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Playing With Ideas: Evaluating the Impact of the Ultimate Block Party, a Collective Experiential Intervention to Enrich Perceptions of Play

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Parental attitudes shape play opportunities afforded to children in home, community, and school settings. This study presents evaluation of an intervention designed to enrich parent's conception of play and its relationship with socially valued skills and capacities. On the basis of data from 291 racially and ethnically diverse parents/caregivers of young children (median age between 3 and 6) attending an event in NYC, we find the intervention helped parents conceptualize play in complex ways and altered perceptions of its impact on children's current—but not future—lives. Multivariate analyses reveal the causal pathway for these changes as exposure to multiple play sites, rather than time at the event—a finding with direct implications for exposing parents to developmental science in community settings.

Three decades of research on the science of learning has documented compelling connections between play, developmental outcomes, and children's

learning (Golinkoff, Hirsh-Pasek, Russ, & Lillard, 2013). Despite this evidence, time for play in general and less structured forms of play in particular appears threatened, both at home and in school (Elkind, 2009; Hofferth, 2009). Recent trends such as teacher-led, rote learning in schools (Bassok, Latham, & Rorem, 2016; Hirsh-Pasek, Golinkoff, Berk, & Singer, 2009) and more children's time spent on digital devices (Gutnick, Robb, Takeuchi, & Kotler, 2010; Rideout, 2014) are dramatically transforming opportunities for and forms of play.

Parental/caregiver attitudes about play (hereafter referred to as "parental") determine, to a significant degree, whether and how parents play with their children (Fisher, Hirsh-Pasek, Golinkoff, & Gryfe, 2008; Gleason, 2005) and what affordances for play children have access to in home and community

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environments (Chak, 2007; Sigel & McGillicuddy-De Lisi, 2002). Expectations about play also shape parental behaviors in the public domain, as parents advocate directly for their own children and represent children's interests in local policy debates and decisions about public education (Howell, 2008).

Parents' understanding of play thus carries high stakes. A modest literature, explored next, suggests that most parental attitudes toward play do not reflect knowledge of connections between play, creativity, and imagination. Little research has examined how parent attitudes about play can be brought into closer alignment with existing scientific evidence about the role of play in child learning and development (Fisher et al., 2008; Harkness et al., 2011).

This article evaluates the impact of an experiential intervention designed to alter parent attitudes and, in the longer term, their subsequent behaviors. Dubbed the "Ultimate Block Party" (UBP), this intervention was structured to involve both parents and children (between the ages of 3 and 12) in a naturalistic setting (a city park) where they could engage in playful learning activities together (Zosh, Fisher, Golinkoff, & Hirsh-Pasek, 2013). The UBP was thus intended to take up Ernest Boyer's (1990) charge to pursue a "scholarship of engagement" by translating scientific knowledge into real-world settings and extending educational messages to places where play commonly occurs. We present here an evaluation of the short-term impact of the UBP on parental attitudes designed to assess both *whether* UBP exposure changed parents' thinking and, if so, *how* exposure successfully affected attitudes.

The Science of Playful Learning and the Current State of Play

Part of the challenge in shaping parental attitudes about play is that the term can refer to a wide array of activities, ranging from *wordplay* (Nelson, 2006) to *worldplay* (Root-Bernstein, 2013) and encompassing dramatic play, object play, and physical play. In line with previous research (e.g., Burghardt & Gordon, 2011; Pellegrini, 2009), the UBP operationalized a definition of play as, "an activity with no specific purpose and undertaken in a joyful and voluntary manner." This definition emphasized children's volition in playing, while at the same time introducing the idea of "guided play" in which children's play is child directed but supported by an adult with a specific learning goal in mind (Fisher, Hirsh-Pasek, Golinkoff, Singer, & Berk, 2011; Hirsh-Pasek et al., 2009).

The specific pathways between play and learning remain contested (Lillard et al., 2013; Weisberg, Kitzredge, Hirsh-Pasek, Golinkoff, & Klahr, 2015), though there appears to be a growing consensus among scholars that play impacts academic learning, specifically, language and literacy, both spatial and mathematical (e.g., Golinkoff et al., 2013; Ramani & Siegler, 2008), as well as social development (Bretherton, 2004). A growing body of research demonstrates that childhood play builds executive function skills (e.g., Diamond, Barnett, Thomas, & Munro, 2007), and, in at least some forms, encourages curricular learning (e.g., Fisher, Hirsh-Pasek, Newcombe, & Golinkoff 2013).

Contrasting Parental Attitudes with the Existing Evidence Base

Notably, parents have long held conceptions of play somewhat at variance from those established in the academic literature (Deković & Gerris, 1992; Roopnarine, Shin, Jung, & Hossain, 2003). More specifically, parents tend to judge structured activities (e.g., team-based games) as more inherently playful and as more powerful inducements to learning than do experts in child development (Fisher et al., 2008). Parents often fail to recognize that free and guided play may yield unique benefits not offered by structured play with respect to engagement with parents, play behavior, and language use (Kwon, Bingham, Lewsader, Jeon, & Elicker, 2013). Moreover, when parents see the greatest learning potential in more structured activities, their children may be less likely to engage in prosocial peer play and more often exhibit patterns of disruptive and disconnected play (Fogle & Mendez, 2006).

Parental tendencies to see greater capacity for learning in more structured forms of play have likely been reinforced by practices in schools and day-care centers across the United States that increasingly emphasize memorization and high-stakes tests (e.g., Hirsh-Pasek et al., 2009; Bassok et al., 2016). The marketplace offers numerous "educational" toys that provide structured learning experiences; and even recess has changed in many places to "structured recess" in which "games and physical activities are led by a trained adult" (Murray et al., 2013; p. 184; see also Zigler & Bishop-Josef, 2004). Although the educational value of play has long had a tenuous hold in most American schools (Rothlein & Brett, 1987), if current trends persist, parents (and teachers; Bassok et al., 2016) are unlikely to preserve opportunities for free or structured play in children's lives (Miller & Almon, 2009).

Enhancing Parental Attitudes Through an Experiential Intervention

Increasing public understanding of play poses a significant challenge: making evident the multiplicity of forms that play might take and the even more numerous pathways through which these may shape both children and the adults who they become (Elkind, 2007; Singer, Golinkoff, & Hirsh-Pasek, 2006). Within this context, it is not a matter of replacing one conception of play with an alternative—but rather, of enriching the complexity with which parents think about play. Can a community-wide experimental intervention enrich parental attitudes about play in this way?

The UBP was an experiential intervention that sought to address these challenges. The intervention incorporated a variety of activities that illustrated different facets of the connection between play and learning, at a single physical site: Central Park in New York City. The 26 activities spanned eight play domains: adventure, construction, physical, creative, the arts, make believe, technology, and language play (Zosh et al., 2013). The content of each activity site was derived from the science of learning literature in consultation with a Distinguished Scientific Advisory Board and was designed to appeal to a demographically wide audience. Written material at each site, in addition to a 75-page *Playbook* distributed to attendees, explained the rationale for each activity. One hundred volunteers were trained to engage parents in conversations about these connections.

The aggregate experience at the UBP was intended to convey four core messages regarding the nature and implications of play: (a) There is a multifaceted connection between learning and play, (b) science supports the claim that play is a learning activity, (c) play serves a vital role in helping children develop skills needed to be socially productive adults in a rapidly evolving workforce, and, (d) some crucial aspects of play are now threatened, yet enhancing opportunities for such forms of play remains feasible in communities and households no matter the socioeconomic circumstances.

We hypothesized that parental perceptions of play could be enriched in two different ways: (a) By observing the diverse ways in which children (with or without their parents' involvement) engaged with the activities at any given play site, thus illustrating different ways to play in a shared environment, and (b) By observing children playing at multiple sites that had been designed to span the various domains of learning identified above.

The UBP was open to participants for 6 hours (11 a.m.–5 p.m.) on October 2, 2010 and attracted approximately 50,000 participants. These numbers far exceeded the organizers' initial projections of 6,000 (Stout, 2011). Eighty-two percent of families were residents of New York City and were as racially and ethnically diverse as the city itself: 44% of UBP visitors were White, compared to 49% for the city as a whole. Attendees were far less representative in terms of parental education: 88% of UBP participants had attained at least a college degree, compared to roughly 36% of all New Yorkers. The UBP also attracted a disproportionate number of families with young children: About half the UBP participants' oldest child were aged five or under.

Method

The evaluation of the UBP was designed as an experiment that could be implemented in a context where exposure to the intervention was occurring in real-time in a real-world setting not under controlled conditions in a laboratory. This posed certain challenges.

Defining Experimental and Control Groups

To assess the impact of the UBP on parental/caregiver attitudes, teams of interviewers rotated through the event and surveyed participants on site (typically while their children were playing at an activity or while the family was waiting in line to enter an activity site). Two-person interview teams, circulating throughout the site over a 5-hr period, collected data from a total of 257 randomly selected participants.

Two Control Groups

The comparisons presented below involved two different control groups. The first was comprised of parents ($N = 34$) selected at random at various playgrounds in Central Park during the 2 months following the UBP. This sampling strategy was designed to ensure the most accurate assessment of the impact of UBP participation by comparing the attitudes of those exposed to the UBP with those from parents who, because they also brought their children to play in Central Park (the UBP's location), were likely to have similar attitudes, absent UBP exposure, toward play and child development.

The second, less orthodox control group comprised parents who were interviewed after having had only limited exposure to the UBP. The attitudes evidenced by this second control group can be compared to the first control group to assess whether UBP attendees had self-selected to be favorably predisposed toward play (or certain aspects of play). To test for self-selection, we compared the first control group to subsets of UBP participants who were interviewed after having visited no more than a single activity site ($n = 96$) or having been at the UBP for half an hour or less ($n = 70$).

Evaluation Methods and Materials

The evaluation was led by the first two authors, in collaboration with UBP organizers and with consultation from the faculty group at Sarah Lawrence College's Child Development Institute. This team designed a short survey assessing parental attitudes regarding play, designed for administration in a chaotic environment characterized by noisy crowds and respondents distracted by the need to attend to their children. The instrument included 18 Likert Scale and several open-ended questions, with associated probes, on play-related attitudes and perceptions (Table 1). It also included questions about sociodemographic characteristics (parents' education, age of oldest child, parents' gender, parents' race, and ethnicity) shown by past research to be related to attitudes about play and child development (Fisher et al., 2008; Gleason, 2005; Goodnow & Collins, 1990; Roopnarine et al., 2003). It was fielded at the Ultimate Block Party in Central Park on October 2nd, 2010, and with parents in Central Park playgrounds who constituted our control group through the end of November 2010.

In addition to exploring parental perceptions about the core themes of the UBP, the survey included a set of 11 questions assessing more general parental attitudes about play. These were formulated in terms of metaphors about play, because past research suggests that the public often finds it easier to make sense of complex social phenomena when they are cast in metaphorical terms (Barry, Brescoll, Brownell, & Schlesinger, 2009; McGlone, 2007; Thibodeau & Boroditsky, 2013). These metaphors were each read to respondents, who were then asked how closely the statement reflected their own view of play. The metaphors were selected to reflect positive emotional valences (e.g., "Play is the wellspring of human creativity"), negative valences (e.g., "Play is what we leave behind when we set aside childish things"), and neutral valences (e.g.,

"Play reveals the inner self"). Table 1 summarizes survey questions and associated distributions of responses (minus the section on demographics).

Measures of Exposure to UBP

As noted above, exposure to the UBP was hypothesized to potentially influence parental attitudes and perceptions in two ways: (a) by observing the diverse ways in which children (with or without their parent's involvement) engage with the activities at any given play site, and (b) by observing children play differently across multiple sites designed to span different domains of learning. To assess these two forms of exposure, the survey collected information, respectively, on (a) *how long* participants had been at the UBP prior to the interview and (b) *how many sites or activities* they had visited while there (including the identification of each site they visited).

Fielding the Surveys

Because contacts with parents at the UBP were less formal than in a typical interview setting, survey participation rates are impossible to define precisely. However, self-report by evaluators combined with observation by senior members of the evaluation team (who were not themselves interviewing) suggested that the participation rate was in the 50%–70% range, varying across interview teams.

Coding Open-Ended Questions

The evaluation team derived themes and sub-themes inductively from the qualitative survey responses using grounded theory methodology (Corbin & Strauss, 2015). Three evaluators each read the full set of responses and identified distinct themes—for example, play is connected to learning because it promotes creativity, or promotes contemplation, or facilitates social skills—which were then discussed in order to refine them and eliminate overlap. Each theme was then assigned a code, and each response was coded for up to six distinct themes. Tables 2–4 summarize concepts derived from responses to the survey's three primary open-ended questions, and offer examples that illustrate how survey responses were coded using the evaluation team's coding scheme.

Once the coding themes were defined in a preliminary manner, one team member independently coded approximately one-third of the parent

Table 1
Questionnaire and Response Frequencies to Close-Ended Scales

Question 1	Which activities have you visited today?				
Question 2	Do you think that play and learning are connected?		No		Sometimes
	95.9%		4.1%		—
2a (follow-up)	If yes, how/in what way are they connected?				
	If no, what do you think that play is about?				
	If sometimes, when/how do you see the connection?		" the time	¾ the time	All the time
2b (only if 2a "yes" or "sometimes")	When children play,	¼ of the time	13.6%	20.7%	60.7%
how much of the time are they learning?	Only rarely	4.3%			
Question 3	Do you think that kids today get to play as much as kids did when you were a child? Why or Why Not?*		No		Unsure
	Yes		45.6%		—
54.5%					
Question 4	Do you think that children who play are more likely to grow up to be successful adults? Why/in what way(s)?**		No		Unsure
	Yes		18.5%		1.7%
79.8%					
Question 5	People say lots of different things about play. How well does each of the following statements reflect your view of play?				
	Completely (%)	Pretty Much (%)	Half & half (%)	Only a little (%)	Not at all (%)
Play is the right of every child	87.9	10.1	1.6	0	0.4
Play is a foundation for self- control	46.1	35.9	14.3	2.0	1.6
Play is an outpouring of joy	66.9	26.6	5.7	0.4	0.4
Play is practice for adult responsibilities	43.3	30.2	20.0	5.3	1.2
Play is children discovering the world	79.0	15.8	4.1	1.2	0
Play is a training ground for learning to follow the rules	51.2	34.6	11.8	2.4	0
Play is a wellspring of human creativity	72.5	21.5	5.3	0.8	0
Play is a stage on which children act out their anxieties	39.0	27.6	24.8	6.5	2.0
Play is how children blow off steam	55.3	22.0	17.4	3.2%	2.0
Play is what we leave behind when we set aside childish things	12.0	22.3	26.1	15.5	24.0
Play reveals the inner self					
Question 6	Did you learn anything today about what researchers have learned about play? If yes, then what?			0.4	0.4
	Yes		No		Unsure
	26.4		52.4		21.2
6 (follow-up)	At which activities (play sites) did you learn something about this?				

Note. *IF response to Q3 did not address play in school or neighborhoods, the following probes were asked. Do you think that kids have enough time to play at school? If yes, when? Does your neighborhood have enough safe and accessible places for kids to play? **IF responses to Q4 did not address all aspects of adult life, the following probes were asked: successful at work, in their personal relationships, at knowing themselves, at being creative.

Table 2
Frequency and Content of Self-Reported Connections between Play and Learning

Question Wording: Do You Think That Play and Learning Are Connected?		
Follow-Up Question: If Yes, How/in What Way Are They Connected?		
Follow-Up Question: If No, What Do You Think That Play is About?		
Follow-Up Question: If Sometimes, When/How Do You See the Connection?		
Response theme: Play	Frequency mentioned (<i>n</i> = 280) (%)	Illustrative example
Improves skills	25	Gross motor skill development. Letter recognition, comprehension. All can be taught through play. When they play, they learn about shapes. Learn about counting and adding, how to categorize
Teaches social interaction	21	Socialization, learning to share, teamwork is important. Learn through interactions, trial and error. Develop social skills. Learning to cooperate. Exhibit feelings. Integrating with one another
Increases motivation to learn	15	Keeps kids attention. Kids are only interested in learning if it is fun and playful. Can get math concepts and also do. . . what they enjoy. Play gives them happiness. . . so they remember it
Fosters experimentation	14	Children learn about their environment using and exploring it. Figure things out on their own. You learn through play by manipulating objects, exploring. Using bodies to figure out space
Teaches through experience	12	Children must experience to learn, they cannot just memorize. Through all the five sense they learn things. Learn by doing, playing is doing. Tactile when you're small so things are geared toward experiential learning
Fosters imagination	12	It's the best way kids learn—they use their imagination, for thousands of years. The more activities, imagination comes out. Imagination play, building on ideas to get to new levels. Gets imagination. . . going
Fosters creativity	11	Play is about. . . being creative, figure out problems, expand mind. Creativity, creating something from nothing. . . building things. Required for creativity, exercise both sides of the brain
Assists with teaching	6	If you play when you try to teach, they're more willing to learn
Aids brain development	4	Play engages the brain. Play by. . . stimulating brain. Keeps brain ticking
Teaches patience/enhances observation	4	Observing nature. Learn patience. . . stick with it until there is a winner
Teaches problem solving	4	Play allows you to solve problems in life. Problem solving on their own
Reveals the self	3	Play allows children to learn themselves. What they like, what they don't
Fosters discovery	2	Kids discover things through play. It is how they discover the world

responses. This preliminary coding was then re-evaluated by all three members of the coding team for consistency and relevance. Coding discrepancies and alterations were discussed among the team and adjustments were made accordingly. All final codes were reviewed for consistency by both senior members of the evaluation team. Intercoder reliability was high, with an overall kappa of .81 for the open-ended responses. Reliability was highest for the primary code assigned to each response ($\kappa = .84$) and lower, but still acceptable, for tertiary codes ($\kappa = .67$). No member of the coding team had access to information about which case identifiers corresponded with

experimental and control groups while coding was conducted.

Assessing Complexity of Play Attitudes

The impact of the UBP on parental attitudes related to the four core themes was measured by comparing the prevalence of positive responses among respondents with differing amounts of exposure to the UBP. Assessing the impact of the UBP on the *complexity* of parental thinking about play required different metrics. Three are deployed here.

The first is derived from the *multiplicity of responses to open-ended questions*. Parents with more

Table 3
Frequency and Content of Self-Reported Threats to Play

Question wording: Do you think that kids today get to play as Much as kids did when you were a child?			
Response theme	Frequency Mentioned		Illustrative examples
	All respondents (<i>n</i> = 292) (%)	Those who see play declining (<i>n</i> = 159) (%)	
Technology reducing play	17	28	Electronics taking over—they are always sitting down. Deadening the brain and decreasing creativity. They play less—television, video games. . . not enough time in park, in woods
Less time at school for play	17	23	They've taken gym time, recess away. There are too many structured activities. Not enough time at school. . . play and learning could be synonymous given the right environment
Less free play	16	19	We created with imagination; now, they're handed games and told how to play. Parents are more cautious, no independent play time. A lot of times activities are explicitly learning activities, not free
Too little time for play	14	23	Today's kids are so scheduled. There's more activities they get dragged to. More free time in past. Parents structure the days much more. They don't have the chance to play as much. . . more expectations put on children now
Limited access to play spaces	11	15	Outside of playgrounds for young kids there is no common space so you need to have structured activities. Difficult in city with small apartments. Not enough time in park, in woods
Fear about play-related risks	9	13	Parents' fears of security don't give kids freedom. Live in the city, kids don't play outside; more structured. Fear of abduction, think play is dangerous. No safe place
Parents too busy to play	5	9	Parents are too busy. People are busier; more parents are working
Homework limits play	5	9	5-year-old with homework! Too much school work. 1 hr per night 1 st grade
Technology changing play	5	1	More electronic play, less playing with other children. Different, passive play

sophisticated understandings of play should be more likely to offer multiple reflections on the functions of play. A second measure of cognitive complexity is derived from responses to the *play metaphors*. Metaphors are inherently partial representations of whatever phenomenon is being characterized; people with more complex perceptions about play should embrace a larger number of metaphors as being applicable to it (Barry et al., 2009). Third, the underlying structure of *play attitudes* expressed across multiple close-ended questions can be assessed through a factor analysis, to identify whether they cluster in a single dimension or are multidimensional in their grouping (Fisher et al., 2008). Stratifying this analysis by exposure to the UBP measures whether attitudinal complexity relates to UBP engagement. As with all exploratory factor analyses, these results are suggestive rather than definitive; nonetheless, they provide useful

supplementary insights in conjunction with the other two metrics for complex thinking about play.

Results

At the time of their interview, 38% of respondents had been at the UBP for half an hour or less, and 25% had been there for more than 2 hr. One third of respondents had visited no more than one play site prior to their interview; roughly half had visited two to three sites, and 17% had been to four or more sites. Respondents who had visited two to three sites prior to their interview had been exposed, on average, to 2.1 domains connecting play and learning (e.g., construction activities and spatial learning). Those who had visited four or more sites had an average exposure to 4.2 such domains.

Table 4
Frequency and Content of Self-Reported Connections Between Play and Adult Success

Question wording: Do you think that children who play are more likely to grow up to be successful adults?

Response theme: Play	Frequency mentioned (<i>n</i> = 287) (%)	Illustrative examples
Improved social skills and relationships	40	They become more confident, able to get along with people, critically think, resolve conflict. Get along in groups. Collaboration, efficacy, delayed gratification, emotional intelligence. More sociable, more open. They are not afraid, not loners
More creative and imaginative	25	Allowing brain to experience being creative, what works what doesn't. Learn how to improvise. Get to enjoy themselves, have time for themselves, helps them be creative. Allows, fosters creativity. . . thinking outside the box is beneficial
Enriched nonsocial skills	13	Good troubleshooting skills. Abstract thinking. Play develops language and communication skills. Think laterally, rather than hierarchically. Physics, math. Construction. Focus, attention—helps them learn these
More self-confidence	10	They know how to figure the world, resolve conflicts better, more self-esteem. Independence, self-confidence. Because play is directing their own learning, greater sense of accomplishment. Teaches kids to. . . follow their passions
More joyful and happy	8	Teaches kids. . . things that make them happy. Playing makes you happy
More self-aware	7	Hone in on what they like and what they're good at. Can test out who you are
More well rounded	6	More well-rounded experiences. More open and balanced in thinking
Healthier (includes emotional)	6	Healthy physical state through exploring. When you play you relieve stress
Successful at work	6	Play helps them build skills they can use in work. Organization. Well roundedness
Fewer pathologies	3	Having good experiences like play helps you grow into good adult
Other/community oriented	3	Play builds community more than anything else. Makes humble
Appropriate risk taking	1	Learn risk taking. More willing to take chances. Take on challenges in life
Embraces lifelong learning	1	They get to stay curious. More variety. . . rather than being stuck with one thing

Impact of Exposure on Support for the UBP's Core Messages

We report here primarily the quantitative results of the evaluation, combined with some illustrative examples of coded content from parental responses to the open-ended questions. Quantitative results (Tables 5–8) are presented as raw frequencies and as odds ratios from logistic regressions, controlling for respondents' sociodemographic characteristics.

Message 1: How Play Connects with Learning

Most attendees arrived at the UBP already believing that play and learning were somewhat connected. Indeed, a majority of those just arriving (whether measured by number of sites or time) reported that play and learning are *always* connected (left column of Table 5). In the words of one parent: "Absolutely, unstructured play is the single most important thing for a child. Teaches maturity—working with others, gross and fine motor skills, keeps brain ticking, most important thing."

This is not a surprising pattern, given past findings that most parents see *some* potential for learning from play. Nonetheless, exposure to the UBP clearly increased the strength of these connections, at least among those who visited multiple activity sites. Controlling for other parental characteristics as well as time spent at the UBP, those who had gone to four or more sites were more than five times as likely as parents in the control group to report that play always induced some form of learning (Table 5; row 3). In contrast, amount of time spent at the UBP (controlling for activities visited) was unrelated to parents' perceptions.

Responses to the open-ended questions suggests that most parents continue to see play as primarily enhancing skills and socialization; in combination, these were mentioned by more than half of the respondents (Table 2). Notably, "creativity," "imagination," "experimentation," and "discovery" were, taken together, mentioned in almost one-third of all open-ended responses describing how play connected with learning. The propensity to identify play with more creative forms of learning was much more common (more than six times as

frequent) among those who had visited four or more sites at the UBP (Table 8, left two columns).

Respondents elaborated on the general concept of creativity in a number of ways, including “exercising the mind,” “flexibility of thought,” and “creating something from nothing.” They also had diverse ideas about the good things that come to children when they develop their creativity through play such as an enhanced ability to learn in other domains, “comfort with questions,” and becoming a “more interesting person.” Other respondents linked the three concepts (play, learning, and creativity) together in a different way, by describing play as a creative way to learn. When discussing imagination, the most striking differentiation attendees made was between play as a mechanism for developing imagination (or “getting it going,” as one person put it) and play as a way of using or expressing imagination. As with creativity, some respondents reordered the link between play, learning, and imagination by moving from the idea that enriched imagination is a way of describing how play and learning are connected to, instead, embracing the notion that “imaginative play IS learning.”

Message 2: Convey the Scientific Basis Linking Play to Learning

Seemingly straightforward, this theme proved the most difficult to effectively convey in the UBP environment. Although roughly one-quarter of the attendees responded affirmatively when asked if they had learned anything at the UBP about the science linking play to learning, more careful scrutiny of their open-ended responses suggests that these responses may have been more reflective of their understanding of the event’s intent than its capacity to actually communicate this information. The frequency of this response did not increase with either measure of UBP exposure (Table 5, right column). There is, therefore, is no compelling evidence that a larger dose of the UBP intervention was associated with more awareness of the “science behind play.”

Message 3: Longer Term Benefits of Childhood Play

Even though many respondents had relatively young children, most were able to draw some connection between the benefits of childhood play and adult well-being. About three-quarters felt that play would enhance “success” in adulthood. However, though there is some evidence that those who

attended the UBP were more predisposed to see this linkage (Table 5, third column from the left), there is no evidence that exposure to the UBP strengthened it.

Responses to the open-ended follow-up question yielded a diverse set of perceived connections between play during childhood and adult well-being (Table 4), the most common of which involved socialization: roughly 40% of all survey respondents said they saw improved social skills as a link between childhood play and adult success. As one respondent summarized, through play, children “learn to socialize, interact, negotiate, share. This will translate in . . . all aspects of life.” Play was also thought to facilitate a useful transition to adult roles, as children learn they are “not the center of everything,” become more “social minded,” and develop “a good vibe interpersonal-wise.” One-quarter of all respondents said that play leads to adult success by fostering creativity and imagination. Many of these focused specifically on “out of the box” thinking—how play leads to innovation, to finding “what works and what doesn’t,” and to the formation of adults who “can think for themselves.”

The UBP was also intended to make the case that play was essential for building distinctive skills required by a 21st century workforce, including a commitment to lifelong learning. However, only about 5% of respondents drew any connection between play as a child and success in work settings. Only about 1% made any reference to notions of lifelong learning being markers of success in adulthood.

Message 4: Threats to Play and Lost Opportunities

Respondents were asked to identify threats to play by first comparing the extent of play opportunities for their children to those they had available in their own youth. More than half of the attendees perceived that opportunities for play had declined (Table 5, second column from the left); however, 40% of parents in the control group also perceived this trend (one which is well validated by field research; e.g., Miller & Almon, 2009).

In their open-ended responses (Table 3), however, parents were able to itemize a set of specific factors that threatened contemporary play. Technology was the most common reason offered by participants to explain why play has declined, with TV and other electronic media seen as having “gotten in the way” of play. Many respondents felt that technology replaced time outdoors, focusing children’s lives on “things that don’t require being

Table 5
Prevalence of Play-Related Perceptions, By Measures of Exposure to the UBP (Ultimate Block Party)

Response Group	Outcomes											
	Play always → Learning			Play Less available today			Play → Adult success			Learned science of play		
	Percent = Definitely (%)	Regression-adjusted ^a odds ratio	Percent = Yes (%)	Percent = Yes (%)	Regression-adjusted ^a odds ratio	Percent = Yes (%)	Percent = Yes (%)	Regression-adjusted ^a odds ratio	Percent = Yes (%)	Regression-adjusted ^b odds ratio		
Controls (n = 34)	50.0	—	41.2	—	—	70.6	—	—	—	NA		
Activity exposures												
At UBP: 0–1 sites (n = 96)	51.2	0.85	52.0	1.22	1.15	84.4	27.3	—	—	—		
At UBP: 2–3 sites (n = 108)	62.3	1.86	52.7	1.26	0.90	79.6	28.4	0.70	—	—		
At UBP: 4+ sites (n = 49)	83.0	5.28**	72.0	2.62	1.19	85.7	35.4	1.01	—	—		
Durational exposures												
At UBP: < 30 min (n = 70)	61.6	1.20	51.4	0.86	0.85	82.4	17.2	—	—	—		
At UBP: 31–120 min (n = 101)	62.8	1.27	56.5	1.07	0.82	81.6	29.6	0.65	—	—		
At UBP: 2 hr + (n = 70)	64.2	1.31	58.6	1.03	0.92	82.9	33.8	0.45	—	—		

Note. Regression models control for education of parent, age of oldest child, gender of parent, race and ethnicity of the parent, number of sites visited at UBP and time spent at the UBP prior to interview. ^aCompared to control group. ^bCompared to low-exposure participants at the UBP. **Statistically significant at $p < .01$.

active” and structuring their lives so “they are always sitting down.” Over and over, parents noted that children do not have “enough time in park, in woods”; and that they “stay home too much.” They also worry that technology impedes imagination, “deadening the brain and decreasing creativity.” A small number of respondents (5%) view technology as *changing* rather than *replacing* play, making it more passive, more organized, and less interactive.

Loss of playtime at school, and the pressure of early academics and test-driven approaches to learning, was the next most commonly expressed reason offered for decreased children’s play. “It’s a disaster,” said one respondent, “You know, kids not getting enough recess, kindergarteners with homework—ridiculous,” as are expanding school requirements “squeezing play out of children’s experiences.” The third and fourth most common explanations both centered on the displacement of play by structure—the structure of children’s lives so that all kinds of play are hard to fit in, and also the structure of play time itself into increasingly pre-programmed, adult-directed, strictly organized activities, diminishing opportunities for free play.

The impact of the UBP on these perceptions appears to have been modest. As with other outcomes, exposure to multiple activities was associated with more distinctive attitudes about threats to play than was extended time at the event (Table 5). Although the differences associated with site exposure were not significant in a statistical sense, this was perhaps more a product of the relatively small sample sizes than an absence of influence, because parents who visited four or more activity sites were more than twice as likely than parents in the control group to report that play opportunities had declined over the past generation. Analysis of the open-ended responses did not reveal any differences in particular concerns about play associated with exposure to the UBP.

Enriching Parental Perceptions of the Complexity of Play

All three metrics of attitudinal complexity suggest that the UBP enriched parent’s thinking, albeit once again tied entirely to exposure to multiple play activities.

Multiple Illustrations in Open-Ended Responses

The propensity to offer multiple (or multifaceted) responses to the open-ended follow-up questions was assessed for the linkage between learning and

Table 6
Measures of Complex Understanding of Play (By Measures of Exposure to the UBP), Part 1

Response group	Measures of complex thinking: Multiple self-generated illustrations							
	Play → Learning		Play threatened		Play → Adult skills		Across all three themes	
	Percent with 2 + responses	Regression adjusted ^a odds ratio	Percent with 2 + responses	Regression-adjusted ^a odds ratio	Percent with 2 + responses	Regression-adjusted ^a odds ratio	Percent averaging 2 + responses	Regression-adjusted ^a odds ratio
Controls (<i>n</i> = 34)	29.4%	—	17.7%	—	26.5%	—	14.7%	—
Activity exposures								
At UBP: 0–1 sites (<i>n</i> = 96)	35.6	1.82	23.5	1.62	35.6	1.71	13.6	0.93
At UBP: 2–3 sites (<i>n</i> = 108)	40.9	2.63	23.6	1.51	36.0	1.42	14.6	0.81
At UBP: 4 + sites (<i>n</i> = 49)	46.0	4.34*	40.0	2.99	54.0	2.02	32.0	1.53
Durational exposures								
At UBP: half an hour or less (<i>n</i> = 70)	42.6	2.47	23.2	1.26	36.1	1.56	14.8	1.09
At UBP: 31–120 min (<i>n</i> = 101)	38.0	1.40	25.9	1.30	35.2	1.05	12.0	0.85
At UBP: 2 hr + (<i>n</i> = 70)	38.6	1.28	30.4	1.43	51.4	2.32	28.6	2.49

Note. Regression models control for education of parent, age of oldest child, gender of parent, race and ethnicity of the parent, number of sites visited at UBP and time spent at the UBP prior to interview. ^aCompared to control group. *Statistically significant at *p* < .05.

Table 7

Measures of Complex Understanding of Play (By Measures of Exposure to the UBP), Part 2

Response group	Reactions to metaphorical thinking		
	Embraces multiple metaphors		Factors identified in metaphorical thinking
	Percent supporting 8 + metaphors	Regression-adjusted ^a odds ratio	
Controls (<i>n</i> = 34)	32.4%	—	—
At UBP: 0–1 sites (<i>n</i> = 96)	25.8	0.80	2 factors
At UBP: 2–3 sites (<i>n</i> = 108)	35.5	2.08	3 factors
At UBP: 4 + sites (<i>n</i> = 49)	42.0	3.63**	4 factors
At UBP: Half an hour or less (<i>n</i> = 70)	28.7	0.95	2 factors
At UBP: 31–120 min (<i>n</i> = 101)	34.3	1.25	2 factors
At UBP: 2 hr+ (<i>n</i> = 70)	34.3	1.06	2 factors

Note. Regression models control for education of parent, age of oldest child, gender of parent, race and ethnicity of the parent, number of sites visited at UBP and time spent at the UBP prior to interview. ^aCompared to control group. *Statistically significant at $p < .05$. **Statistically significant at $p < .01$. UBP = Ultimate Block Party.

play, the impact of childhood play on adult success, and the factors that threaten contemporary play. Parents who had visited multiple activity sites were significantly more likely to provide multiple illustrations: for example, in linking play to learning, fewer than 30% of the control group offered multiple examples, but 46% of those who had been exposed to four or more activities at the UBP did (regression adjusted odds ratio of 4.34: Column 2, Table 6). Although this association is statistically significant only for responses linking play to learning, the pattern was consistent across all questions. In contrast, no pattern was evident based on the time spent at the UBP (Table 6).

Endorsement of Multiple Metaphors for Play

The second measure of reasoning complexity involved a count of the number of metaphors (of a total of eleven) that parents endorsed as being fully consistent with their own views of play. Table 7 reports a threshold of eight or more metaphors endorsed; regardless of the threshold selected, the number of metaphors endorsed increases with the number of sites parents visited. Here again, the complexity of reasoning about play was greater for parents who had visited multiple sites at the UBP, but no such pattern was evident for time spent at the UBP (Table 7).

Factors As Multiple Dimensions in Reasoning About Play

When the sample is stratified by the number of activities encountered at the UBP (parents in the control group are included in the strata having visited 0–1 sites), attitudes among those who had visited more sites express play-related attitudes that embody a more multidimensional structure. There are two dimensions evident among parents with the most limited site exposure and four dimensions for those exposed to four or more sites (Table 7, right column).

In the simple two-dimensional schema, attitudes load according to emotional valence: positive (e.g., play as a right of childhood, play as a wellspring of creativity) and negative (e.g., play as childish). The positively valenced factor incorporates all perceptions that play enhances executive function, including self-control, rule following, and a sense of responsibility. Interestingly, those linking play to emotional expressivity itself (being joyful, anxious, or “blowing off steam”) load evenly onto both of these factors.

In the more complex four-dimensional schema, emotional expressivity emerges as a distinct factor, associated with a sense of self-discovery. Play-induced creativity is associated with the perception that play enhances certain executive functions, like

Table 8
Perceived Role of Creativity, By Measures of Exposure to the UBP (Ultimate Block Party)

Response group	Outcomes: Creativity and imagination							
	Closes-ended play → Creativity		Closes-ended play → Discovery		Open-ended play → Imagination/creative		Open-ended play → Creativity → Adult success	
	Percent = Completely	Regression-adjusted ^a odds ratio	Percent = Completely	Regression-adjusted ^a odds ratio	Percent = Yes	Regression-adjusted ^a odds ratio	Percent = Yes	Regression-adjusted ^a odds ratio
Controls (n = 34)	66.7%	—	81.8	—	14.7%	—	11.8%	—
At UBP: 0–1 sites (n = 96)	65.9	1.22	73.6	0.68	18.4	0.96	26.5	2.54
At UBP: 2–3 sites (n = 108)	72.1	2.31	76.6	1.21	19.1	1.07	21.8	1.72
At UBP: 4+ sites (n = 49)	85.7	6.73**	93.9	6.44*	20.0	1.09	36.0	3.66
Durational exposures								
At UBP: < 30 minutes (n = 70)	67.0	0.89	81.6	1.10	19.4	1.01	22.2	1.69
At UBP: 31–120 min (n = 101)	77.2	1.48	80.2	0.94	13.9	0.62	24.1	1.36
At UBP: 2 hr+ (n = 70)	71.4	1.07	77.1	1.00	22.9	1.13	28.6	1.65

Note. Regression models control for education of parent, age of oldest child, gender of parent, race and ethnicity of the parent, number of sites visited at UBP and time spent at the UBP prior to interview. ^aCompared to control group. *Statistically significant at $p < .05$. **Statistically significant at $p < .01$.

self-control. In contrast, the perception of play as childish is associated both with seeing play as a way to act out anxieties and as a means to induce greater responsibility. The fourth dimension represents play as primarily promoting self-discipline—including rule following—and is inversely associated with the sense of play as a form of self-discovery.

Discussion

Making Sense of Patterns in Parents' Attitudes About Play

This article describes mixed-methods evaluation of a community intervention designed to enrich parents' understanding of the linkages between play and learning. By integrating multiple forms of play, varied embodiments of how play affects learning, and families from very different socioeconomic and cultural backgrounds into a single site, participants were exposed to a heterogeneous set of play experiences, each rooted in developmental science. Each family was able to chart their own course through this complex play environment. The evaluation presented here suggests that exposure to a single 1-day public event had measurable consequences for parents' understanding of play and their appreciation of the rich, multidimensional linkages between play and learning established in the child development literature.

One can derive from these findings some additional clues about how parent attitudes were being shaped and what messages were more (or less) effectively conveyed via this complex medium. We had anticipated that the UBP might enhance parent appreciation for the link between learning and play in two distinct ways. First, as parents observed their children engage in multiple activities, they might more keenly differentiate among distinct ways in which play fostered learning. Second, the more time that parents spent at the UBP, the more opportunity they had to discuss beliefs and values with a diverse group of other parents who may think very differently about play and learning. Because our findings suggest that exposure to multiple activity sites—but not time spent at the UBP—enhanced parent perceptions of both some of the core themes and the complexity of their understanding of play-learning linkages, we infer that observation of their children's engagement proved more consequential than interaction in enriching parental attitudes. This may, however, have been more a consequence of the events' crowded conditions and high noise levels rather than an inherent property of an event structured like the UBP.

The evidence that a brief experiential intervention can enrich parental perspectives regarding the complex connection between play and learning is noteworthy. Whereas evaluations of more extended interventions, such as parenting courses, have demonstrated a capacity to foster nuanced reasoning, this is, to our knowledge, the first illustration of a brief intervention inducing more complex understanding. Indeed, this might also point the way toward a kind of experiential dissemination of scientific findings linking play and learning—a form of bringing developmental science into the world that goes beyond what can be offered in brochures and courses.

Importantly, not all evaluation findings proved equally promising. Although the UBP was designed to illustrate and document the science behind play, the extent to which participants reported having learned about the science of play per se did not increase with time spent at the UBP or exposure to multiple activity sites. Because this connection was explicitly drawn in the *Playbook*, it is possible (though beyond the scope of this evaluation to determine) that subsequent reading after the event, or visits to the UBP Web site, reinforced this theme for parents.

The UBP was also less than entirely successful at communicating the long-term benefits of play. Parents who visited four or more activities were significantly more likely to see a connection with adult creativity than parents in the control group. However, helping parents understand that play may be essential for building a broad suite of skills valued in a 21st century workforce proved more difficult. Perhaps this is at least in part because a majority of attendees had children aged five and under: For these families, an adult career for their young child may seem remote and thus not susceptible to significant change via the UBP intervention.

Challenges of Generalization and Methodological Limitations

Community-based experiential interventions like the UBP may, by their nature, draw a self-selected audience. Furthermore, attitudes in large, multicultural urban areas may be different from elsewhere in the country. Still, controlling for race and ethnicity in the regression models revealed that such factors did not play a very large role, with the exception of persons of Asian American background who evinced a less multifaceted view of play across many of our outcome measures. This is

consistent with findings in other research on play-related attitudes (Jung, 2015). However, sample sizes for our study were too small to directly test whether Asian Americans were less responsive to the UBP intervention itself.

We also could not discern whether parents' prior knowledge or enthusiasm about play (or their children's excitement about play) affected how or how long they participated in the event. However, because we randomly interviewed parents at different points in their exposure to the UBP, our sample of parents visiting fewer sites surely included some who stayed longer or later visited more play sites, thereby reducing the impact of this potential bias in comparisons across the different strata of UBP exposure.

The disproportionately high levels of education observed in our sample also impact generalizability of these findings. The UBP was successful at affecting attitudes among those who were well educated. This group may prove particularly useful in mobilizing parental engagement around the role of play in educational policy, because these higher socioeconomic status households typically prove to be more engaged, effective advocates (Howell, 2008). But the beneficial impact of the UBP need not, ideally, be limited to a narrow band of well-educated households. Unlike interventions that require people to take extended classes or read through substantial documentation, the UBP is a *lived* experience that should be accessible and effective even to parents without much education or prior exposure to literature on child development.

Finally, it is important to recognize that the UBP was an active intervention in New York's social fabric as well as an experiment designed to advance knowledge about parental attitudes around learning through play. Perhaps it holds the greatest potential for change, not simply in individual attitudes, but also in community norms that could not be readily assessed in the sort of short-term field experiment depicted here. As Bronfenbrenner once powerfully proclaimed:

We as a nation need to be reeducated about the necessary and sufficient conditions for making human beings human. We need to be reeducated not as parents—but as workers, neighbors, and friends; and as members of the organizations, committees, boards—and, especially, the informal networks that control our social institutions and thereby determine the conditions of life for our families and their children.

If, as research clearly suggests, play is an important vehicle for children's learning, scientists might need to leave their laboratories to convey this message more broadly than is possible through the scientific literature alone.

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