❏
Other:	❏	❏	❏

4. Which places are you MOST HAPPY about your child/children spending time?

5. Why do you like these the most?

6. Which places are you LEAST HAPPY about your child/children spending time?

7. Why do you like these the least?

_____

_____

8. What's hardest about using your favorite places for your child/children?

_____

_____

9. What is most important to you about the places where your child/children spend time?
   Please choose all that apply.
   ❏ Safety
   ❏ Location
   ❏ Easy to get to
   ❏ A fun place to play
   ❏ Cost
   ❏ My friends or my children's friends go there, too.
   ❏ A good place to learn

10. What is most important to you about the places where any children spend time? Please choose all that apply.
    ❏ Safety
    ❏ Location
    ❏ Easy to get to
    ❏ A fun place to play
    ❏ Cost
    ❏ My friends or my children's friends go there, too.
    ❏ A good place to learn

11. Does your child/children have any special needs that affect their access to spaces, or require their use of certain spaces such as health clinics, hospitals, office buildings, etc.?

_____

_____

12. Is there anything else you think we should know about the places where children spend time and what you think is most important about those places?

_____

_____

If you would like to be entered in a raffle for a chance to win $50, please provide your name and telephone number.

Name
_____

Telephone Number
_____

Thank you for completing this survey! Please return by October 17, 2014.

F. Overview of Project Process

Introduction

This document describes the Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health project. Beginning with a widely attended interest meeting, the project team used multiple means of data collection including case studies, phone and in-person interviews, focus groups, and surveys. The project team also formed a Stakeholder Council, which provided critical input throughout the project on process decisions and on the development of project materials. A brief summary of each of these project components follows.

Project Interest Meeting

On May 27, 2014 there was a project interest meeting at Haven House in Raleigh. The meeting provided an introduction to the project as well as an opportunity to gauge the interest of potential stakeholders in Wake County. Twenty-nine (29) participants attended the interest meeting.

Stakeholder Council

The Stakeholder Council consisted of fourteen individuals working within Wake County within a variety of domains including but not limited to design, child care, healthcare, and museums. The Stakeholder Council met monthly to discuss a variety of project components, provide feedback to the project team and discuss next steps for the project. Below is a list of meeting dates, locations, and topics in chronological order.

Date	Location	Topics Discussed
June 23, 2014	Haven House	Project overview, role of Stakeholder Council, literature review and research
July 24, 2014	Salvation Army	Literature review feedback and catalogue/potential case studies
August 28, 2014	Conference Call	Updates on survey, case studies, and focus groups
September 18, 2014	Marbles Kids Museum	Focus groups, surveys/interviews, literature review and case studies, remaining project timeline, and Expert Panel
November 14, 2014	JC Raulston Arboretum	Update on project status, Expert Panel review, Best Practice Indicator (BPI) feedback, and next steps
December 8, 2014	Haven House	Update/feedback on integrated plan, plans post-integrated plan

Stakeholder Interviews

Project team members conducted interviews with over 30 individuals who offered insight about one or more aspects of the project. The interviewees included experts from Wake County, other areas of the country, and national experts who have knowledge or experience with design and other considerations related to the impact of spaces on children's mental health. The interviews were in person and by phone. Many interviews were with employees of the organizations featured in the case studies. Interviews were conducted by Sarah Sabornie Ryan Smith, Leslie Starsoneck, and Sachi Takahashi-Rial. The interviews are listed below in chronological order.

Name	Title	Organization	Date and Interviewer
Gary W. Evans	Elizabeth Lee Vincent Professor	Cornell University	June 6, 2014 Ryan Smith
Andrea Faber Taylor	Landscape and Human Health Laboratory	University of Illinois at Urbana-Champaign	June 10, 2014 Ryan Smith
Monica Pallett	Community and Outdoor Learning and In-service Training Coordinator	The Little School at Duke	June 11, 2014 Sachi Takahashi-Rial
Patrick Brosnan	President/CEO	America's Schoolhouse Council/Legat Architects	June 11, 2014 Ryan Smith
Robin Randall	VP/Director K-12 Education	Legat Architects	June 11, 2014 Ryan Smith
Ania Shapiro	Architect, Child Care Division	US General Services Administration/PBS	June 13, 2014 Ryan Smith
Russ Lopez	Assistant Professor	Boston University School of Public Health	June 16, 2014 Sachi Takahashi-Rial
Cynthia Uline	Director, National Center for the Twenty-First Century Schoolhouse	San Diego State University	June 17, 2014 Ryan Smith
Jan Weems	Senior Manager Early Childhood Programs	North Carolina Museum of Natural Sciences	June 18, 2014 Sarah Sabornie
Anne Taylor	Emerita Professor	University of New Mexico School of Architecture & Planning	June 19, 2014 Ryan Smith
Kyle Snow	Director for the Center for Applied Research	National Association for the Education of Young Children	June 19, 2014 Ryan Smith
Nilda Cosco	Research Associate Professor/Director of Programs	North Carolina State University Natural Learning Initiative	June 19, 2014 Ryan Smith
Kelsie Englehard	Interim Director	White Deer Park, Garner Parks and Recreation	June 20, 2014 Sarah Sabornie

Name	Title	Organization	Date and Interviewer
Barbara Still	Psychologist	Pediatric & Family Psychology	June 30, 2014 Sarah Sabornie
Lisa Tolley	Environmental Education Program Manager	North Carolina Department of Environment and Natural Resources Office of Environmental Education and Public Affairs	June 30, 2014 Sachi Takahashi-Rial
Dawn Mak	Early Childhood Education Specialist	North Carolina Museum of Natural Sciences	July 1, 2014 Sarah Sabornie
Danielle Marshall	Director of Community Engagement	KaBOOM	July 8, 2014 Sarah Sabornie
Elizabeth Fleming	Exhibit Development Director	Museum of Life and Science	July 11, 2014 Sarah Sabornie
Teri Hatch	Raleigh Outreach Coordinator	KaBOOM	July 11, 2014 Sarah Sabornie
Betty Rintoul	Clinical Psychologist	Encouraging Connections	July 14, 2014 Sarah Sabornie
Jan Frantz	Founder	Read and Feed	September 3, 2014 Leslie Starsoneck
Anna Troutman	Program Coordination and Evaluation Director	Wake County SmartStart	September 8, 2014 Leslie Starsoneck
Cara McClain	AmeriCorps Member	City Year, Boston	September 8, 2014 Leslie Starsoneck
Darryl Lester	Parent perspective	North Carolina State University African American Cultural Center; Parent	September 10, 2014 Leslie Starsoneck
Nilda Cosco	Director of Programs	North Carolina State University Natural Learning Initiative	September 10, 2014 Leslie Starsoneck
Robin Moore	Professor	North Carolina State University Natural Learning Initiative	September 10, 2014 Leslie Starsoneck
Theresa Flynn	Pediatrician	WakeMed	September 12, 2014 Leslie Starsoneck
Syretta Hill	Neighborhood revitalization	Habitat of Wake County.	September 15, 2014 Leslie Starsoneck
Kathy Johnson	Shelter design	Interact of Wake County	September 22, 2014 Leslie Starsoneck

Name	Title	Organization	Date and Interviewer
Rhonda Angerio	Shelter design	Architect for Interact of Wake County	September 22, 2014 Leslie Starsoneck
Pam Hartley	VP of Exhibits and Education	Marbles Kids Museum	September 23, 2014 Leslie Starsoneck
Jennifer Tisdale	Homeless shelter design	Project CATCH	October 9, 2014 Leslie Starsoneck

Focus Groups

There were six focus groups held in a variety of settings in Wake County in order to collect information from providers, parents/guardians, and others who come into contact with spaces where children are spending a significant amount of time. The focus group locations were Wake County Smart Start, Wake County Habitat for Humanity, the Salvation Army of Wake County, and Wake County Human Services. Participants included direct service providers, the leaders of service provider agencies, children's mental health experts, and users of children's places and spaces. Overall, 59 people participated in focus groups for this project. The project team audio recorded the focus groups and transcribed some of them. A report of all focus groups and lists of participants is available in the focus group summary section of this report.

Case Studies

Case studies were a critical component of the project as they tell real-world stories about the development of places and spaces focused on young children and improving children's mental health. The selected case studies emerged from the literature review and interviews with project stakeholders both in Wake County and nationally. The result is multiple in-depth profiles of existing places and spaces that focus on children and the people who care for children, namely parents, guardians, and the staff and leaders of the featured places.

Surveys

The project team developed and administered two surveys. One was a survey of Wake County-based service providers. The second was a survey of parents. The provider survey went to a wide range of stakeholders who were asked to forward to other providers. There were 73 respondents. A "Family Survey" went to a wide range of individuals in Wake County, with an effort to reach parents and guardians of young children. Both the online and hard copy versions of the survey were available in English and Spanish. There were 63 respondents to this survey. Comprehensive provider and family survey reports are available elsewhere in this report.

Agency Tours

In order to gain a better understanding of some of the models described in the project case studies, a group of team members and Stakeholder Council members spent time touring two of these agencies and speaking with employees. The tours occurred on September 12, 2014 and were at Kids Together playground and First Environments Early Learning Center.

Expert Panel

The project culminated with the Expert Panel, which took place on October 29-30, 2014. Approximately 30 experts participated in the Expert Panel, which was a process for developing consensus on what would become the project's

key Best Practice Indicators and their related strategies for improving spaces and places to promote children's mental health. Expert Panel attendees included:

Name	Title	Organization
Rachel Albert	Project Coordinator	Center for Child & Family Health
Jane Allen	Science and Nature Specialist	First Environments Early Learning Center
Ashley Alvord	Expert Panel Specialist	Center for Child & Family Health
Karen Carmody	Co-Principal Investigator	Center for Child & Family Health
Tina Cheek	Parks and Recreation Director	Knightdale Parks and Recreation
Nilda Cosco	Research Associate Professor/ Director of Programs	North Carolina State University Natural Learning Initiative
Dawn Dawson	Senior Director	Wake County Public School System Preschool Services/Office of Early Learning
Hardin Engelhardt	Program Educator	Marbles Kids Museum
Jennifer Evans	Project Coordinator	Wake County Human Services
Jan Frantz	Founder and President	Read and Feed
Wendy Gantt	Child Mental Health Therapist	Alliance Behavioral Healthcare
Katie Gonzalez	Shelter Program Director	Salvation Army of Wake County
Barbara Gotay	Parent	Habitat for Humanity of Wake County
Pam Hartley	VP of Exhibits and Education	Marbles Kids Museum
Beth Lake	Executive Director	First Environments Early Learning Center
Cara McClain	AmeriCorps Member	City Year, Boston
Kevin McLeod	Senior Director of Community Outreach	Alexander Family YMCA
Dona McNeill	Artist and Advocate	Artist * Arts, Play & Abilities Advocate
Robin Moore	Director	North Carolina State University Natural Learning Initiative
Deborah Nelson	Consultant	Early Childhood System Building Initiatives
Gary Nelson	Associate Director for Program Development and Training Initiatives	University of North Carolina Chapel Hill, School of Social Work, Jordan Institute for Families
Judy Newsome	Specialized Recreation and Inclusion Specialist	Town of Cary
Jenni Owen	Principal Investigator	Center for Child and Family Policy, Duke University
Ruth Peebles	Project Consultant	The INS Group
Canby Robinson	Psychologist	Project Enlightenment
Donna Robinson	Licensed Professional Counselor	Alliance Behavioral Healthcare

Name	Title	Organization
Laurie Scholl	Alliance Bridge to Services Supervisor	Alliance Behavioral Healthcare
Tim Schwantes	Senior Project Manager	Active Living by Design
Janet Sellers	Executive Director	Frankie Lemmon School and Developmental Center
Kate Shirah	Program Director	The John Rex Endowment
Jean Smith	Pediatrician	Retired, Wake County Human Services
Kathy Spurlock	Child MH Initiative Specialist	Learning Together
Leslie Starsoneck	Project Consultant	Starsoneck Consulting
Sachi Takahashi-Rial	Graduate Student Research Assistant	Sanford School of Public Policy, Duke University
Jan Weems	Senior Manager Early Childhood Programs	North Carolina Museum of Natural Sciences

Team Meetings

The project team consisted of staff and consultants with the Center for Child and Family Policy at Duke University, the Center for Child & Family Health, and private consultants. All project team members stayed in regular contact through email and phone. Core team members met approximately twice a month to discuss project specifics, prepare for upcoming meetings, and review action items and any other issues needing attention. Project team members included:

Name	Role	Organization
Rachel Albert	Project Coordinator	Center for Child & Family Health
Ashley Alvord	Expert Panel Specialist	Center for Child & Family Health
Karen Appleyard Carmody	Co-Principal Investigator	Center for Child & Family Health/ Duke Department of Psychiatry
Kimberly Higuera	Spanish Translator	Center for Child and Family Policy, Duke University
Jenni Owen	Principal Investigator	Center for Child and Family Policy and Sanford School of Public Policy, Duke University
Ruth Peebles	Project Consultant	INS Group
Sarah Sabornie	Project Consultant	private consultant
Ryan Smith	Research Assistant	Sanford School of Public Policy, Duke University
Leslie Starsoneck	Project Consultant	Starsoneck Consulting
Sachi Takahashi-Rial	Graduate Student Research Assistant	Sanford School of Public Policy, Duke University

Surveys

The project team developed and administered two surveys. One was a survey of Wake County-based service providers. The second was a survey of parents. The provider survey went to a wide range of stakeholders who were asked to forward to other providers. There were 73 respondents. A "Family Survey" went to a wide range of individuals in Wake County, with an effort to reach parents and guardians of young children. Both the online and hard copy versions of the survey were available in English and Spanish. There were 63 respondents to this survey. Service provider and parent//guardian survey reports are included in this integrated plan.

Agency Tours

To gain a better understanding of the models described in the project case studies, a group of project team members and Stakeholder Council members toured two organizations and spoke with the directors and other employees. The tours were on September 12, 2014 at Kids Together playground and First Environments Early Learning Center.

Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health

Meeting of Stakeholder Council and other Project Stakeholders

September 18, 2014, 2:00-4:00 p.m.

Marbles Kids Museum

Agenda

2:00	Welcome and Brief Introductions	*Jenni Owen*
2:10	Project background and Overview	*Jenni Owen*
2:20	Focus Groups	*Ruth Peebles*
2:40	Surveys and Interviews	*Leslie Starsoneck*
3:00	Literature Review and Case Studies	*Sachi Takahashi-Rial*
3:20	Remaining Project Timeline and Expert Panel	*Jenni Owen & Ashley Alvord*
3:30	Opportunity for Further Input from Participants	*All*
3:50	Adjourn	

Planning for Intentional and Effective Places and Spaces for Children's Positive Mental Health is a project of the John Rex Endowment being led by the Duke Center for Child and Family Policy in partnership with the Center for Child and Family Health and expert consultants.

Questions about the project? Please contact Rachel Albert, rachel.albert@duke.edu, 919-419-3474 x.415.

G. Acknowledgements and Project Team

Acknowledgements

The project team for Intentional and Effective Places and Spaces for Children's Positive Mental Health wishes to acknowledge the many contributions made by a large and diverse group of individuals and organizations over the course of this nine-month planning effort. The level of interest and support for further exploration and investment in this area by Wake County stakeholders is both impressive in its openness to reflect on current successes as well as potential gaps, and also encouraging in the apparent energy for implementation.

We especially wish to thank:

• Members of the Stakeholder Council for providing guidance and feedback to our products and our process;

• Expert Panel participants for developing a Best Practice Indicator framework;

• Case Study organizations for sharing their expertise and details about their success;

• The many interviewees, survey respondents to both the service provider and parent/guardian surveys, and focus group participants for helping to establish the landscape in Wake County and generously sharing their vision, concerns, expertise and recommendations.

Stakeholder Council Members

The project team is grateful for the guidance, support, and enthusiasm of the Stakeholder Council. Membership was diverse representing a variety of settings, practices, and areas of expertise.

Thomas Barrie, Affordable Housing and Sustainable Communities Initiative, NCSU

Brad Bieber, A Safe Place Child Enrichment Center

Dawn Dawson, Wake County Schools, Preschool Services

Mary Haskett, Department of Psychology, NCSU

Ilean Hill, Private Consultant

Stan Holt, United Way of the Greater Triangle

Kathy Johnson, InterAct of Wake County

Melissa Johnson, WakeMed Health & Hospitals

Darryl Lester, African American Cultural Center, NCSU

Cara McLain, City Year Boston

Janet Sellars, Frankie Lemmon School and Developmental Center

Kate Shirah, John Rex Endowment

Anna Troutman, Wake County Smart Start

Jan Weems, NC Museum of Natural Sciences

Project Team

The Center for Child and Family Policy at the Sanford School of Public Policy at Duke University served as the lead organization on this project. Jenni Owen, Director of Policy Initiatives, was the Principal Investigator. Two Research Assistants – Sachi Takahashi-Rial and Ryan Smith – were responsible for the literature review, some of the expert interviews and case studies. Kimberly Higuera, a Research Aide, translated documents and served as a focus group interpreter.

The Center for Child and Family Health partnered on the project. Karen Appleyard Carmody, Ph.D., Assistant Professor and Licensed Psychologist, was Co-Principal Investigator. Ashley Alvord, Implementation Director, was responsible for the Expert Panel and associated documents. Rachel Albert, Program Manager, served as the project's coordinator.

Three private consultants were contracted to participate on the project team: Ruth Peebles, the INS Group; Sarah Sabornie, private consultant; and Leslie Starsoneck, Starsoneck Consulting. Peebles assisted with focus group facilitation. Sabornie assisted with stakeholder engagement early in the project. Starsoneck assisted with drafting of the Integrated Plan, interviews, conducting the provider survey, and meeting organization and facilitation.